

User Guide

Publish Date: October 24, 2025 **CONFIDENTIAL INFORMATION** Unauthorized duplication or distribution of this document is prohibited. ©2025 Softek Solutions, Inc.

Contents

1	ntroduction 1	1
2	2.1 User Installer 1 2.2 Administrative Installer 1 2.3 Zip Archive 1	3 3 3
3	Getting Started13.1 Connecting to Panther13.2 Logging into Panther1	
4	Adding a Domain to Panther	-
5	5.1 Domain Explorer 2 5.2 Application Workspace 2 5.3 Panther Menu 2 5.3.1 Tools Menu 2 5.3.2 Desktop Menu 2 5.3.3 Topology Management 2 5.3.4 Panther DNS Configuration 2 5.3.5 Panther Management 2 5.3.6 Foreign System Setup 3 5.3.7 Privilege Management 4 5.3.8 Email Preferences 5 5.3.9 Domains Menu 6 5.3.10 View Menu 6	24 25 25 25 25 27 29 36 49 36 36 36 36 36 36 36 36 36 36 36 36 36
6	6.1Creating Desktops66.2Adding Desktop Controls66.3Resizing Desktop Components76.3.1Merging Component Panels76.3.2Resizing Rows and Columns76.3.3Maximizing/Restoring Components76.4Removing Desktop Components76.5Switching Between Desktops76.6Desktop Management76.6.1Copying Desktops7	39 '1 '1 '1 '2 '2
7	Getting Support 7	'8
8		'9 ≀∩

		8.1.1	Viewing Action Details
		8.1.2	Emailing Action Details
		8.1.3	Windshield Wiper
		8.1.4	Searching Action History
		8.1.5	Action History Preferences
	8.2		g Control
	0.2	8.2.1	Viewing Audit Record Details
		8.2.2	Searching Audit Records
		8.2.3	
		8.2.4	
	0.0		
	8.3		Events Control
		8.3.1	Viewing Event Details
		8.3.2	Emailing Event Details
		8.3.3	Viewing Notifications
		8.3.4	Emailing Notifications
		8.3.5	Searching for Events
		8.3.6	Preferences
	8.4	Notificati	on History Control
		8.4.1	Viewing Notification Details
		8.4.2	Emailing Notification Details
		8.4.3	Windshield Wiper
		8.4.4	Searching Notification History
		8.4.5	Notification History Preferences
	8.5		Control
		8.5.1	The Reports Control
		8.5.2	Scheduling Reports
		8.5.3	Viewing Reports
		8.5.4	Report Display Preferences
		8.5.5	Available Reports
	8.6		ce Projection Control
	0.0	8.6.1	Search
		0.0.1	Gealch
9	Char	ge Captui	re 124
	9.1		Reconciliation Control
		9.1.1	Charge Reconciliation Main Control
		9.1.2	Search All Charges
		9.1.3	Search by FIN
		9.1.4	Search by MRN
		9.1.5	Reviewer Performance
		9.1.6	Charge Review Worklists
		9.1.7	and the second of the second o
	0.0	9.1.8	Create/Edit Charge Review Worklist
	9.2		Reports Control
		9.2.1	Executing reports
		9.2.2	Scheduled Reports
	9.3		egrity Control
		9.3.1	Search
		9.3.2	Event Summary
		9.3.3	All Activity
		9.3.4	Clinical Summary
		9.3.5	Build
		9.3.6	FIN Lookup

9.4		ry Compliance Control
	9.4.1	Formulary Compliance Main Control
	9.4.2	Pharmacy Bill Item Summary
	9.4.3	Improper/Incomplete Build
	9.4.4	HCPCS/QCF Issues
	9.4.5	NDC Validation
	9.4.6	Bill Item Details Dialog
	9.4.7	Dispense Details Dialog
	9.4.8	NDC Lookup
9.5	Implant F	Recall Control
	9.5.1	Search
	9.5.2	Email Details
9.6		OP Phys Doc Control
0.0	9.6.1	Encounter List
	9.6.2	Search
9.7		regrity Control
3.1	9.7.1	Orderable Summaries
	9.7.1	Department Summary
	9.7.2	
		Department Detail
	9.7.4	Searching
	9.7.5	Orderable Details
	9.7.6	Order Details
	9.7.7	Encounter Order Details
9.8		cy Integrity Control
	9.8.1	Pharmacy Integrity Main Control
	9.8.2	Encounter Details Dialog
	9.8.3	Order Details Dialog
9.9	Physicia	n Documentation Control
	9.9.1	Searching
	9.9.2	Search Presets
	9.9.3	Documented Charge Summary
	9.9.4	Summary Details Dialog
	9.9.5	Encounter Details Dialog
	9.9.6	Clinical Event Activity Dialog
	9.9.7	Clinical Documents Dialog
	9.9.8	Physician Summary
	9.9.9	Physician Group Summary
	9.9.10	Trending Details Dialog
	9.9.11	Uncharged Notes
	9.9.12	Undocumented Charges
	9.9.13	Charged Notes with Incomplete Actions
	9.9.14	Documented Charges Needing Verification
	9.9.15	
0.10		Scheduled Reports
9.10	•	
	9.10.1	
	9.10.2	Search Presets
	9.10.3	Timing Summary
	9.10.4	Timing Summary Details Dialog
	9.10.5	Scheduled Reports
9.11		ngine Control
	9.11.1	Copyright Notice

	9.11.2	Rules Engine Main Control
	9.11.3	Run Results
	9.11.4	Charges for Fin
9.12	2 Supply C	Charging Control
	9.12.1	Surgical Cases
	9.12.2	Implants
	9.12.3	By Surgeon
	9.12.4	Average Usage
	9.12.5	Encounters
	9.12.6	ltems
	9.12.7	Reference Data
	9.12.8	Searching
	ient Accou	
10.		itrol
	10.1.1	Working With Search Results
	10.1.2	Search
	10.1.3	Advanced Search
10.2		Holds Control
	10.2.1	Hold Summary
	10.2.2	Hold Types
	10.2.3	Worklists
10.3	Biller Pro	oductivity Control
	10.3.1	Searching
	10.3.2	Productivity Summary
	10.3.3	Action Code Summary
	10.3.4	Encounters Worked
	10.3.5	Encounter Activity
	10.3.6	Encounters Worked Summary
	10.3.7	Work Queue Summary
	10.3.8	Work Queue Details
	10.3.9	Today's Activity
	10.3.10	Current Work Items
	10.3.11	Active Work Items
	10.3.12	Reassigned Work Items
	10.3.13	Received Cash
	10.3.14	Build Configuration
	10.3.15	Encounter Details Dialog
10.4		awer Control
	10.4.1	Cash Drawer Main Control
	10.4.2	Posted Payments by Location
	10.4.3	Posted Payments by Poster
	10.4.4	Batch Views
10.5		enials Control
	10.5.1	Search Dialog
	10.5.2	Claim Denials By Attending Physician
	10.5.3	Claim Denials By Claim
	10.5.4	Claim Denials By Charge
	10.5.5	Claim Denials By Denial Reason
	10.5.6	Claim Denials By Health Plan
	10.5.7	Bad Health Plans
	10.5.8	Voided Benefit 339

	10.5.9	Claim Number Lookup
	10.5.10	Denial Details
	10.5.11	Procedure Codes
	10.5.12	Voided Benefit Activity Details
10.6		ontrol
	10.6.1	Searching
	10.6.2	Advanced Search
	10.6.3	Working With Search Results
10.7		er Holds Control
	10.7.1	Active Holds
	10.7.2	Hold Configuration
	10.7.3	Waiting for Coding Configuration
10.8	General	Ledger Build Control
	10.8.1	Tree
	10.8.2	Details
	10.8.3	Filtering
10.9	HIM Prod	ductivity
	10.9.1	Searching
	10.9.2	Task Aging
	10.9.3	Held Encounters
	10.9.4	Held Encounters Dialog
	10.9.5	Active HIM Tasks By Queue
	10.9.6	Active HIM Tasks By User
	10.9.7	Task Trending
	10.9.8	Task Productivity
	10.9.9	Action Productivity
	10.9.10	Daily User Activity
	10.9.11	Position/User Search
	10.9.12	HIM Tasks Dialog
	10.9.13	HIM Task Actions Dialog
	10.9.14	Coding Actions Dialog
	10.9.15	DRG Actions Dialog
	10.9.16	Diagnosis Actions Dialog
	10.9.17	Procedure Actions Dialog
	10.9.17	Charge Actions Dialog
	10.9.19	Coding Summary Dialog
	10.9.20	HIM Task Details Dialog
	10.9.21	
	10.9.22	Encounter Details Dialog
10.10		eport Card Control
10.10	10.10.1	Health Plan Summary
	10.10.1	
	10.10.2	
	10.10.3	Payments with No Transmission Date
	10.10.5	Responses Details Dialog
	10.10.6	Searching
	10.10.7	Encounter Details Dialog
	10.10.8	Balance Details Dialog
40.44	10.10.9	Transaction Details Dialog
10.11		Control
	10.11.1	General Reports

			ATB - Trending	
			DNFB - Trending	
			7-day Rolling Average	
		10.11.5	Inpatient/Outpatient	
			Revenue By Category	
		10.11.7	Revenue By CDM/CPT/HCPCS By Cost Center	
			Revenue By Cost Center	
			Revenue By Health Plan	
			Adjustments by Reason	
			Revenue By Service Provider	
	10.12		eue Assignments Control	
		10.12.1	Alpha Split Configuration	
		10.12.2	Change Tracker	
			Queue Assignment Rule Stats	
		10.12.4	Searching	
			Split Alpha Set	
		10.12.6	Compare Alpha Set	449
		10.12.7	Change Assignments	
		10.12.8	Change Range	
			Assigned Encounters	
		10.12.10	Encounter Details	452
11		Performa		453
	11.1		Control	
		11.1.1	Showing One or More Accounts	
		11.1.2	Searching Accounts	
		11.1.3	Account Filtering	456
		11.1.4	Managing Account Defaults	
		11.1.5	Creating a New Millennium Account	
		11.1.6	Copying a Millennium Account	
		11.1.7	Removing a Millennium Account	
		11.1.8	Updating a Millennium Account	
		11.1.9	Reset an Account's Password	
	44.0		View a User's Prsnl Record	
	11.2		Addison New Common Confirmations	
		11.2.1	Adding New Server Configurations	
		11.2.2	Managing Configuration Properties	
		11.2.3	Configuration Checkpoints	
		11.2.4	Configuration Defaults	
		11.2.5	Message Logs	
		11.2.6	Server Notes	
		11.2.7 11.2.8	Copying or Comparing Configurations	
	11 0		Preferences	
	11.3	•	oups Control	
		11.3.1	Cycling Cycle Groups	
		11.3.2	Browsing Cycle History	
		11.3.3	Viewing Cycle History Records	
		11.3.4	Viewing Server Lists	
		11.3.5 11.3.6	Creating Cycle Groups	
			Modifying Cycle Groups	
		11.3.7 11.3.8	Removing Cycle Groups	
		11.30	CANCIE CALOUIO ETERETECICES	4.MC

	11.3.9	Copying Cycle Groups	
	11.3.10		
11.4	Cycle Sc	hedules Control	
	11.4.1	Copying and Comparing Cycle Schedules	501
	11.4.2	Editing Cycle Schedules	504
11.5	ESI Logs	Control	
	11.5.1	ESI Log Interface List	505
	11.5.2	ESI Log Record List	
	11.5.3	Log Display Limitations	
	11.5.4	Viewing Record Details	
	11.5.5	Searching ESI Logs	
	11.5.6	Emailing Log Entries	
	11.5.7	ESI Log Preferences	
11.6		Logs Control	
		Tx Loader Control	
11.7	11.7.1	Loading OEN Transactions	
	11.7.1	The Transaction Explorer	
	11.7.2		
	11.7.3	Searching within OEN Transactions	
		Exporting OEN Transactions	
44.0	11.7.5	Emailing OEN Transactions	
11.8		s Control	
	11.8.1	iBus Log File List	
	11.8.2	iBus Log Records	
	11.8.3	When iBus servers are not defined	
11.9		s Control	
	11.9.1	Starting and Cycling Interface Servers	
	11.9.2	Interface Servers Configured Node	
	11.9.3	Cycle History	
	11.9.4	Interface Properties	i31
	11.9.5	Interface Blacklist	32
	11.9.6	Viewing Current Events	33
	11.9.7	Interface Notes	34
	11.9.8	Comparing Interfaces	35
	11.9.9	Interface View Management	
	11.9.10	Preferences	
11.10	Message	Logs Controls	
		Viewing Log File Information	
		Wrap Time	
	11.10.3	Windshield Wiper	
	11.10.4	Searching for Records	
	11.10.5	Viewing Record Details	
	11.10.6	Emailing Log Entries	
	11.10.7	Message Log Preferences	
	11.10.7	Log List Preferences	
44.44	11.10.9	Record List Preferences	
11.11		Juery Control	
	11.11.1	Connecting to Oracle®	
	11.11.2	Issuing a Query	
	11.11.3	When a Query Succeeds	
	11.11.4	When a Query Fails	
	11.11.5	Disconnecting From Oracle® 5	ა63

11.12 Oracle S	ession Monitor Control	564
11.12.1	Killing a Session	565
11.12.2	Identifying Millennium Sessions	566
11.12.3	Preferences	
11.13 Printers	Control	570
11.13.1	Node Comparison	571
11.13.2	Node Queue Duplicates	572
11.13.3	Node Queue Duplicates by Queue	
11.13.4	Node Queue Duplicate Details	
11.13.5	Node with Queue	
11.13.6	Queue Details	
11.13.7	Printer Details	
11.13.8	Blood Bank Printers	
	Flex Printers	
	Flex Printer Orderables	
	Printers by Label Prefix	
	Printers by Label Prefix Details	
	Printers by Scripts	
	Printers by Script Details	
	Printers by Type	
	Printers by Type Details	
	Pharmacy Printers	
	Summary	
	Search	
	Summary Details	
	Distribution	
	Distribution Log Details	
	Distribution Log	
	Fax Destination	
	Fax Destination Details	
	Fax Type	
	Fax Type Details	
	By Prsnl	
	By Prsnl Details	
	By Printer	
	By Printer Details	
	Interfaced	
	Interfaced Details	
	Control	
11.14.1	Viewing Messages	
11.14.2	Message Details	
11.14.3	Viewing Queue Connections	
11.14.4	Managing Queue Properties	
11.14.5	Manager Information	
11.14.6	Queue Preferences	
11.15 SCP Red	commendations Control	311
11.15.1	Fixing Recommendations	
11.16 Servers	Control	314
11.16.1	Starting Servers	316
11.16.2	Stopping Servers	317
11.16.3	Killing Servers	

		11.16.4	Cycling Servers	
		11.16.5	Viewing Server Properties	
		11.16.6	Message Logs	
		11.16.7	Viewing Current Events	
		11.16.8	Server Notes	
		11.16.9	View Management	
			Preferences	
	11.17		Control	
		11.17.1	Viewing Service Properties	
		11.17.2	Service Preferences	632
12	Sens	ore		633
12			ality Summaries	
	12.1	12.1.1	BMDI Sensors	
		12.1.1	Chart Server Sensors	
		12.1.2	EKS Sensors	
		12.1.3	IBM WebSphere MQ Sensors	
		12.1.4	IBM WebSphere® Application Server Sensors	
		12.1.5	Millennium Sensors	
			NDC Sensors	
		12.1.7 12.1.8	OHPA® Sensors	
		12.1.9	Open Engine Sensors	
		12.1.10 12.1.11	Operations (Ops) Sensors	
			Oracle® Sensors	
		12.1.12	Remote Report Distribution Sensors	
	100	12.1.13	XR Sensors	
	12.2		Setup	
		12.2.1	Main Screen	
		12.2.2	Event Detection	
		12.2.3	Scheduling	
		12.2.4	Managing Recurrences	
		12.2.5	24-Hour Templates	
		12.2.6	Notification Setup	
		12.2.7	Proactive Actions	
		12.2.8	Operational Behavior	666
۸	Viow	Managen	nent	668
^	A.1			
	Α. Ι	A.1.1	Managing Views	
		A.1.1	Copying Views	
	A.2		ails	
	A.2	A.2.1	General Tab	
		A.2.1 A.2.2	Users Tab	
		A.2.2	Users rad	6/5
В	Orac	le [®] Accoι	unt Creation	676
С	Alert	s Trigger	Creation	677
_	C.1		Setup	
	C.2		Creation	
	C.3	00)	
		•		
D	Reply	y Queue C	Creation	682

E	Rules	s Engine Columns	683
F	Phari	macy Integrity Column Definitions	685
	F.1	Pharmacy Summary	685
	F.2	Charge Discrepancy Summary	685
	F.3	Charge Details	686
	F.4	Encounter Details	687
	F.5	Order Details	690
	F.6	Documentation Discrepancy Summary	691
	F.7	Encounters with Unaccounted	691
	F.8	Encounters with Invalid Administrations	692
	F.9	Encounters with Undocumented Returns	693
	F.10	Encounters with Calculation Issues	693
	F.11	Shrinkage Summary	694
	F.12	Shrinkage Details	
GI	ossary	y	696

1 Introduction

Panther is the most advanced Cerner Millennium® management and monitoring system available. With Panther's interactive components, you will be able to more effectively control your Millennium system. Additionally, Panther's agent-less Sensors allow you to receive accurate notifications of system anomalies — empowering you to significantly reduce unplanned downtime.

Because Panther is agent-less, you do not have to install any agents on your Millennium or Oracle[®] nodes. This means that Panther updates do not require updates to those nodes. Another benefit of agent-less monitoring is that all monitoring-related processing is offloaded to the Panther Server, freeing up your systems for their intended utilization.

This document is organized by functional areas within Panther. For more information on what these functional areas are, see The Panther User Interface.

Many of the features added to Panther over the years have been the result of client suggestions. If you have any enhancement requests, questions, or comments, please contact us through our support site at https://support.softekpanther.com/.

For information on how to use the support website, see Getting Support.

2 Installation

When new versions of Panther are released, these new versions of the client components need to be downloaded and installed again. Before installing new versions of Panther, Panther Support staff contacts your organization to help ensure that the installation of the Panther client will go smoothly.

The launch page on the Panther server provides a link which will initiate the installation using a single Microsoft Installer (MSI) package (Figure 1).



Softek Panther Client

To use Panther, please download the latest version of the client: <u>Launcher Installer</u>. If you need support, visit <u>our support site</u>.

Minimum System Requirements

• OS: Windows 10 Version 1607 or later

• Screen: 1280x1024 or greater screen resolution

• CPU: Intel P4 2GHz, AMD Athlon XP 2000+ or better

RAM: 512MBHDD: 200MB

All Downloads

- · Launcher Installer
- Admin Client Installer
- Client Zip Archive
- Launcher Zip Archive

Documentation

- <u>Licenses</u>
- API documentation
- Panther User Guide

Figure 1: Panther launch page

There are additional ways of installing the Panther client. The "All Downloads" section at the bottom of the web page lists all of the options.

2.1. User Installer

If installing for the current user only, administrative access is not required. The MSI for this type of install can be found by browsing https://<panther server>and selecting the "download the latest version of the client" link, or by downloading https://<panther server>/panther/install/panther.client.installer.msi directly.

2.2. Administrative Installer

If installing for all users on a machine, the user needs to be an administrator. However, once Panther components are installed, non-administrators may use Panther normally. The MSI for this type of install can be found at https://<panther server>/panther/install/panther.client.admin.installer.msi.



Am I a Windows 10/11 administrator?

In Windows 10 and 11, press *Windows Key + I* to open Settings. Then click *Accounts*, if your account is an administrator it will say *Administrator* under your name/username.

2.3. Zip Archive

To run Panther without installing an MSI and without administrative privileges, click the "Zip Archive" link. This downloads a "Panther Client.zip" file that contains all of the files needed to run the Panther client. Once the file is downloaded, open your Downloads folder and extract the zip file by right clicking on the zip file and clicking the option "Extract All...". Once the zip file is extracted to a folder, open that folder and double click the file "panther.exe" to run Panther.

2.4. Panther Required Accounts

In order for Panther to interact successfully with a Millennium domain, two accounts must exist in each domain accessed by Panther. These accounts require the same privileges as the "system" and "systemoe" accounts. User1 (system) and User2 (systemoe) will be used as references to the required accounts.

More specifically, the required privileges and restrictions are as follows:

User	Privileges	Restrictions
User1	Impersonate	NoLogFailDisuser
	ManageResources	NoPasswordExpire
User2	ManageResources	NoLogFailDisuser
	ManageServers	NoPasswordExpire

Table 1: Required Privileges and Restrictions

3 Getting Started

To get started with Panther, launch panther.exe. This can be found in the Start Menu under *Softek Solutions* \rightarrow *Panther Client* \rightarrow *Panther Client*.

3.1. Connecting to Panther

Initial connection to a Panther machine requires information about the address, port, and protocol to use. In earlier versions, this was provided via the address bar within Internet Explorer. Now, Panther provides a connection dialog to obtain this information (Figure 2):



Figure 2: Connection dialog

- 1. Enter the address of the Panther machine into the *Server* field. This can be entered either as a hostname or an IP address.
- 2. Update the *Port* field to that used by the Panther machine. *By default, HTTPS connections use port 443.*
- 3. Click Connect.

Please contact your system administrator if you do not know the address of the Panther server.



The connection dialog can be skipped.

If regularly connecting to the same Panther server, users can check the *Always use this server* box to skip the connection dialog. The Panther application will automatically connect to the currently-configured server and start at the login dialog.

3.2. Logging into Panther

Logging into Panther is done via a separate login dialog (Figure 3) using the following steps:

- 1. Enter your Millennium credentials in the *Username* and *Password* fields.
- 2. Select a domain using the *Domain* drop-down.

3. Click Login.

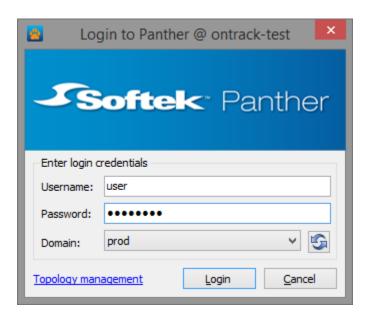


Figure 3: Panther login dialog



What if the desired domain does not appear in the Domain drop-down?

Domains will only appear if they have been added to Panther. If additional domains are desired, they can be added by clicking the *Topology management* link. This brings up the *Topology Management* window. Once the domain has been added, the drop-down can be updated with the button.



Can I use my Millennium information to log in to Panther?

Yes, there is no need to create special accounts because Panther utilizes your existing Millennium accounts and the credentials associated with them.

4 Topology Management

Topology Management is a tool for managing the Cerner Millennium[®] domains that exist within Panther. Its operations are outlined in Table 2.

Action	Description
Add to Panther	Panther requires a valid Millennium login, and verifies required account configuration before adding the domain. (Figure 3.3-3)
Repair this Domain	Panther verifies required account configuration, synchronizes Panther's node list with the current Millennium node list, and requests the list of ports for Millennium Services from the Service Manager.

Table 2: Topology Management actions

To access topology management, click either the *Topology management* link in the Panther login dialog (Figure 4) or the *Topology Management* menu item (Figure 5) under *Tools* within the main application. The main window is shown in Figure 6.

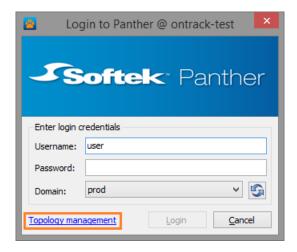


Figure 4: Panther login

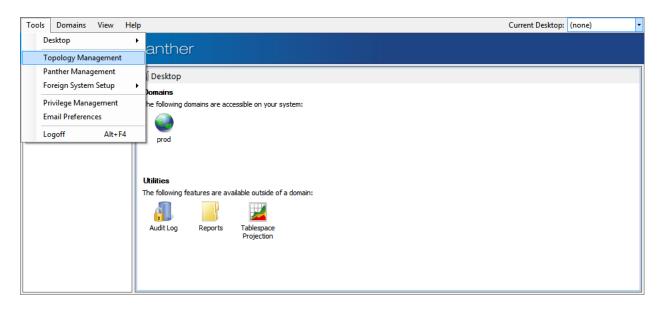


Figure 5: Topology Management inside Panther

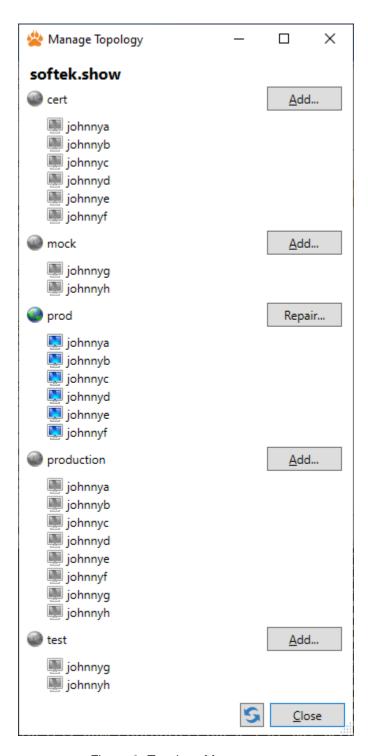


Figure 6: Topology Management

4.1. Adding a Domain to Panther

To use a domain that is not yet available through Panther, the domain must be added using Topology Management (Figure 6). Clicking the *Add Domain* link next to a domain opens a prompt for credentials (Figure 7).



Figure 7: Topology Management credentials

Panther will test the required accounts by trying to log in to the domain. If successful, Panther will continue adding and configuring the domain. A results window will display, indicating the status of the operation.



Attention: Unlicensed domains

Domains that are not licensed on a particular Panther server will appear with a gray background in the list of domains and will have the *(not licensed)* suffix appended.



Attention: Not all users may add or repair domains.

In order for a user to be allowed to add or repair a domain, the user must have the *Access Panther* privilege. Users without this privilege will not be allowed to add or repair domains.

4.2. Restore Panther access to a Domain

If a domain is shut down without being suspended, Panther may not immediately restore connectivity when it is restarted. This issue can be corrected using the *Repair this Domain* option in Topology Management (Figure 6). Similar to the *Add Domain* option, this will navigate to a page asking for credentials (Figure 7), and a results window will display once the operation has completed.



Attention: Domains not in Millennium

If a domain exists in Panther but does not exist in the associated Millennium environment, it can be removed from within Panther via Panther Management.

4.3. Interpreting Topology Results Topology Results **Test Panther Account** Panther account pantherweb exists and is privileged or the default user is privileged. **Retrieve Panther Account Logicals** Panther account logicals were retrieved successfully. **Test Impersonate** The pantherweb account is configured correctly. Synchronize Domain The cert domain is available through Panther. Details: Synchronize called with domain=[cert], login=[pantherweb]. Topology does not exist. Must be created. Domain [cert] does not exist in database. Inserting domain [cert]. Created domain with Name=[cert], FullName=[cert@softek.show]. Topology for [cert] was created successfully. Add missing nodes to database. Node [hnaa] is new on domain [cert]. Getting new features on node [hnaa]. Domain [cert] now contains 4 total features. Node [hnab] is new on domain [cert]. Getting new features on node [hnab]. Domain [cert] now contains 4 total features. Node [hnac] is new on domain [cert]. Getting new features on node [hnac]. Domain [cert] now contains 4 total features. Node [hnad] is new on domain [cert]. Getting new features on node [hnad]. Domain [cert] now contains 4 total features. Node [hnae] is new on domain [cert]. Getting new features on node [hnae]. Domain [cert] now contains 4 total features. Node [hnaf] is new on domain [cert]. Getting new features on node [hnaf]. Domain [cert] now contains 4 total features. Removing defunct nodes from database. Saving new features. Saving domain topology. Activate Default Sensors Turned on default sensors for the cert domain. Close

Figure 8: Add/Repair domain results

The summary icon and text at the top of the summary (Figure 8) shows the result of the domain add/repair request.

- If the result is success (♥), the domain should now be available in Panther.
- If the result is a warning (A), Panther added/repaired the domain, but the summary may include additional steps that need to be completed.
- If the result is an error (♥), Panther could not add the domain. The summary will indicate what is required before the domain can be added/repaired.







The following lists give detailed information for the various sections displayed in the results window that may be useful for troubleshooting. Within the figure, pantherweb and panthercycler are User1 and User2, respectively. For more information on User1 and User2, refer to the Panther Required Accounts section.

- The account provided when initiating the add/repair operation exists in Panther and has the *Panther Access* privilege, or the account does not exist in Panther, but the default user has the *Panther Access* privilege.
- The account provided when initiating the add/repair operation does not have the *Panther Access* privilege.

Table 3: Test Panther Account section

- The User1 and User2 accounts are defined.
- One or both the User1 and User2 accounts have not been defined on the Panther machine.

Table 4: Panther Account Logicals section

- The User1 account is set up appropriately.
- User1 failed to execute an *Impersonate* command. Either the account does not exist or does not have the privilege.

Table 5: Test Impersonate section

- The domain was added and is ready for use. The summary shows the nodes that were found if this was the first time it has been added to Panther. If the domain was restored, it will instead indicate that all settings, permissions, schedules, and history may still be present.
- Contact Softek Panther support and provide the log or a screen capture of the displayed error, as the details could not be recorded.

Table 6: Synchronize Domain section

Default sensors have been activated for the domain. This section does not appear when repairing domains.

Table 7: Activate default sensors section

5 The Panther User Interface

The Panther User Interface is made up of three main components indicated below in Figure 9.

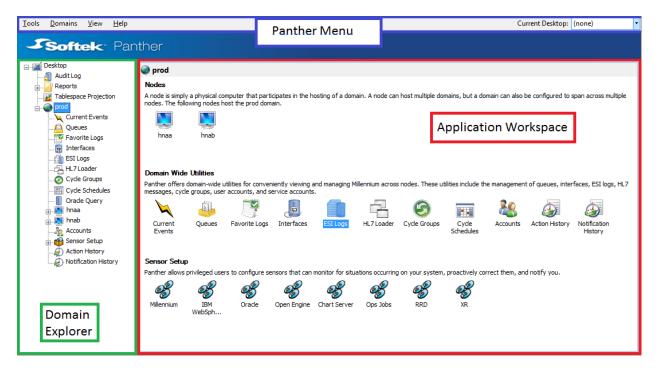


Figure 9: The Panther User Interface

5.1. Domain Explorer

The Domain Explorer displays a hierarchical view of controls relating to the domains that you have signed into successfully. For each item in the Domain Explorer, there is a corresponding control that appears in the Application Workspace.

The Domain Explorer was designed to make it easy to the following:

- Navigate between management features.
- · Manage systems with multiple nodes.
- · Navigate between multiple domains.
- Manage your system without having to sign into multiple applications.



Attention: Some controls may not appear in your Domain Explorer.

Depending on your privileges within Panther for a domain, certain components may or may not appear within the Domain Explorer. This means that you may have access to components in one domain but not another. Contact your Panther administrator to have your privileges modified.

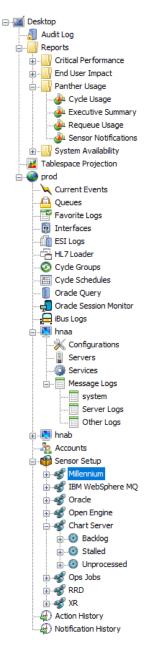


Figure 10: Domain Explorer

5.2. Application Workspace

The Application Workspace is where the selected control appears and is the most dynamic element in the Panther User Interface. Later sections in this document will describe in greater detail the contents of the Application Workspace for their control.

In addition to having a single control selected appear in the application workspace, you can create your own custom desktops that may contain many controls all at the same time (for more information on this feature, see the Creating Desktops section of this document).

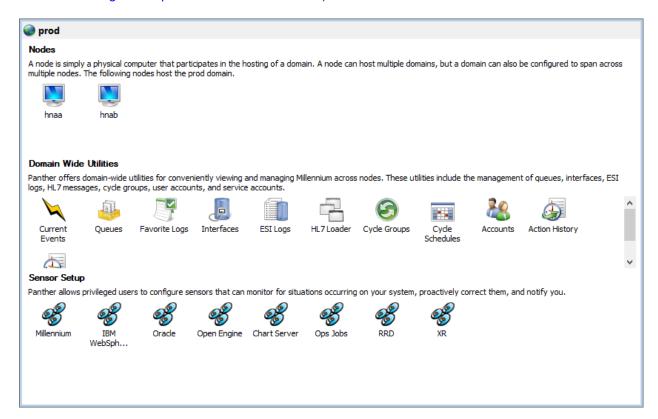


Figure 11: Application Workspace



Panther remembers where you are.

Panther remembers what control you are working with when you log off or close the browser, so the next time you sign in you will be where you were before.

5.3. Panther Menu

Panther uses a menu bar for tasks that relate to all of Panther; such as permissions, foreign system interaction, and high-level display settings. The menu appears just above the Application Workspace and contains the name of the control being displayed on the far left (Figure 9). The Panther Menu items are the same for all controls and are described in detail below.

5.3.1 Tools Menu

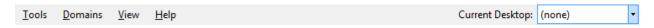


Figure 12: Panther Menu

From the Tools menu Figure 12, you can manipulate custom desktops, manage Panther, define how Panther connects to foreign systems, add/edit/remove user/group privileges, and manage email preferences based on user/group accounts.

The contents of the Tools menu depend on the permissions of the user viewing it, so not all users will see all of these options.

5.3.2 Desktop Menu

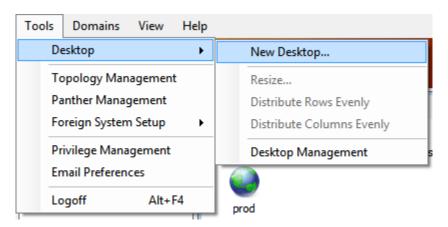


Figure 13: Desktop Menu

Desktops allow you to have multiple controls displayed in the application workspace. More information is available in the Creating Desktops section of this document.

5.3.3 Topology Management

The tools menu also provides a menu item to manage Panther's topology (Figure 14).

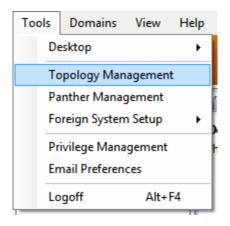


Figure 14: Topology Management

Selecting this menu item will open the Topology Management window.

5.3.4 Panther DNS Configuration

Panther can be configured to use its own DNS service, allowing users to manage which DNS records are seen by Panther, ultimately controlling what is seen in Topology Management. Once this is done, a new *Configure Panther DNS* item will appear in the login dialog (Figure 15) and tools menu (Figure 16).



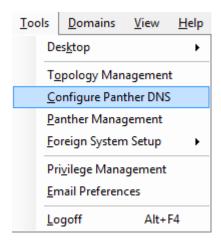


Figure 15: Login with configure link

Figure 16: Tools menu with configure item



Attention: Panther DNS Configuration

Configuring DNS in Panther is meant as a work-around for cases when the Panther server lacks access to the DNS servers hosting A, SRV, and TXT records for Millennium. It is highly recommended to provide Panther access to existing DNS servers hosting that information whenever possible.

Manage Panther DNS

Clicking either of the aforementioned *Configure Panther DNS* items launches the Manage Panther DNS dialog (Figure 17). From here, you can manage the environments and specific DNS records seen by Panther.

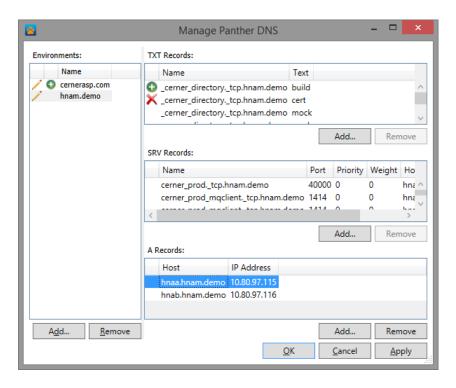


Figure 17: Manage Panther DNS dialog

Adding DNS Records

Once an environment is selected, the dialog will load any existing records and allow you to modify them. Since Panther deals heavily with Millennium environments, A, SRV, and TXT records are available. Additionally, the add dialogs for TXT (Figure 18) and SRV (Figure 19) records provide some default values to make entering data quicker and easier.



Figure 18: Add TXT dialog

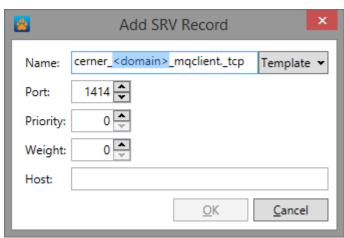


Figure 19: Add SRV dialog using MQ template

Once changes are saved, should they impact Millennium topology, they will be reflected within Topology Management.

5.3.5 Panther Management

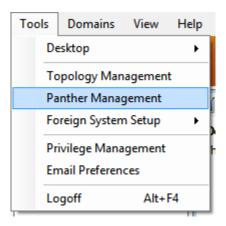


Figure 20: Panther Management

Actions performed in the main dialog of Panther Management are audited and can be viewed in the Audit Log provided the user has the 'Access Audit Log' privileges.

Panther Management includes managing suspensions of domains, nodes, notifications, and proactive actions. It also allows management of logging sensor events to the windows event log. It can be accessed by selecting *Panther Management* from the *Tools* menu in Panther, seen in Figure 20.



Attention: Not all users have access to Panther Management.

Users who do not have the Manage Panther permission will not be able to see this menu item.

Domain Management

The Domain Management portion of the dialog allows the user to manage domain wide settings.

First, the user may choose to suspened/unsuspend the domain as a whole. Toggling the suspension of a domain controls whether or not any actions can be performed in Panther for that domain. This action is recommended for planned downtimes.

The second functionality of Panther that can be suspended on a domain level is notifications. Suspending notifications will cause the sensors to no longer generate notifications for the events it detects in the system. If the user wishes to ignore notifications for a domain but wants Panther sensors to continue running, the user can un-check the Notifications checkbox and no notifications will be sent for that domain.

The other two checkboxes for *Cycle failure notifications* force panther notifications to be sent to the user who issued an interactive cycle and the cycle failed. There is a separate checkbox for email notifications and pager notifications. When this feature is enabled for a domain, if the user who issued the interactive cycle on the domain is not signed up for cycle failure notifications in the Millennium Server Cycler Sensor Setup, that user will still receive a notification if the cycle fails. In order to receive these notifications, the user must also have an email address or a pager address specified in the Email Preferences dialog. If a pager address is specified, Panther will send an interactive Cycle Failure notification to the user even if the user is not on call. If both the email address and the pager address are specified when cycle failure emails and pages are enabled, Panther will send notifications to both addresses.



Attention: You will not receive notifications from suspended domains.

You will not receive any notifications about events nor will proactive actions be taken by Panther on domains that are not checked in Panther Management.

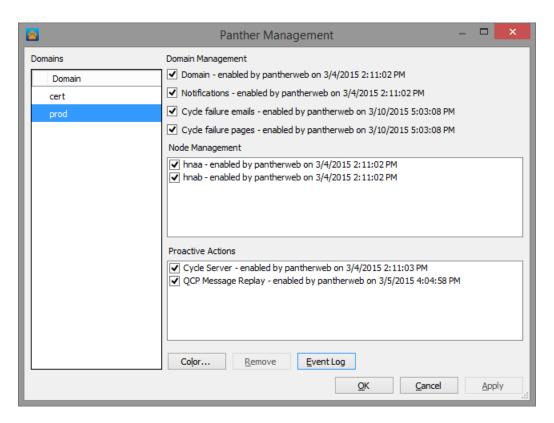


Figure 21: Panther Management

Node Management

The *Node Management* portion of the dialog allows the user to manage suspensions of nodes for the selected domain. If a node is down and cannot be managed or monitored through Panther, then suspending it will cause Panther to no longer attempt communication with that node.



Attention: You will not receive notifications from suspended nodes.

You will not receive any notifications about events nor will proactive actions be taken by Panther on nodes that are not checked in Panther Management.

Proactive Action Management

The *Proactive Actions* portion of the dialog allows the user to manage what proactive actions are enabled for the selected domain. Proactive actions are automated corrective actions performed on the Millennium system by Panther. By checking or un-checking an action for a given domain, the user is enabling or disabling that action for the selected domain.

Color

The *Color...* button opens a dialog where the user can select colors to use for the currently selected domain. To select the color for the foreground text, click on the 'Fore' color swatch, then click on one of the color swatches to the right of it. Or, click on 'Custom' to select some other color. To select the color of the background text, follow the same procedure with the 'Back' swatch. The example header below the color swatches will show what the two colors will look like together when in use.

Click 'Reset' to revert the colors to the system standard, 'OK' for the currently selected colors to take effect, or 'Cancel' to keep the currently saved colors.

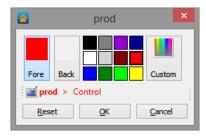


Figure 22: Color Selection Dialog

The colors selected for a domain are global, and affect all users. Changes are audited. A user must have the 'Manage Panther' privilege to access the *Panther Management* dialog, and the 'Manage Topology' privilege for a given domain to access its *Colors* dialog.

The colors affect the appearance of the Breadcrumbs that indicate which domain a control belongs. This can be used to help a production domain stand out in a desktop containing multiple domains.

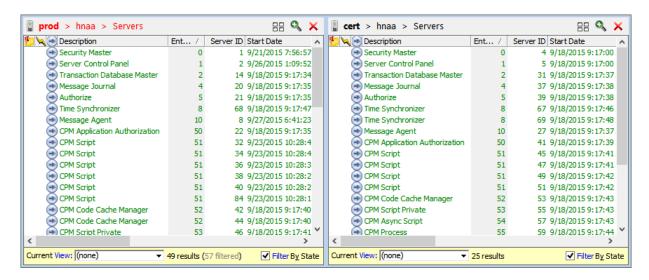


Figure 23: A desktop using colored breadcrumbs for production

Domain Removal

The *Remove* button will remove the currently selected domain from Panther. It will not affect the Millennium topology; it will only cause Panther to cease monitoring that domain. If a domain no longer exists in Millennium, it is recommended that it be removed from Panther.

Users must have both the 'Manage Panther' privilege to access the *Panther Management* dialog, and the 'Manage Topology' privilege for the domain they wish to remove.

If there is only one domain present in Panther, it can not be removed, and the *Remove* button will be disabled.

Event Log Management

The *Event Log* button on the Panther Management dialog opens the *Event Log* dialog where a user can configure which events and which sensors will write entries to a windows event log on the Panther server. This event log can be used to integrate with an Enterprise System Management (ESM) using an event log monitoring agent set up on the Panther server.

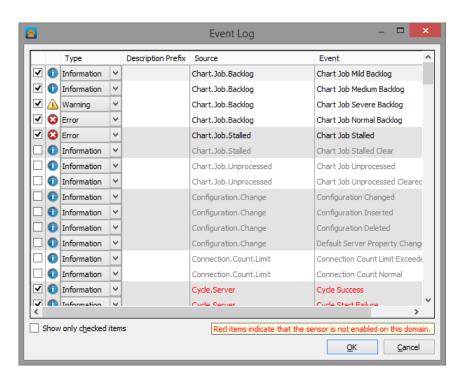


Figure 24: Event Log

In accordance with the log levels written by the .NET Event Log Trace Listener, events can be set to the Error, Warning, or Information levels. See the source code on Microsoft's website (http://referencesource.microsoft.com/#System/services/monitoring/system/diagnosticts/EventLogTraceListener.cs,b59ba3a72e84a6b1).



Attention: The Event Log dialog may not be available at your organization.

The Event Log is useful to organizations who set up an event log monitoring agent on the Panther server.

Each event is written to the Panther. EventLog log on the Panther machine, using a standard format across sensors. Log structure is enumerated in the table below.

Word Position	Name	Description
0 to n	Description Prefix	User defined information to be written as description of the event log.
N + 1	Event Instance ID	Every event that occurs in the Panther system is assigned a globally unique identifier (GUID). This identifier will always be the first word written by Panther into the description field.
N + 2	Domain	The name of the Millennium domain that is associated with the event.
N + 3	Node	The name of the Millennium node that is associated with the event. When a node does not apply to the event, a <i>null</i> will be written.
N + 4	Component	The name of the component of interest relating to the event. For example, for IBM MQ Backlog, the Component will be the queue name. When a component field does not apply to the event, a <i>null</i> will be written.
N + 5 to m	Additional Data	Additional information specific to an event.

Table 8: Panther. EventLog Structure

Figure 25 is an example event log written by the Oracle® Alerts sensor:

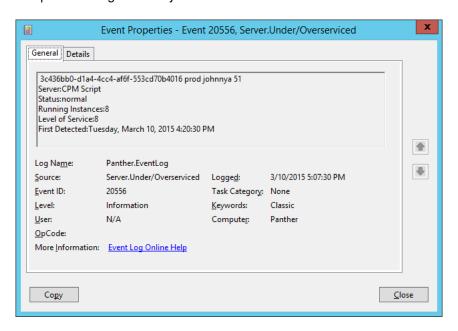


Figure 25: Event Log Example

5.3.6 Foreign System Setup

Items under the Foreign System Setup menu are used to define how Panther connects to foreign systems for monitoring and configuration purposes. It is accessed from the *Tools* option in the Panther Menu.

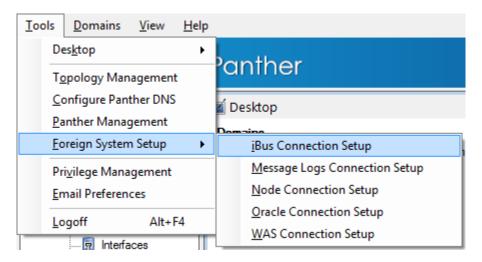


Figure 26: Foreign System Setup

The options under Foreign System Setup cover several different systems. iBus Connection Setup allows you to configure the credentials and servers for viewing iBus log files. Message Log Connection Setup allows you to configure the credentials use to connect to a domain's nodes when fetching message log data. Node Connection Setup allows you to configure the credentials used to connect to a domain's nodes in order to access their RTMS timer data. Oracle® Connection Setup allows you to configure the connection string used by Panther to access the Oracle® database on a per-domain basis. Rules Engine Setup allows you to configure which posted flags are used in rule evaluation. WAS Connection Setup allows you to configure the credentials and servers for monitoring WAS environments.



Attention: Not all users have access to Foreign System Setup.

If a user does not have the necessary privileges to access at least one of the items in the Foreign System Setup sub-menu, Foreign System Setup will be hidden.

iBus Connection Setup

The iBus Connection Setup dialog allows you to specify the credentials and iBus servers for each domain, which Panther will use to access the iBus servers.

To access iBus Connection Setup, select the "Foreign System Setup" option in the Tools menu, and look for iBus Connection Setup in its sub-menu.

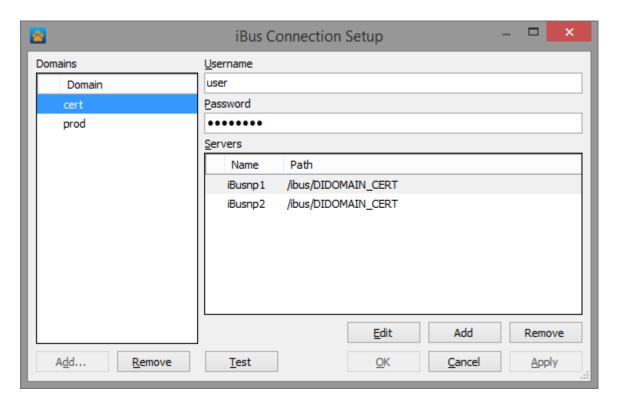


Figure 27: iBus Connection Setup

If there are any domains Panther is monitoring which are available to assign connection information to, the "Add…" button in the lower-left corner of the dialog will be enabled. Each domain can be assigned only one username and password. If you click "Add…", the resulting dialog will have a list of the available domains.

Panther requires the iBus servers to be listed for each domain. Click the "Add" button below the Servers grid to add a server. The Path field for each server is the path to the iBus files. After one server is added, the add dialog pre-populates the Path field with the most common path. Once the credentials and at least one server are populated for the domain, it can be saved. Clicking the "Edit" button or pressing the F2 key when a server is selected allows the Path for the server to be modified.

The "Test" button will test the current username and password against each iBus server for the selected domain. It will launch a dialog showing the results of the connection attempt for each server. The dialog may take a moment to display as the Panther server tests the connection to each iBus server.

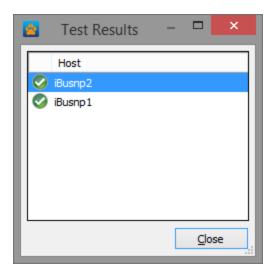


Figure 28: Test Results

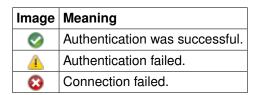


Table 9: Test Result Images

Message Log Connection Setup

The Message Log Connection Setup dialog allows you to specify the credentials for each domain, which Panther will then use to connect to that domain's back-end nodes when gathering message log data.

To access Message Log Connection Setup, select the "Foreign System Setup" option in the Tools menu, then look for Message Log Connection Setup in its sub-menu.

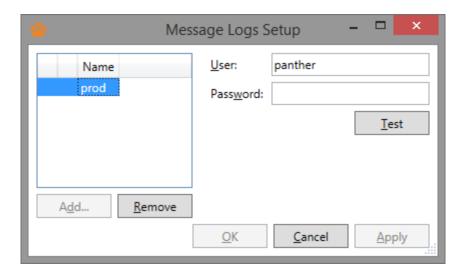


Figure 29: Message Log Connection Setup

If there are any domains Panther is monitoring which are available to assign connection information to, the "Add…" button in the lower-left corner of the dialog will be enabled. Each domain can be assigned only one username and password. If you click "Add…", the resulting dialog will have a list of the available domains.

The "Test" button will test the username and password currently entered for the selected domain. It will launch a dialog showing the results of the connection attempt for each of the domain's nodes. The dialog may take a moment to display as the Panther server attempts to connect to each of the nodes.

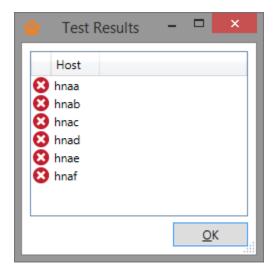


Figure 30: Test Results

Node Connection Setup

The Node Connection Setup dialog allows you to specify the credentials for each domain, which Panther will use to connect to that domain's backend nodes to gather RTMS data.

To access Node Connection Setup, select the "Foreign System Setup" option in the Tools menu, and look for Node Connection Setup in its sub-menu.

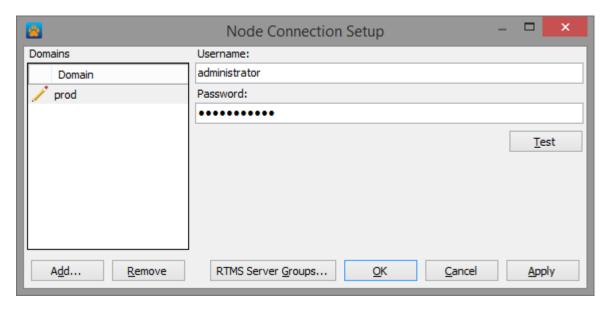


Figure 31: Node Connection Setup

If there are any domains Panther is monitoring which are available to assign connection information to, the "Add…" button in the lower-left corner of the dialog will be enabled. Each domain can be assigned only one username and password. If you click "Add…", the resulting dialog will have a list of the available domains.

The "Test" button will test the username and password currently entered for the selected domain. It will launch a dialog showing the results of the connection attempt for each of the domain's nodes. The dialog may take a moment to display as the Panther server attempts to connect to each of the nodes.

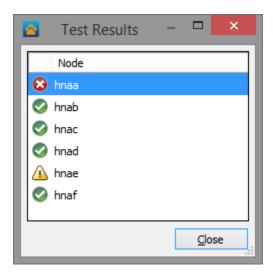


Figure 32: Test Results

RTMS Server Groups

The RTMS Server Groups dialog allows you to group servers found in the RTMS data. This will improve the effectiveness of reports generated with the RTMS data.

To start classifying RTMS Servers click the "RTMS Server Groups..." button in Figure 31. Clicking this will open a dialog showing the total number servers, groups, and how many servers are unclassified. (See Figure 33).

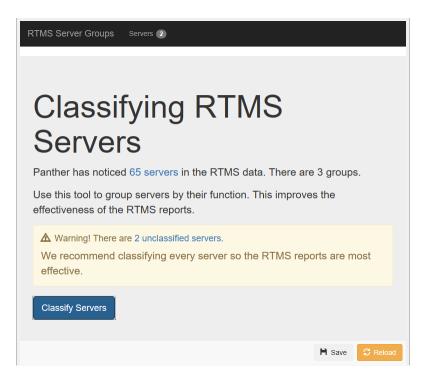


Figure 33: RTMS Server Groups Home Page

Clicking the "Classify Servers" button in Figure 33 will take you to a page where you can create groups and classify servers.

You can classify a server by clicking its row under the header for the group it should be classified as. Clicking and dragging will allow you to classify multiple servers at once. An example of classified servers can be seen in Figure 34.

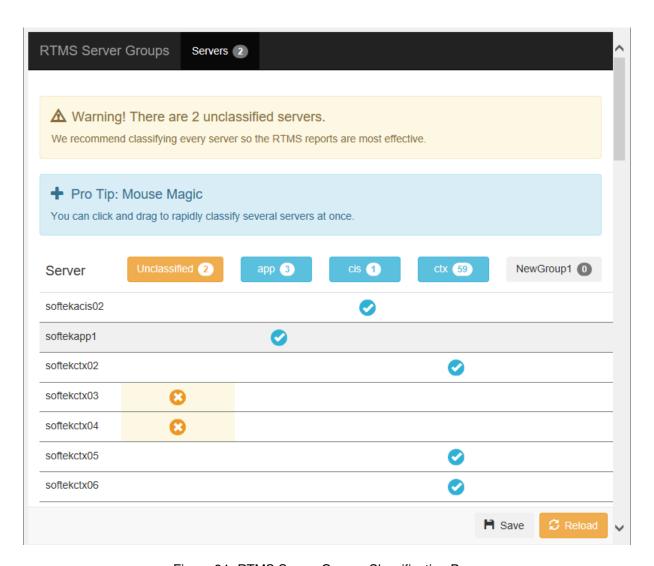


Figure 34: RTMS Server Groups Classification Page

You can create and name new groups by clicking on "NewGroup#". This will open a dialog where you can name the group. (See Figure 35). Existing groups can be renamed by clicking on their header.

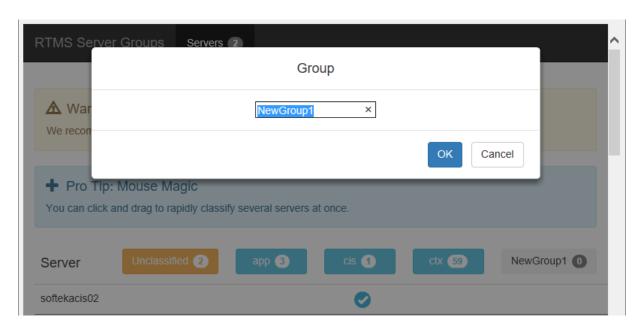


Figure 35: RTMS Server Groups Rename Dialog

Group names must be unique. If you create multiple groups with the same name the header will be styled red. If you try to save before fixing the name conflict you will see the error in Figure 36. To remove groups, re-classify all servers in that group so there are no servers under that classification, click "Save", and then click "Reload".

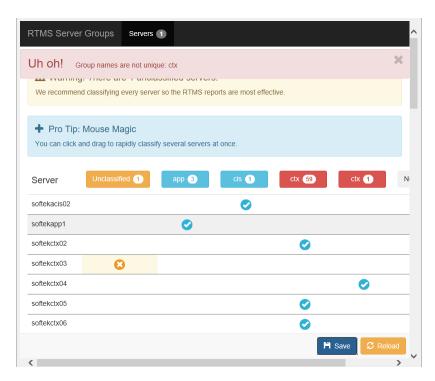


Figure 36: RTMS Server Group Name Conflict

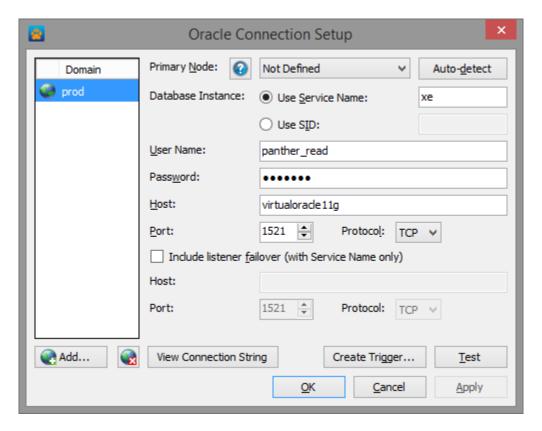


Figure 37: Oracle® Connectivity

Oracle® Connectivity

The Oracle[®] Connection Setup dialog allows you to configure the connection to the Oracle database for each domain and create the sequence, table, and trigger required for the Oracle[®] Alerts Sensor.

Several of Panther's capabilities require Oracle® connectivity, including:

- · Database Controls and Alerts (required)
- Interfaces Controls and Alerts (required)
- Cycling Interface Servers (recommended)
- · Server Under/Over-service Alert (recommended)

To access Oracle® Connectivity, select the "Foreign System Setup" option in the Tools drop-down for the Panther Menu, and select "Oracle® Connection Setup" in its sub-menu (Figure 26).

When a connection string has been set up, you can verify the connection information by clicking the *Test* button.

When defining the connection settings for a domain, you may identify the *Primary Node*, which should be set to whichever node is intended to host the Open Engine servers. If you click the *Auto-Detect* button, Panther will scan nodes on the domain, looking for a node with a server that hosts the service named "oen.routerservice". If this service is found running on a node, it will be automatically selected as the *Primary Node*. If the *Primary Node* is left as "Not Defined", the same auto-detect logic will be used upon startup to select a node to use as the primary; however, it will not be saved as a setting, so it is possible that another node may be detected and used as the *Primary Node* in the future unless it is specifically defined.

Users who modify the *Primary Node* setting should be aware of the following details regarding the behavior:

- If a domain has only one node, that node is treated as the *Primary Node* when users cycle servers.
- When a user Cycles an Open Engine server with default cycling behavior, Panther uses the primary node setting to help determine the number of instances to run for the server being cycled, unless the node is configured in the OEN_PROCINFO table:
 - servers on the *Primary Node:* 1 running instance
 - servers on other nodes: 0 running instances
- The Interfaces control will also use this setting to determine what the preferred node is for actions like quick-starting a server and viewing configuration properties. Without a *Primary Node* or configuration in the *OEN_PROCINFO* table, no default is assumed (See *Configured Node*).



Attention: panther_read

On the Oracle® Connection Setup dialog (Figure 37), the panther_read user credentials must be used in order to successfully use the trigger creation wizard.

The *Create Trigger* button provides a wizard that will assist in creating the required items for the Oracle[®] Alerts Sensor.

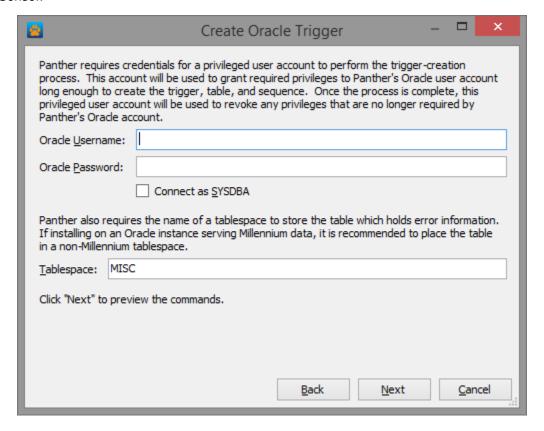


Figure 38: Oracle® Trigger Creation Wizard

The wizard will allow users to specify which tablespace the table will reside in and display the SQL for review before any changes are made.

The trigger will capture the operating system (OS) and database usernames associated with ORA- errors (Figure 38).



Attention: Trigger permissions

Only SYSDBAs (System DataBase Administrators) on the Oracle[®] database being used are allowed to create triggers. Other users will see the final SQL that would be used, but cannot actually create triggers. (See Figure 38).

Rules Engine Setup

The Rules Engine Setup dialog allows you to specify which process flags are used during rule evaluation.

To access Rules Engine Setup, select the "Foreign System Setup" option in the Tools menu, then look for Rules Engine Setup in its sub-menu.

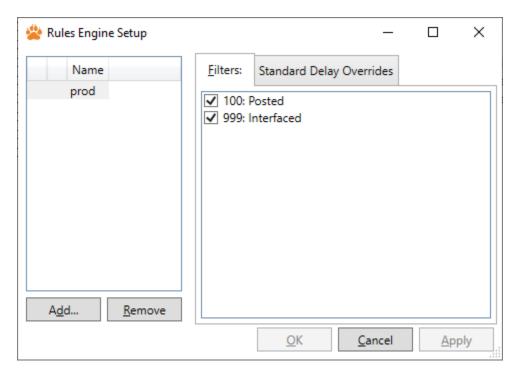


Figure 39: Rules Engine Setup

If there are any domains Panther is monitoring which are available for assignment of process flag filters, the "Add…" button in the lower-left corner of the dialog will be enabled. The prompt upon clicking "Add…" will include the list of available domains.

Users can also optionally define standard delay values for organizations (Figure 40), used for the MAX_CHARGE_DATE column¹. These standard delay values will be used when standard delay values are not defined in the Millennium[®] database or to override the values that are.

¹Rules Engine Columns

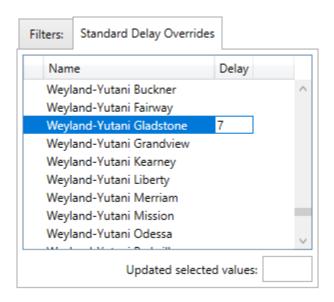


Figure 40: Standard Delay Overrides

Values can be defined one-by-one by clicking in the *Delay* cell next to an organization and adding/removing a value or done in batches by multi-selecting organizations and entering a value into the text box below (Figure 41).

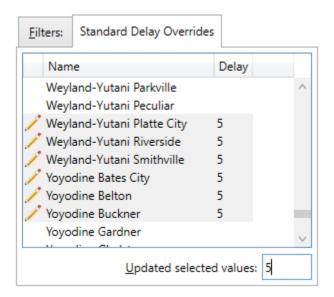


Figure 41: Standard Delay Overrides - Batch Changes

WAS Connection Setup

The WAS Connection Setup dialog allows you to specify the connection information for one or more Web-Sphere Application Server (WAS) environments. This allows Panther to connect to WAS environments and gather data for Panther sensors and alerting.

To access WAS Connection Setup, select the "Foreign System Setup" option in the Tools menu, and look

for "WAS Connection Setup" in its sub-menu.

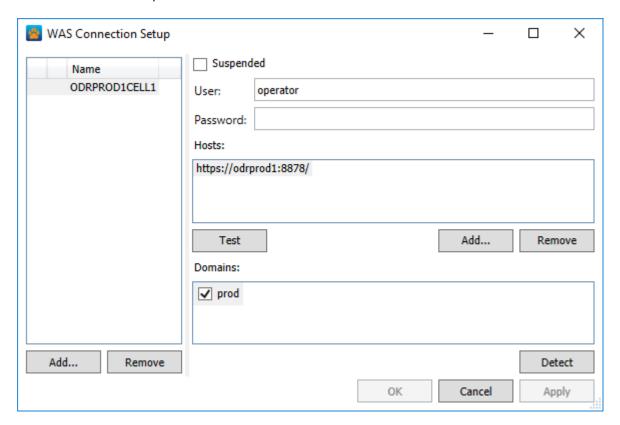


Figure 42: WAS Connection Setup

Unlike other "Foreign System Setup" screens that list Millennium domains on the left, "WAS Connection Setup" lists WAS environments or cells on the left. A WAS environment is defined by providing credentials for the operator account that Panther will use to connect. One or more hosts or nodes needs to be supplied so Panther knows what to communicate with. By default, hosts that are added will default to port 8878 but can be configured to use other ports.

The test button will test the credentials against each of the hosts and display whether Panther was able to connect to each host. Once the credentials are in place, they can be saved and changed as needed.

At the bottom of the screen is the domain association for the WAS environment. Each WAS environment can be configured to map to one or more Millennium domains so that Panther can map the WAS data for alerting purposes. This allows users to choose which domains Panther uses for sensor alerts for the WAS environment. This gives Panther administrators the flexibility to choose which domain WAS alerts should show up for. It also allows for multiple WAS environments to go to a single domain. For example, a production WAS environment and a Millennium Mobile WAS environment could both be assigned to a production Millennium domain, and the alerts for both would be managed in one place in Panther.

When credentials and at least one host are provieded, clicking the 'Detect' button results in the screen checking the domain boxes based on the applications in the WAS environment. This button may check more than one domain depending on what applications are detected. This is best used as a starting point followed by manual inspection to ensure the domain association is correct.

5.3.7 Privilege Management

Panther's 'Manage Users' privilege allows you to define what users have access to the various components of Panther. Some privileges are global, and others are domain specific.

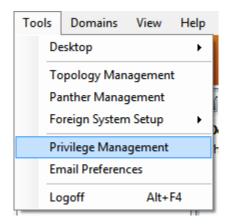


Figure 43: Privilege Management

General Information

The Panther Privilege management will give you access to Users and Groups as well as the Privileges and Memberships of those Users and Groups.

By checking or un-checking the *Show Groups* or *Show Users* checkboxes in the lower left corner of the Panther Privilege Management window, you determine whether the Panther Accounts list includes only users, only groups or both users and groups. The (icon below the checkboxes gives you the ability to add groups to Panther. The (icon gives the ability to add users and the (icon gives the ability to delete both users and groups. The context menu in the list of users and groups also gives the ability to view a user's record in the PRSNL table, or view the list of Organizations the user has access to, provided there is an Oracle connection to the domain that hosts the user.

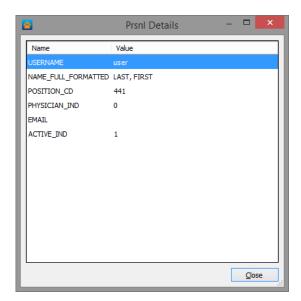


Figure 44: Prsnl Dialog

Privileges Tab

Default User Group

The settings defined for this group will identify the privileges that all new users will have when they are first added to Panther. Unless someone grants the global privilege, 'Access Panther', to the Default User Group, new users will not be able to sign in until their settings are manually altered by someone with the 'Manage Users' privilege.

The dialog on the following page opens when the *User Management* option in the *Tools* menu is selected. In Figure 45 the Default User Group is selected. This group can be renamed or replaced with a group that automatically adds new users by making sure the corresponding group has the *Add new Panther users to this group when they sign in for the first time* checkbox checked (Figure 46).



How do users get added to Panther?

Users can be added to Panther using the Panther User Privilege Management dialog. Users are also automatically added to Panther when they login for the first time with a username/password combination that is authenticated through Millennium. Users added automatically will have the same privileges as the Default User Group.

The (default) Domain

The settings for the *default* domain are applied to all domains unless they are explicitly overridden by changing the privilege under the desired domain.

The settings defined for this domain will identify the privileges that the selected user will have on all new domains when they are first added to Panther.



Attention: Not all users have access to User Management.

Only users with the Panther 'Manage Users' privilege are allowed to access user management.

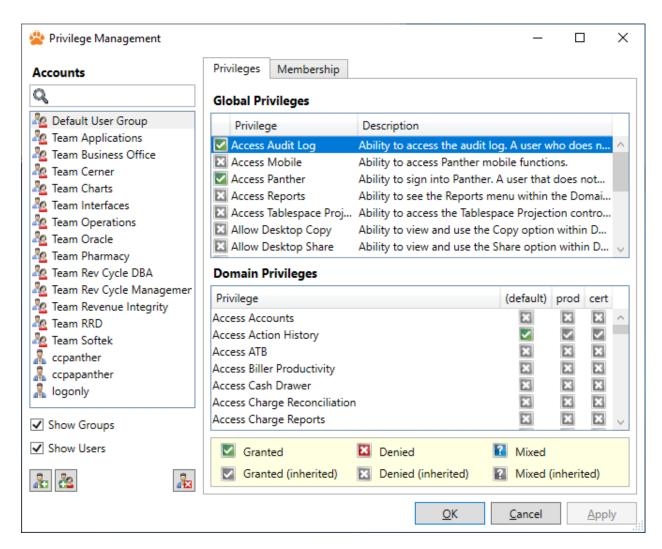


Figure 45: Privilege Mangement

Privilege	Description		
Access Audit Log	Causes the Audit Log option to appear in the Domain Explorer for the selected user.		
Access Mobile	Gives the ability to access Panther mobile application functions.		
Access Panther Defines whether a user can sign into Panther. Denying this privilege User Template) will keep accounts that are not defined within Parcessing Panther.			
Access Reports	Causes the Reports option to appear in the Domain Explorer for the selected user.		
Access Tablespace Projection	ce Pro- Causes the Tablespace Projection option to appear in the Domain Explorer for the selected user.		

Table 10: Global Access Privileges

Privilege	Description		
Allow Desktop Copy	The selected user can give copies of their custom desktops to other Panther users. Once the copy is received, the user can make edits to their copy of the desktop without making changes to the original desktop.		
Allow Desktop Share	The selected user can allow other users to view one or more of their custo desktops and, if they choose, allow those users to make changes to their destop. Any edits will make changes to the master desktop.		
Manage iBus Logs Connectivity	Ability to create, modify, and remove information that allows Panther to load iBus logs.		
Manage Panther	Causes the Panther Management option to appear in the Tools menu. Panthe Management dialog is where sensors, events, and notifications can be disable or enabled for the entire Panther environment.		
Manage Reports	Gives the ability to add, edit, or remove scheduled reports, and to edit the recipient lists for scheduled reports in the Reports control.		
Manage RTMS Connectivity	Ability to create, modify, and remove information that allows Panther to load RTMS timer information.		
Manage Users	Causes the Manage Users option to appear in the Tools menu and exposes additional options in the Email Preferences dialog. This grants users the ability to alter user groups, Panther user privileges, and email preferences for all Panther users.		

Table 11: Global Manage Privileges

Domain Privileges

Domain privileges can be used to give you finer-grained control over what components of Panther users have access to on individual Millennium domain (Table 12 and Table 15).

Privilege	Description		
Access Accounts	Displays the User Accounts and System Accounts controls.		
Access Action History	Displays the Action History control.		
Access ATB	Displays the ATB controls.		
Access Biller Productivity	Displays the Biller Productivity control.		
Access Cash Drawer	Displays the Cash Drawer control.		
Access Charge Reconciliation	Displays the Charge Reconciliation control.		
Access Charge Reports	Displays the Charge Reports control.		
Access Claim Denials	Displays the Claim Denials control.		
Access Configurations	Displays the Configurations control. A user without this ability cannot access server configuration properties from other controls.		
Access Current Events	Displays the Current Events control.		
Access Cycle Groups	Displays the Cycle Groups control.		
Access Cycle Schedules	Displays the Cycle Schedules control.		
Access Encounter Holds	Displays the Encounter Holds control.		
Access ESI Logs	Displays the ESI Log control.		
Access Form Integrity	Displays the Form Integrity control.		
Access Formulary Compliance	Displays the Formulary Compliance control.		
Access General Ledger Build	Displays the General Ledger Build control.		
Access HIM Productivity	Displays the HIM Productivity control.		
Access iBus Logs	Displays the iBus Logs control.		
Access Implant Recall	Displays the Implant Recall control.		
Access Interface Tx Loader	Displays the Interface Tx Loader control.		
Access Interfaces	Displays the Interfaces control. By default these users will not be able to view any interfaces that have not been assigned to them using interface views.		
Access Notification History	Displays the Notification History control.		
Access OHPA ATB	Displays the ATB (OHPA) control.		
Access OHPA Charge Reconciliation	il- Displays the Charge Reconciliation (OHPA) control.		
Access OHPA DNFB	Displays the DNFB (OHPA) control.		
Access Oracle Query	Displays the Oracle Query control.		
Access Oracle Session Monitor	Displays the Oracle Session Monitor control.		
Access Order Integrity	Displays the Order Integrity control.		

Table 12: Domain Access Privileges

Privilege	Description				
Access Patient Accounting Reports	Displays the Patient Accounting Reports control.				
Access Payor Report Card	Displays the Payor Report Card control.				
Access Pharmacy Integrity	Displays the Pharmacy Integrity control.				
Access Physician Documentation	Displays the Physician Documentation control.				
Access Printers	Displays the Printers control.				
Access Queue Message Contents	Ability to view the contents (raw data) of an IBM MQ message in the Queues control. A user that does not have this ability will not be allowed to view the contents of IBM MQ messages in the Queues control.				
Access Queues	Displays the IBM MQ Queues control.				
Access Rules Engine	Displays the Rules Engine control.				
Access Scheduled Revenue Reports	Offers the ability to view scheduled Charge Reports and Patient Accounting reports, if the user also has the necessary privileges to access the respective report controls.				
Access SCP Recommendations	Displays the SCP Recommendations control.				
Access Server Logs	Displays the Millennium Server Logs via the Message Logs controls. A user without this ability cannot access server logs from other controls.				
Access Servers	Displays the Servers control.				
Access Services	Displays the Services control.				
Access Summary Revenue Reports	Displays the Summary Revenue Reports controls (7-day Rolling Average Inpatient/Outpatient, Revenue By Category, Revenue By Cost Center, and Revenue By Health Plan.				
Access Supply Charging	Displays the Supply Charging control.				
Access Work Queue Assignments	Displays the Work Queue Assignments control.				
Allow Account Info Retrieval	Ability to view users Organization access, Billing Entity access, and view records from the PRSNL table.				
Allow Application Context Retrieval	Allows the user to search for Application Context records.				

Table 13: Domain Access Privileges

Privilege	Description		
Allow Server Control Panel (SCP) –All operations	Ability to view and use the "Start –All", "Stop –All", and "Kill –All" operations in the Servers and Configurations controls.		
Allow SCP Kill operations	Ability to view and use the "Kill server" and "Kill instance" operations in the Servers and Configurations controls. A user without this privilege will not be able to view or access this functionality.		
Manage Chart Server Sensors	Displays Chart Job sensors under Sensor Setup.		
Manage Cycle Groups	Ability to add, edit or remove cycle groups within the Cycle Groups control. A user with this privilege may also view all existing Cycle Groups.		
Manage Form Integrity	Ability to manage the Form Integrity control.		
Manage Formulary Compliance	Ability to manage the Formulary Compliance control.		
Manage IBM MQ Sensors	Displays IBM MQ sensors under Sensor Setup.		
Manage IBM WAS Sensors	Displays IBM WAS sensors under Sensor Setup.		
Manage Interface Views	Ability to manage views in the Interfaces control. This includes access to the View Management screen and the ability to use no view in the list of interfaces. A user that does not have this ability is only allowed to use views he/she is assigned to and will not be able to access the View management screen.		
Manage Millennium Sensors	Displays Millennium sensors under Sensor Setup.		
Manage NDC Sensoprs	Displays NDC sensors under Sensor Setupl.		
Manage Open Engine Sensors	Displays Open Engine sensors under Sensor Setup.		
Manage Ops Job Sensors	Displays Ops Job sensors under Sensor Setup.		
Manage Oracle® Connectivity	Ability to create, modify, and remove information that allows Panther to connect to the Oracle® database.		
Manage Oracle® Sensors	Displays Oracle® sensors under Sensor Setup.		
Manage Order Integrity	Ability to manage the Order Integrity control.		
Manage Physician Documentation	Ability to manage the Physician Documentation control.		
Manage Queue Views	Ability to manage views in the Queues control. This includes access to the View Management screen and the ability to use no view in the list of servers. A user that does not have this ability is only allowed to use views he/she is assigned to and will be able to access the View Management screen.		

Table 14: Domain Access Privileges

Privilege	Description		
Manage Remote Report Distribution Sensors	Displays RRD sensors under Sensor Setup.		
Manage Rules Engine Configuration	Ability to manage the Rules Engine configuration for a domain.		
Manage Scheduled Revenue Reports	Ability to manage Revenue Report schedules.		
Manage Server Views	Ability to create, modify, and remove server views. Users without this privilege will only be able to use the server views that have been created and assigned to them.		
Manage Topology	Ability to remove domains and suspend event detection, actions, and notifications.		
Manage Work Queue Assignments	Ability to manage the Change Tracking in the Work Queue Assignments control for a domain.		
Manage XR Sensors	Displays XR sensors under Sensor Setup.		

Table 15: Domain Manage Privileges

Membership Tab

Groups

Groups can be utilized in signing people up for event notifications sent out by the sensors, and the assignment of privileges.

Privileges explicitly defined for a user will override any group privileges. Privileges that are not defined for a user will be inherited from the group(s) of which the user is a member. If a user is a member multiple groups that have conflicting privilege assignments, privileges explicitly denied by one group and explicitly granted by another group will be inherited as a denials.

Example

Privilege	Millennium Admins	Default User Group	UserA	Result
Access Interfaces	×	×	×	×
Manage Server Views	$\overline{\mathbf{v}}$	×	*	×
Access Servers	~	×	×	~
Access Cycle Schedules	$\overline{\mathbf{v}}$	×	<u> </u>	~
Access Mobile	~	$\overline{\mathbf{v}}$	×	×

Table 16: Privilege Inheritance

UserA is in the Default User Group and the Millennium Admins group. The Default User Group grants the Access Mobile privilege, and denies the Manage Server Views and Access Cycle Schedules privileges. The Millennium Admins group grants the Manage Server Views, Access Servers, Access Cycle Schedules, and Access Mobile privileges. User A has been directly granted the Access Cycle Schedules privilege and directly denied the Access Mobile privilege.

Since neither UserA nor its groups have granted the Access Interfaces privilege, the privilege is denied.

UserA has not had the Manage Server Views privilege defined, so it inherits it from the groups it is a member of. The Millennium Admins group has been granted Manage Server Views, but the Default Users Group has been denied Manage Server Views, so the privilege is denied.

Likewise, Access Servers is not defined for UserA. Millennium Admins has been granted it, and the Default Users Group does not have it defined, so the privilege is granted.

UserA has been explicitly granted the Access Cycle Schedules privilege, which overrides the denial of that privilege to the Default User Group, so the privilege is granted.

UserA has been explicitly denied the Access Mobile privilege, which overrides the grants from both Millennium Admins and Default User Group, so the privilege is denied.

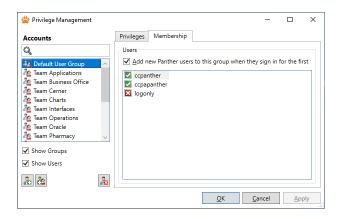


Figure 46: Privilege Mangement

When a group is selected, such as the Default User Group, all users will be listed within the Membership tab. Users are included or excluded from a group by toggling between a green check mark and red x to the left of the username.

If a user is selected, a list of the existing groups will display in the Membership list. Users are included or excluded from a group by toggling between a green check mark and red x to the left of the group name.

5.3.8 Email Preferences

Email Preferences is used to establish user's email and pager addresses. The email address will be used for both notifications and reports.

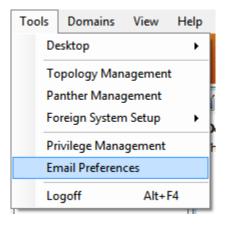


Figure 47: Email Preferences

This dialog also provides a quick list of all notifications the selected user is currently signed up to receive. To review the notifications you or others are signed up for, click the View Notification Subscriptions link.

All users have access to the Email Preferences menu item, however not all users have the privilege to manage groups and other users. If you do not have the 'Manage Users' privilege, you will only see the 'Your Preferences' side of the Panther Email Preferences dialog.



Attention: Receiving notifications and reports

It is not enough to enter an email address and/or a pager address. If the *May Receive Notifications* checkbox is not checked, the user will not receive notifications from Panther.

The figure below shows a user configured to only receive email notifications.

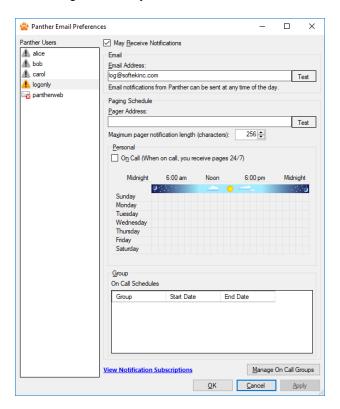


Figure 48: Email Preferences

Adding Users

- · Right-click in the Users section.
- Select Create User from the Context Menu.
- Enter a user name matching a Millennium user name.
- The new user will be added to the list of users on the left.

Icon	Email	Pager	On Call	May Receive
	Х	Х	Х	Х
××	Х	Х	Х	
	Х	Х		X
	Х	Х		
1		Х	Х	X
		Х	Х	
4	Х		Х	X
	Х		Х	
1		Х		X
		Х		
4	Х			X
	Х			
1				Х

Table 17: Translating User Icons

Test Notifications

To verify that an email address or pager address is correct, or that Panther can send email to a provided address, the *Test* button next to the *Email Address* or *Pager Address* fields should be used. Clicking this button sends a brief Test Notification message to the associated address and displays the dialog shown in Figure 49 to the sender.

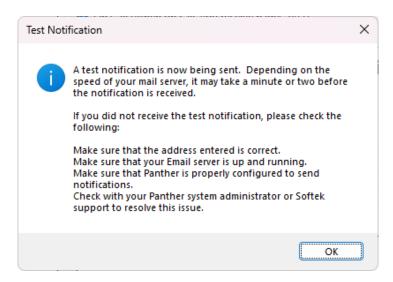


Figure 49: Test Notification

Pager Notifications

Panther only supports SMS and Alpha Text.

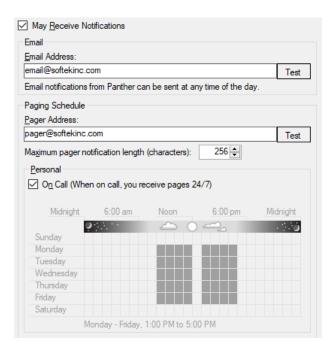


Figure 50: Paging Schedule On Call

Scheduling Options

After providing a pager address and optionally setting a maximum notification length, you need to set up a schedule to receive pages.

There are three options for scheduling:

- On Call Figure 50. For users that wish to receive pager notifications at any time of day (or night), the On Call checkbox can be checked. With this option, Panther will ignore any specified schedule and send pager notifications whenever they are initiated.
- 2. Create a schedule Figure 52. Users who only wish to receive pager notifications at specific times of the week should set up a custom paging schedule instead of selecting the *On Call* option.
- 3. Create group schedules Figure 51. This is ideal for teams with a pager rotation. The schedules are set in advance by a user with the 'Manage Users' privilege. Users without the 'Manage Users' privilege can view their group schedules. See On Call groups for more information.

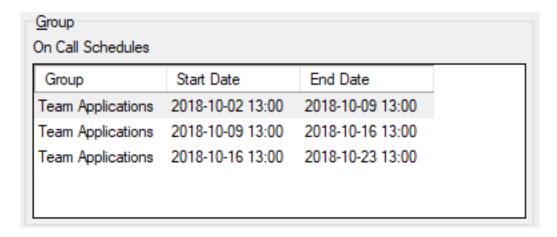


Figure 51: Group Pager Schedules



Attention: On-call and emails

Email notifications are sent at all times, regardless of the paging schedule that has been set up (if the *On Call* checkbox has been checked or not).

Creating Custom Paging Schedules

Click-and-drag to make selections in the Schedule Grid and toggle whether or not time spans are included in the paging schedule. The scheduler also supports the use of Enter, Space, and Shift keys for multi-selection of days and times.

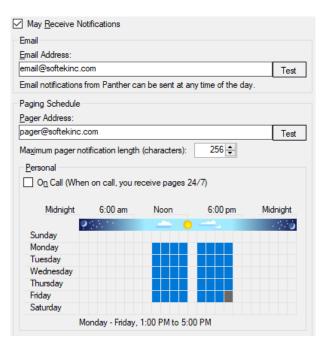


Figure 52: Paging Schedule

Figure 52 demonstrates the following paging schedule for "example@address.net":

Monday - Friday

8:00 am to 12:00 pm

1:00 pm to 5:00 pm

Newly selected cells display as light gray while previously selected cells appear as blue. To remove a time span that has already been selected, simply re-select the time span. The selection that is being removed displays in dark gray. The colors mentioned are the ones seen on a Windows 8 machine with the standard theme; different operating systems and themes may use different colors.

Viewing Notification Subscriptions

The Notifications dialog allows you to see what notifications a user is signed up to receive. The dialog will indicate a notification group if the notification is received because of a membership to a group. The dialog also indicates the domain, notification type (e.g., Chart Job Backlog Exceeded), the specific notification (e.g., Chart Job Mild Backlog), and the method of notification (an email and/or pager icon).

The figures below show the same subscriptions in the two available views.

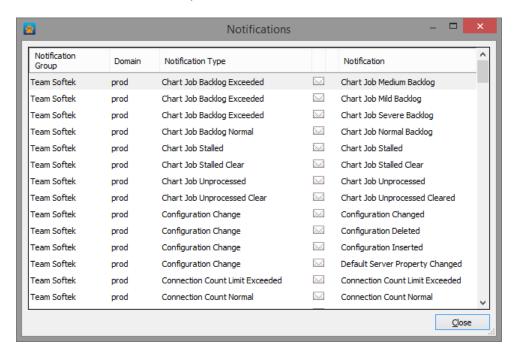


Figure 53: Notification Subscriptions

On Call Groups

The On Call Groups feature of Email Management allows configuring per-group pager schedules. The typical use for this is in setting up a pager rotation so that users who are on call receive pager notification from Panther.

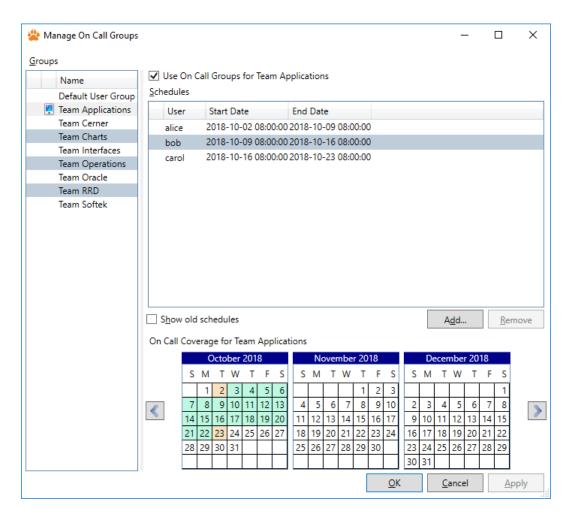


Figure 54: On Call Groups



Attention: On Call Groups

Group Pager notifications configured in the Manage On Call Groups are independent of personal pager settings in Email Management. It is possible to receive pager notifications by configuring the personal settings, the group settings, or both. If a user does not have 24/7 On Call checked and does not have a personal schedule configured, Panther will still send pager notifications when there is a group schedule defined for that user.

To configure schedules, open the dialog by clicking the 'Manage On Call Groups' button in Email Preferences. The Manage On Call Groups dialog consists of a list of Panther user groups on the left and the details for each group on the right.

To configure a group, select it in the grid on the left. Pager notifications for the group can be turned on or off by checking the 'Use On Call Groups' checkbox. When 'Use On Call Groups' is checked, a pager icon will appear next to the group to indicate that pager group notifications are active.

Schedules

The schedules grid shows all of the pager schedules defined for the selected group. A schedule consists of the user and the start and end dates of the schedule.

Schedules for the group can be added and removed by clicking the buttons below the schedule grid. By default, new schedules start at the end of the last schedule and end a week later. To set up a bunch of week long schedules with the same start time, create a single schedule and set the times. Once the first schedule is configured, subsquently added schedules will have the desired start time and a duration of one week.

To edit a schedule, double click the row and cell to be edited. Double click the name to bring up a dropdown of all of the users in the currently selected group.

By default, the schedules grid only shows current and future schedules. To view old schedules, check the 'Show old schedules' checkbox.

On Call Coverage

The On Call Coverage calendar on the bottom right of the Manage On Call Groups dialog displays a high level view of calendar coverage for the group. The purpose of the calendar is to give an at-a-glance view of when the schedules are defined and to indicate any gaps. Calendar days that are green represent days that are fully covered by schedules. Orange represents days that are partially covered. When schedules end in the middle of the day, it is typical for the last schedule in the list to have its last day be orange because it the day is partially covered until another schedule is added.

The left and right buttons beside the calendar allow changing the months that are displayed in the calendar.

5.3.9 Domains Menu



Figure 55: Domains Menu

From the *Domains* menu, you may select any available domain. Available domains include those that have been added to Panther using the Topology Manager. If a domain is expected to appear in this list but does not, it is possible that the domain has not yet been added to Panther (See the Adding Domains section of this document for information on adding domains to Panther).

Domains that are checked in this menu are already logged into and should appear in the Domain explorer. When you check a domain that was previously unchecked, Panther will attempt to log you into the selected domain using your authentication information for the current domain (also known as "pass-through" authentication). If your account name and password are not exactly the same for both domains, you will be prompted to sign into the selected domain. Once you have been authenticated on the domain, it will appear in the Domain Explorer (Figure 10).

Pass-through authentication may be unavailable depending on your organization's configuration. Specifically, use of DNS segregation or LDAP security will disable "pass-through" authentication.

If "pass-through" authentication fails, Panther will not attempt this again until your next Panther session. This is to protect against your accounts being locked out due to too many invalid password attempts.

5.3.10 View Menu

From the *View* menu, you may choose to hide or show the Domain Explorer. The option to hide the Domain Explorer can come in handy when you are attempting to maximize the available screen space.



Figure 56: View Menu

5.3.11 Help Menu

The *Help* Menu provides links to visit the Softek University and Panther Support websites, load Panther product documentation, or view details regarding the Panther Client, including the installed version number.

For more information on the Support website, see the Getting Support section of this document.

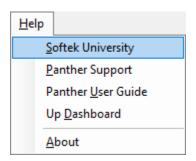


Figure 57: Help Menu

6 Panther Desktops

Panther allows you to build customized desktops that can contain multiple components from the Panther system. You can create desktops at the global level or domain level. Use the instructions below to create new desktops.



Attention: Global vs. Domain desktops

A Global desktop may use controls from any domain, but Domain desktops are only allowed to use controls from their domain.

6.1. Creating Desktops

- 1. Choose "a" for a Global Desktop or "b" for a Domain Desktop.
 - (a) Select *Desktop* in the Domain Explorer.
 - (b) Select a domain in the Domain Explorer (Examples use prod).

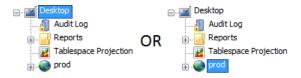


Figure 58: Domain Explorer

- 2. Select the Tools menu.
- 3. Select Desktop.
- 4. Select New Desktop...

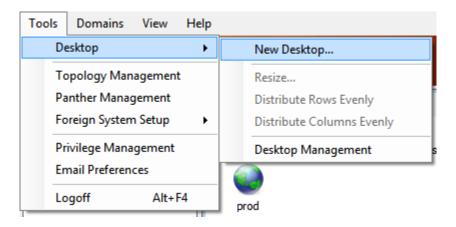


Figure 59: Desktop context menu

5. When choosing to create a new desktop, a grid appears. The cells in this grid represent the dimensions for the new desktop. For instance a 2x2 desktop will be able to show four controls at a time.

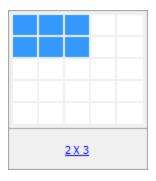


Figure 60: Desktop resize pane

- (a) Move the cursor over the grid so that the blue cells correspond to the layout and dimensions that are desired and click.
- (b) The following figures show the difference between a 2x3 and a 3x2 desktop where: "My First Desktop" is 2x3 and "My Second Desktop" is 3x2.

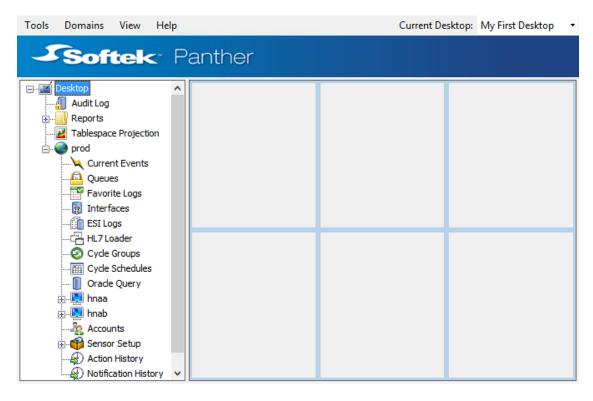


Figure 61: First Desktop

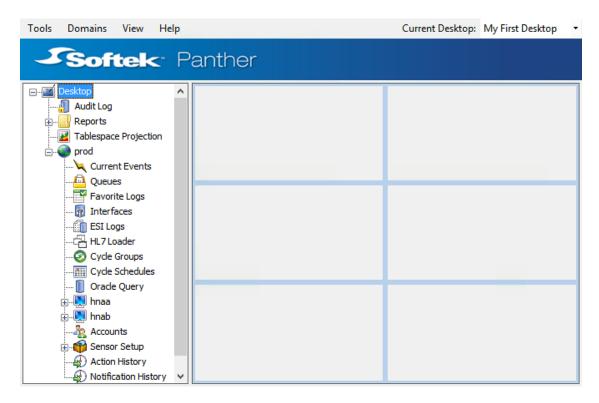


Figure 62: Second Desktop

6. Once the dimensions for the desktop have been chosen, a unique name will need to be provided with clicking OK to follow.

No two desktops on the same level (also called scope) are allowed to have the same name.

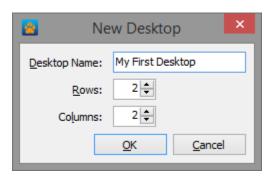


Figure 63: New Desktop dialog

7. Now there is a blank desktop, ready to be filled with Panther controls.

6.2. Adding Desktop Controls

1. To add a control to a desktop, click and drag it from the Domain Explorer to the desired cell on the desktop (Figure 64).

2. A control can be dragged and dropped for each cell on the desktop.

Example:

- Add a Servers control to the desktop by dragging its icon from the Domain Explorer to a cell on the desktop.
- The Servers will populate the pane of the desktop where it was dropped.

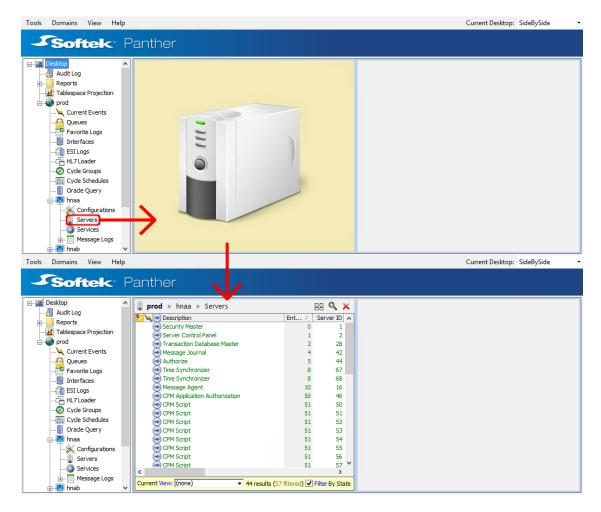


Figure 64: Dragging a control onto the desktop

6.3. Resizing Desktop Components

6.3.1 Merging Component Panels

A control can span or stretch across multiple cells in a desktop by hovering over the () in the top right corner of the control and clicking a cell that represents the spanning of the control. The following figures provide visual examples of spanning controls. Cells will appear blue when hovered over if it is a valid cell for spanning. Gray cells are already occupied and do not allow spanning.

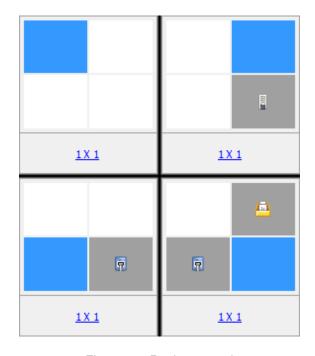


Figure 65: Resize control

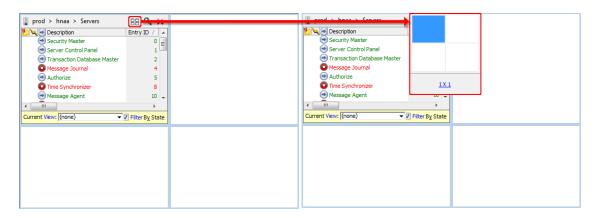


Figure 66: Displaying the resize control

6.3.2 Resizing Rows and Columns

Clicking and dragging the gray border between cells on the desktop will move the divider, changing the cell's size. A desktop can also be resized using the *Desktop* menu (Figure 67).

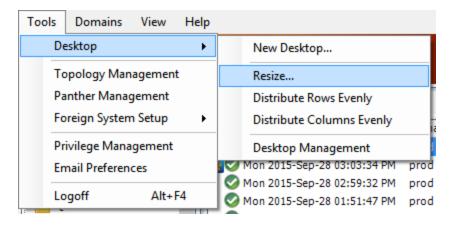


Figure 67: Desktop resize menu

6.3.3 Maximizing/Restoring Components

A control can be zoomed into, to take up the entire desktop by clicking on the zoom in icon ($^{\mathbb{Q}}$) at the top right of the control. To return the cell to its original size, click the zoom out icon ($^{\mathbb{Q}}$) in the upper right of the control.

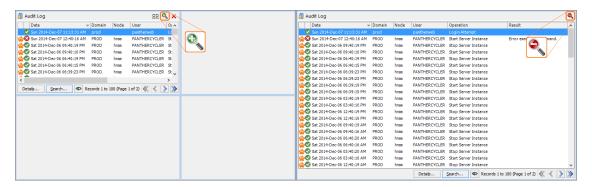


Figure 68: Maximizing a control

6.4. Removing Desktop Components

To remove an item from the desktop, drag and drop another control on top of it, or click the X in the top right corner of the control in the desktop (Figure 69).

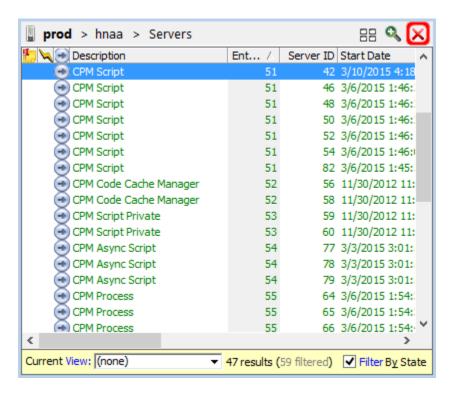


Figure 69: Desktop cell



The Domain Explorer can be hidden.

To hide the Domain Explorer for more desktop space, click the *View* menu, and then click *Domain Explorer* to hide it. It can be made visible again by re-checking *Domain Explorer*.

6.5. Switching Between Desktops

More than one desktop is often desired to group things that are commonly looked at. For example, one may wish to have a desktop monitoring prod, and one for monitoring build and test. Or, perhaps, a user would want a desktop that displays *Favorite Logs* for all domains.

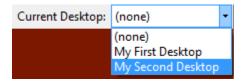


Figure 70: Desktop drop-down

To switch to a different desktop, select the desired desktop's name from the *Current Desktop* drop-down list. Note that this drop-down list only appears when the *Desktop* or a domain is selected in the Domain Explorer. To see the default desktop, select *(none)*.

6.6. Desktop Management

Renaming or removing desktops can be done by accessing the 'Desktop Management' screen. To access this screen, go to:

Tools → *Desktop* → *Desktop Management* (Figure 71)

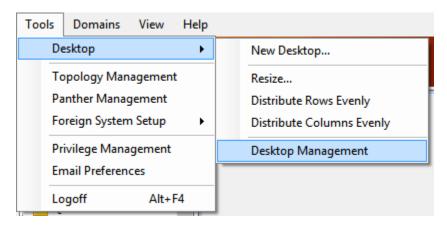


Figure 71: Desktop Management menu

The Desktop Management dialog allows a user to add, edit, and remove desktops based on the Scope (global or domain level of the desktop).

The desktop that is seen when on domain's main page or to the Desktop is known as the Default Desktop for that Scope, and it appears in the Desktop Management dialog with a green check-mark beside it (Prod Desktop in Figure 72).

Users with sufficient privileges may also copy and/or share desktops to other users which will be covered later in this chapter.

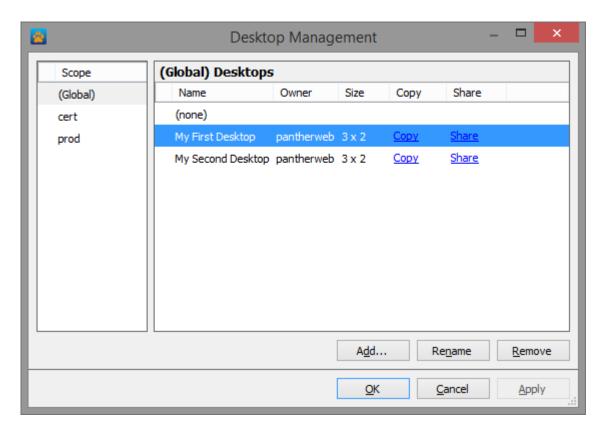


Figure 72: Desktop Management dialog

6.6.1 Copying Desktops

Users with the Panther 'Desktop – Copy' privilege are able to copy desktops to other users. This can be done by clicking the *Copy...* link associated with a desktop in the Desktop Management dialog (Figure 72). This will open the Copy Desktops dialog (Figure 73).

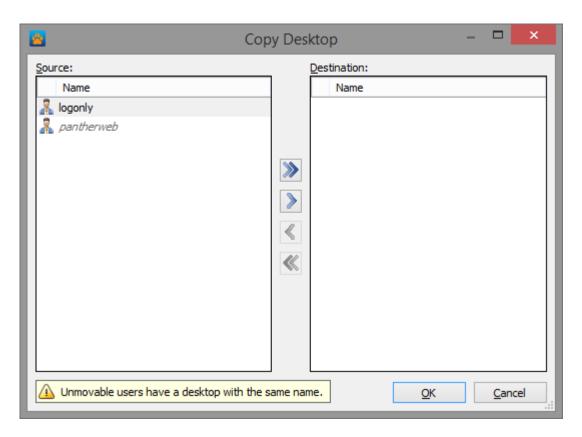


Figure 73: Copy Desktop dialog

When copying a desktop to other users, a warning indicator (1) is shown if a user currently has a desktop with the same name. To avoid overwriting the other user's desktop, a user cannot copy a desktop to these users with the warning icon.

6.6.2 Sharing Desktops

Users with the Panther Desktop – Share privilege are able to share desktops with other users. This can be done by clicking the *Share...* link associated with a desktop in the Desktop Management dialog (Figure 72). This will open the Share Desktops dialog (Figure 74).

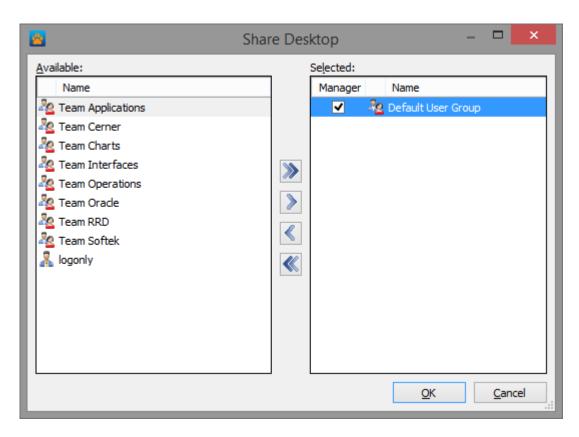


Figure 74: Share Desktops dialog

When sharing a desktop with other users, the user is given the option to allow other users to manage the shared desktop. Selecting this option will allow the selected user (or manager) to make permanent changes to the shared desktop. These changes will be applied for all other users sharing the desktop.

7 Getting Support

If you are experiencing a problem with Panther, have a question, would like to provide Softek with information about upcoming system changes, etc., please contact us by logging into the Softek Panther Support website (http://support.softekpanther.com) and creating a new "point".

This is the preferred method for contacting Softek for several reasons:

- 1. You will know that we know about the issue because it is in our system.
- 2. It allows us to more accurately track issues and therefore create a better product in the future.
- 3. It allows you to view the status of the issue at any time, add more notes or comments, and see any notes that Softek has added to the issue.
- 4. It allows us to ensure a higher quality in our support and escalate issues without having to send you updated lists of support phone numbers.

If you prefer to call us, a support engineer can be reached at (913) 981-5234 from 8AM to 5PM, Central Time, Monday through Friday (excluding most U. S. Federal holidays).

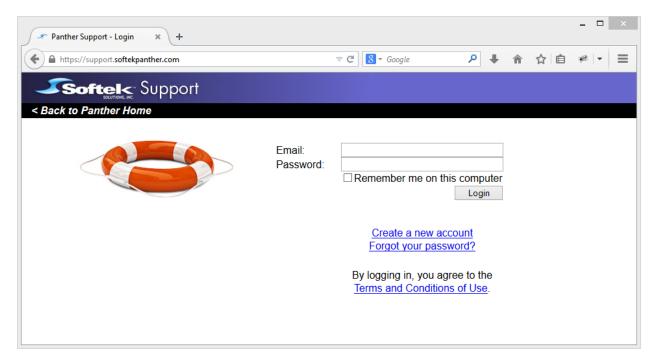


Figure 75: Panther support page



Creating a support account

If you have never used the Softek Panther Support website before, you will need to click the *Create a new account* link, fill in your name and contact information, and an email will be sent to you with a password. You are then ready to log in to the support site.

8 Panther Controls

Panther provides the capability to search and browse sensor and audit history. History tracked by Panther sensors includes actions taken and notifications sent by Panther.

8.1. Action History Control

The Action History control shows all actions on the system. Actions are either IBM MQ Message Replay actions or Server Cycler actions. To view the Action History for a given domain, locate the *Action History* item under *Sensor History* of the desired domain in the Domain Explorer (Figure 10).

After clicking on the *Action History* item, the Action History control will be loaded into the Application Workspace (Figure 77). By default, only actions taken in the last 24 hours are displayed.

Image	Meaning
	See the Windshield Wiper section for details
Ø	Successful Action
•	Failed Action
②	Cycle attempt in progress
	Automated Action (Scheduled)
A	Manual Action (Unscheduled)

Table 18: Action History Images

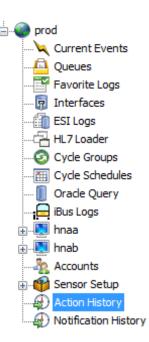


Figure 76: Domain Explorer

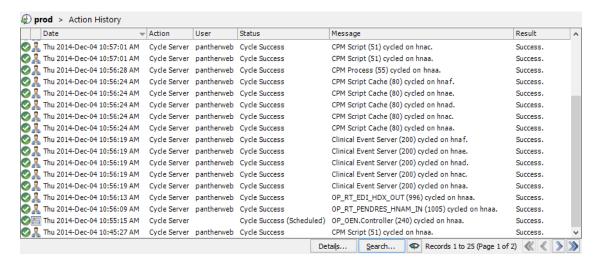


Figure 77: Action History Control

Option	Description
Refresh	Reloads the Action History records, displaying any new records
Details	Opens the Action History Details for the selected record
Search	Opens the Search dialog for Action History
Load Preset	Expands a sub-menu containing all saved searches, selecting a search runs it
Сору	Copies selected records to the system clipboard
Select All	Highlights all records currently being displayed
About	Opens an About dialog containing version information for this control
Preferences	Opens the Action History Preferences dialog where appearance and behavior changes can be made

Table 19: Action History Context Menu

8.1.1 Viewing Action Details

You can view the details of an action in one of two ways:

- 1. Double-click on the record you wish to view.
- 2. Select the record you wish to view, and then click the Details button in the lower left.

After loading the details, you will see a dialog similar to Figure 78.

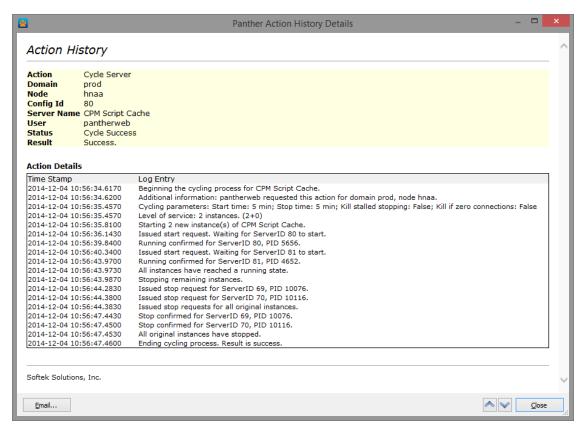


Figure 78: Action History Details Dialog

When you are finished viewing details, click the Close button to return to the Action History control.

Viewing Details of Adjacent Actions

To view the details of the next action, click the down arrow (\checkmark) To view the details of the previous action, click the up arrow ($^{\land}$).

8.1.2 Emailing Action Details

From the Action History Details dialog (Figure 78), you have the ability to email the details to one or more individuals.

To send the details of this action to another party, click the *Email...* button at the bottom of the dialog.

This will open the Email Details dialog (Figure 10.1-4). From this dialog, you are required to provide one or more recipients for the email in the *To* field. Separate multiple email addresses with commas.

You may also provide additional comments. These will be placed in the body of the email above the action details.

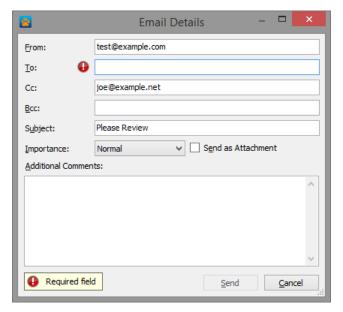


Figure 79: Email Details dialog

8.1.3 Windshield Wiper

The Windshield Wiper button () is a specialized search. This button will clear the log and only show new operations that are audited. This button takes your current search criteria (default criteria if no search was done) and modifies the Date Range of the search. It will use a custom search and set the from date to the time the button was clicked.

8.1.4 Searching Action History

You can search all action history for specific records by pressing the Search... button (Figure 80).

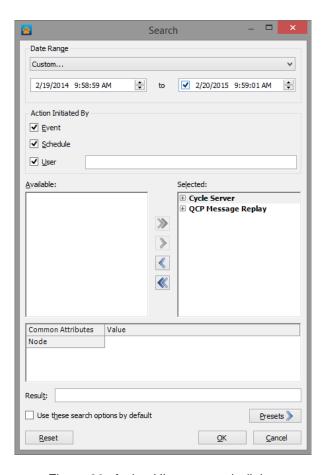


Figure 80: Action History search dialog

The *Use these search options by default* checkbox can be checked to save default search behavior, which is used each time the control is loaded.

The *Presets* button allows users to save, load, and remove predefined searches that are commonly used.

The *Reset* button resets the form to the default search. Once you have entered the search criteria, press the *OK* button and the results will be displayed in the main window.

Criteria	Description
Date Range	By default, the Date Range is set to "Last 24 Hours". You can use one of the other predefined date ranges or select a custom date range.
Actions	You can double-click or use the arrows to select specific actions. Panther allows you to select only specific states for each action. All are selected by default.
Initiator	The procedure by which an action is initiated. You can select one or more. The options are event, schedule or user. An action is initiated by an event if Panther automatically performed the event as a result of a situation detected by Panther. An example of an event-initiated action is automatic replaying of an MQ message. If User is checked, you may also specify a user in the text field to the right. Wildcard characters (* or ?) are supported for the user.
Attributes	Each action has a set of known attributes. The attributes common for all the selected actions will be displayed allowing a more specific search.
Result	The result of the action. Wildcard characters (* or ?) are supported.

Table 20: Action History Search Criteria

8.1.5 Action History Preferences

Panther provides preferences related to the viewing of action records. Right-clicking in the list of action records and selecting the *Preferences* option from the Action History Context Menu will open the Action History Preferences dialog (Figure).

These preferences allow you to turn auto-refresh on and off. The auto refresh feature automatically reloads the current page of data on the provided time interval. This may be useful when you want to always view the most recent records matching the search criteria.

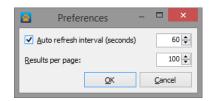


Figure 81: Action History Preferences

If another match is found on a refresh, it will be added to the list. You can also control how often a refresh occurs by providing a larger or smaller number of seconds.

The Results per page preference allows you to define how many results will appear in the control after a search is executed. Smaller numbers result in quicker searches but require flipping between more pages.

8.2. Audit Log Control

The Audit Log shows an electronic audit trail of user interactions with the system. All interactions with IBM WebSphere® MQ, Millennium Server Control, Panther Management, and Open Engine are audited. Additionally, any login attempts are recorded and Panther User Management privilege changes.



To view the Audit Log, select the *Audit Log* item in the Domain Explorer (Figure 82), this will load the control into the Application Workspace (Table 83). To view the Audit Log Context Menu, select a log and right-click it (Table 22). Initially, only audits from the last 24 hours will be displayed. For information on how to view older audits, see Searching Audit Records.

Figure 82: Domain Explorer

Image	Meaning
Ø	Success Log
€	Failure Log
4	Operation performed by Panther
7	Operation performed by user
	Clears out old logs (logs can still be accessed by searching, see the Windshield Wiper Button for details)

Table 21: Audit Log Images

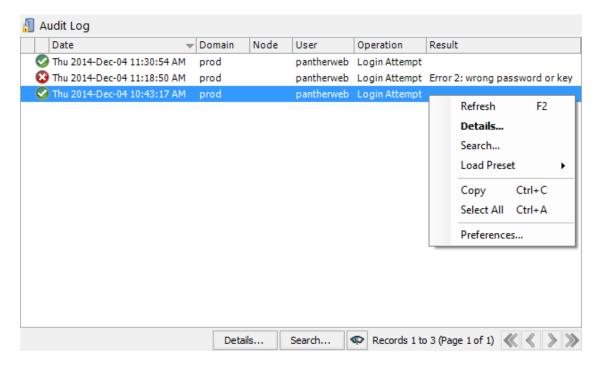


Figure 83: Audit Log Control

Menu Option	Description
Refresh	Refreshes the list of audit log entries.
Details	Displays a dialog with the audit log entry details (See Viewing Audit Record Details).
Search	Displays the search dialog (See Searching Audit Records).
Load Preset	Allows you to select and run a saved search (See Searching Audit Records).
Сору	Copies the selected audit records to the system clipboard.
Select All	Selects all of the currently displayed audit records.
Preferences	Displays the preferences dialog.

Table 22: The Audit Log Context Menu

8.2.1 Viewing Audit Record Details

You can view the details of an audit record in one of three ways.

- 1. Double-click on the record you wish to view.
- 2. Select the record you wish to view then click the Details button in the lower left of the control.
- 3. Select the record you wish to view, then right-click and select *Details* from the context menu.

After loading the details, you will see the details dialog (Figure 84).

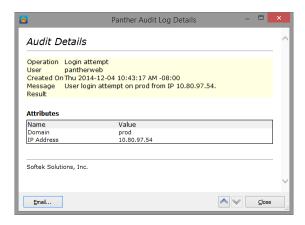


Figure 84: Audit Log Details

From the Audit Details dialog, you have the ability to email the details to one or more individuals, view the previous audit record, and view the next audit record.

If you click the *Email...* button, you will see an Email Details dialog (Figure 85).

Panther requires you to provide one or more email addresses in the *To:* field. Separate multiple email addresses with commas.

You may also change the *From* address, provide a *Cc* or *Bcc* address list, change the subject, or provide additional comments. Additional comments are placed in the body of the email above the audit details.

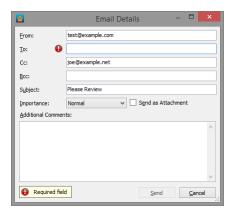


Figure 85: Email Details Dialog

8.2.2 Searching Audit Records

You can search all audit history for specific records in one of three ways.

- 1. Click the *Search...* button in the lower left of the control.
- 2. Right-click and select *Search* from the context menu.
- 3. Right-click and select *Load Preset* and choose a preset search from the context menu (see Search Presets).

Options 1 and 2 will open a dialog similar to Figure 86.

Option 3 will run the preset search immediately without opening the Search dialog.

Options available when searching Audit Log Records are explained in Table 23.

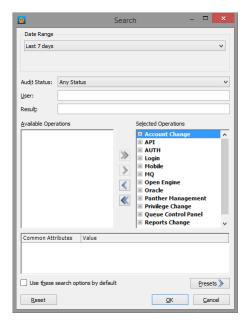


Figure 86: Audit Log Search

Criteria	Description
Date Range	Determines limits the logs being displayed to those that were written within the period of time indicated. Last 24 hours is the default.
Audit Status	Determines what audit statuses will display in the log. All Statuses is the default.
User	Limits the results based on the user performing the operation that triggered the audit. Wildcard characters (* and ?) are supported.
Result	The result of the operation. Wildcard characters (* or ?) are supported.
Operations	You can double-click or use the arrows to select specific operations. All are selected by default (See Available and Selected Operations).
Common Attributes	Each operation has a set of known attributes. The attributes common for all the selected operations will be displayed here, allowing you to enter a value related to listed attributes.

Table 23: Audit Log Search Options

Wildcards

Wildcards are supported within areas of the Audit Log Record Search. Supported wildcards and their implementation are explained in Table 24.

Character	Use
*	Replaces a series of letters or numbers. Example: J* Doe will find results with John Doe, Jane Doe, and all users whose first name begins with J and last name is Doe.
?	Replaces a single letter or number. Example: Ashle? will find results with Ashley, Ashlee, or Ashlei but not Ashleah. Ashleah will not be in the results because it has an additional letter shown after the wildcard character

Table 24: Wildcards

Setting a Default Search

The *Use these search options by default* checkbox at the bottom of the search dialog (Figure 86) can be checked to save current search settings. From the time this checkbox is checked until a new default search is set, this search will be run each time the control is loaded.

Search Presets

Search Presets are shortcuts to common searches, and like all shortcuts, you have to define them before they can be used. Presets can only be created from the associated Search dialog using the *Save Current As...* option under the *Presets* button (Figure 87).

Each Preset must have a unique name to distinguish it from other presets.

Once saved, these searches can be quickly accessed using the Audit Log context menu's *Load Presets* option (Figure 89) or the *Load* option under the *Presets* button on the Search dialog (Figure 90).

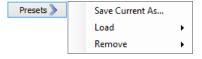


Figure 87: Presets Menu



Figure 88: Save Preset

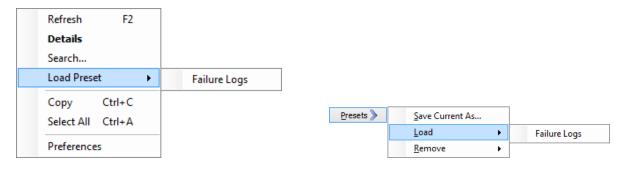


Figure 89: Preset Context Menu

Figure 90: Preset Context Menu

Restoring Panther Search Settings

The *Reset* button towards the bottom of the Search dialog (Figure 86) resets the form to the default search. Once you have entered the search criteria, press the *OK* button and the results will be displayed in the Application Workspace.

Available and Selected Operations

By choosing only the selected operation, you can limit the results to specific operations.

(Figure 91 and Figure 92 show the same part of the search dialog in Figure 86)

The example to the right will limit the audit log results to show only *Kill server instance* operations.

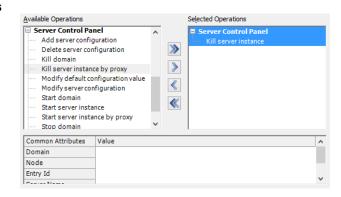


Figure 91: Available and Selected Operations

Searches can be further refined by providing specific values for attributes of the operation.

The example to the right will limit the audit log results to servers with an Entry ID of 200 (Clinical Event Server).

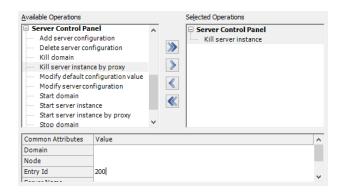


Figure 92: Common Attributes

8.2.3 Windshield Wiper Button



Figure 93: Audit Log button bar

The *Windshield Wiper* button (next to the search button) runs a specialized search. This button will clear the log and only show new operations that are audited. This button takes your current search criteria (default criteria if no search was done) and modifies the *Date Range* of the search. It will use a custom search and set the, *from* date to the time the button was clicked.

8.2.4 Audit Log Preferences

Panther provides preferences related to viewing Audit Logs. Selecting *Preferences* from the context menu will show a dialog similar to Figure 94.

Audit Log Preferences allow you to turn on/off auto-refresh, which automatically reloads the current page of data. This may be useful when viewing the most recent logs matching the current search criteria. If another match is found on a refresh,

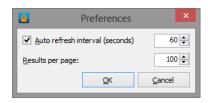


Figure 94: Preferences

it will be added to the list. You also have the ability to change how often the refresh occurs. More frequent refreshes will result in more database traffic.

Using the *Results per page* option, you can define the maximum number of results that can appear on each page of the control.

8.3. Current Events Control

The Current Events control provides a view of ongoing events Panther has detected within a domain.

To view the Current Events control, select the *Current Events* item in the Domain Explorer, (Figure 95). This will load the control into the Application Workspace (Figure 96). To view the Current Events Context Menu, select an event and right-click it (Table 26).

The Panther Current Events control allows you to view all of the open events across all nodes, the details for an event, and any notifications sent for an event. To see the notification count, hover the cursor over the notification column.

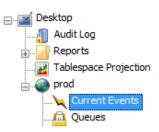


Figure 95: Domain Explorer

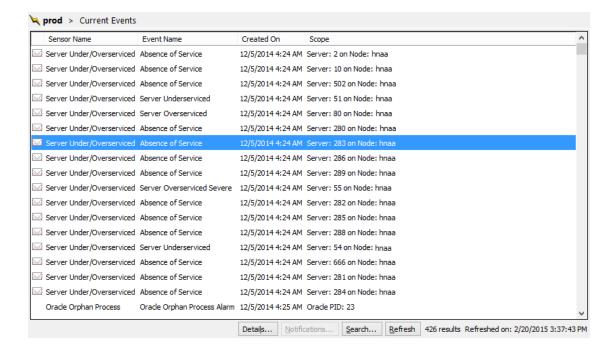


Figure 96: Current Events control

Image	Meaning
	At least one email and one page has been sent about this event.
	One or more pages, but no emails, have been sent about this event.
	One or more emails, but no pages, have been sent about this event.
	No emails or pages have been sent about this event.

Table 25: Current Event Notification Images

Option	Description
Refresh	Refreshes the list of events and their associated information.
Details	Brings up the details for that event.
Notifications	Loads the list of notifications about the selected event, if applicable.
Search	Brings up the Search dialog.
Load Preset	Brings up a sub-menu of preset searches you have saved.
Сору	Copies the displayed information for the selected events to the clipboard.
Select All	Selects all of the displayed events.
Preferences	Allows you to define refresh and appearance preferences.

Table 26: Current Events Context Menu

8.3.1 Viewing Event Details

You can view the details for an event by double-clicking on it, or right-clicking the event, and selecting the *Details* option in the Current Events context menu.

When this option is selected a dialog similar to the Queue Messages dialog shown below will open with a list of all the messages in the queue. From this dialog you may view a selected message's details using the *Details* button at the bottom left of the dialog. You also have the option to re-queue selected messages (if you are looking at messages in the exception queue) or delete selected messages from the queue. The *Refresh* button at the bottom of the dialog allows you to refresh the list to show the most up-to-date list of messages.

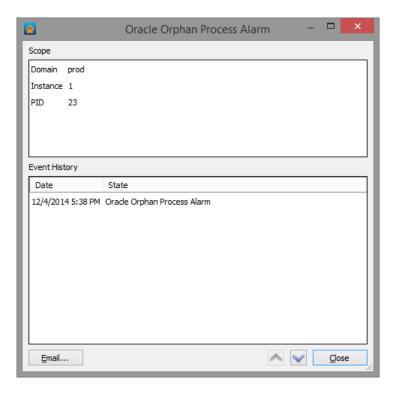


Figure 97: Event Details dialog

8.3.2 Emailing Event DetailsTo send the details of an event via email, bring up the Event Details diaog, then click the Email... button in the lower left corner. This will open the Email Details dialog (Figure 98) with the From field populated with your user email address (if you have set one up in Email Preferences) and the Subject filled in as "Event Details".

In order to send the email you are required to provide one or more email addresses in the To field. Separate multiple addresses with commas.

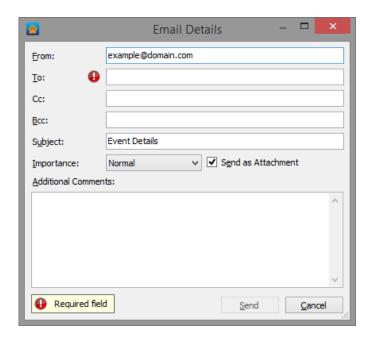


Figure 98: Email Details

8.3.3 Viewing Notifications

On the main control, there is an icon indicating whether any notifications were sent for an event (see Table 25 for what the icons indicate). If you double-click on an icon indicating the presence of emails, or right-click on an event with notifications and select "Notifications" from the Context Menu, it will bring up the Event Notifications dialog, similar to the one shown in Figure 99.

From this dialog you can view the notifications that have been sent about an event, whether the notification was a page or an email, the subject line of the notification, what time the notification was sent, the size of the notification, and what type of event it was.

To view the body of an individual notification and who it was sent to, select it, and it will appear in the pane at the bottom of the dialog. Click Email... to send the body of an individual notification in an email, or Closed to return to the Current Events control.

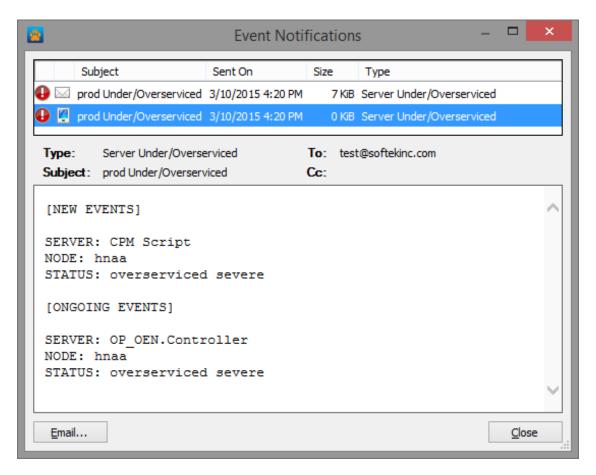


Figure 99: Event Notifications dialog



Attention: Not all users may access notification history.

In order to view the list of notifications which were sent, or their contents, a user must have the 'Access Notification History' privilege.

8.3.4 Emailing NotificationsIf, from the Event Notification Details dialog, you click the Email... button, it will bring up the Email Details dialog (Figure 100).

The From field will be filled in with your users email address ((if you have set one up in Email Preferences), the Subject filled in with the same subject line as the original notification, and the Importance drop down set to the same importance level as the original notification.

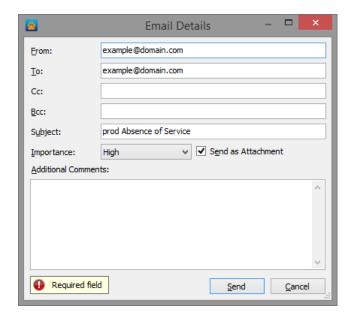


Figure 100: Email Details dialog

8.3.5 Searching for Events

The search dialog (Figure 101) allows you to narrow down the displayed events by the sensor that generated them. The sensors are organized by the sensor group that they belong to.

You can transfer sensors from the Available to the Selected list, or the reverse, by either double clicking on them, or clicking one of the arrow buttons. The arrows with a dashed line, seen at the top and bottom of the column, will move all of the sensors from one list to the other.

You can select an individual sensor or multiple sensors to transfer from one list to the other. If you select a sensor group from the list and transfer it, all of its constituent sensors will be transfered.

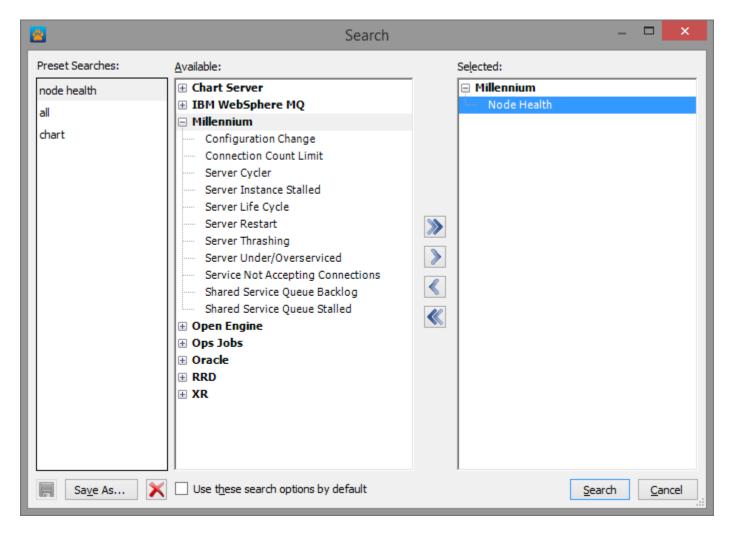


Figure 101: Search dialog

8.3.6 Preferences

The Preferences control has two options. The first checkbox is for whether you want the control to auto-refresh. If so, you can also adjust how frequently it auto-refreshes.

The second checkbox will cause every other row to be colored. This helps improve at-a-glance readability of the control by making it easier to see which line a certain piece of information is on.

The precise colors will vary depending on your system settings.

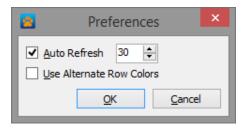


Figure 102: Preferences



All preferences are yours alone.

Preferences for refresh interval, default search, and whether to alternate row colors are all specific to your account. No one else can change or reset them.

8.4. Notification History Control

The Notification History control shows all notifications sent by Panther. To view Notification History for a given domain, locate the *Notification History* item under the *Sensor History* tree item in the Domain Explorer (Figure 10) for the desired domain.

Selecting the *Notification History* item loads the list of notifications into the Application Workspace (Figure 104). Initially, only notifications sent in the last 24 hours will be displayed.

Image	Meaning
	See the Windshield Wiper section for details
	Notification sent to Email
	Notification sent to Pager
•	Alert Notification

Table 27: Notification History Images

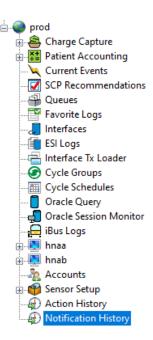


Figure 103: Domain Explorer

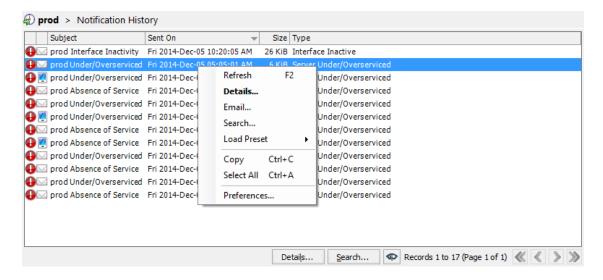


Figure 104: Notification History Control

Option	Description
Refresh	Reloads the Notification History records, displaying any new records
Details	Opens the Notification History Details for the selected record
Email	Allows you to send the currently selected notification in an email
Search	Opens the Search dialog for Notification History
Load Preset	Expands a sub-menu containing all saved searches, selecting a search runs it
Сору	Copies selected records to the system clipboard
Select All	Highlights all records currently being displayed
About	Opens an About dialog containing version information for this control
Preferences	Opens the Notification History Preferences dialog where appearance and behavior changes can be made

Table 28: Notification History Context Menu

8.4.1 Viewing Notification Details

You can view the details of a notification in one of three ways:

- 1. Double-click on the record you wish to view.
- 2. Select the record you wish to view, right-click and select *Details* from the Notifications context menu (Table 28).
- 3. Select the record you wish to view, and then click the Details button in the lower left.

A dialog will open, displaying the notification body (Figure 105).

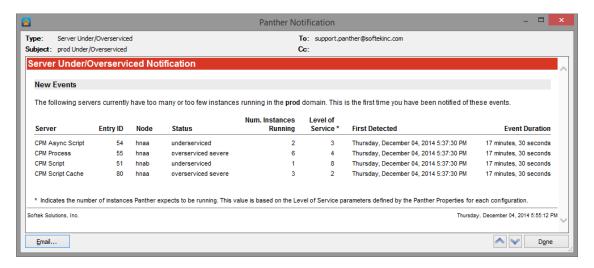


Figure 105: Notification details dialog

When you are finished viewing details, click the Close button to return to the Notification History control.

Viewing Details of Adjacent Notification

To view the details of the next notification, click the down arrow (\checkmark) To view the details of the previous notification, click the up arrow ($^{\diamond}$).

8.4.2 Emailing Notification Details

From the Notification History Details dialog (Figure 105), you have the ability to email the details to one or more individuals.

To send the details of this notification to another party, click the *Email...* button at the bottom of the dialog.

This will open the Email Details dialog Figure 106). From this dialog, you are required to provide one or more recipients for the email in the *To* field. Separate multiple email addresses with commas.

You may also provide additional comments. These will be placed in the body of the email above the action details.

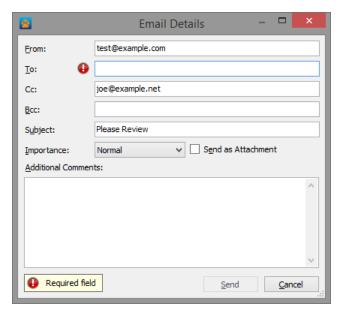


Figure 106: Email details dialog

8.4.3 Windshield Wiper

The Windshield Wiper button () is a specialized search. This button will clear the log and only show new operations that are audited. It takes your current search criteria (default criteria if no search was done) and modifies the Date Range of the search. It will use a custom search and set the from date to the time the button was clicked.

8.4.4 Searching Notification History

You can search all Notification History for specific records by pressing the *Search...* button.

The *Use these search options by default* checkbox can be checked to save default search behavior, which is used each time the control is loaded.

The *Presets* button allows users to save, load, and remove predefined searches that are commonly used.

The *Reset* button resets the dialog to the default search. Once you have entered the search criteria, press the *OK* button and the results will be displayed in the Notification History control.

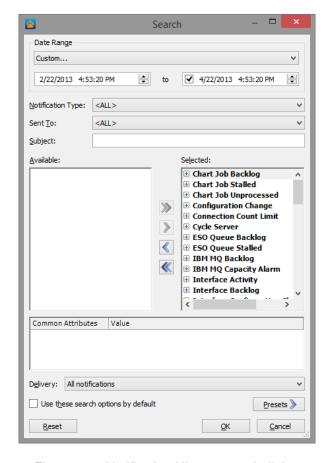


Figure 107: Notification History search dialog

Criteria	Description
Date Range	By default, the Date Range is set to "Last 24 Hours". You can use one of the other predefined date ranges or select a custom date range.
Notification Type	The method by which notification(s) were sent. The options are "Email", "Pager" or "¡All¿" (default).
Sent To	The recipient of a notification. Wildcard characters (* or ?) are supported.
Subject	The subject of the desired notification(s). Wildcard characters (* or ?) are supported.
Events	You can double-click or use the arrows to select specific events. Panther allows you to select only specific states for each event as well. All are selected by default.
Attributes	Common attributes are determined by the list of identifiers which are shared between entries from each selected notification.
Delivery	Notification delivery with the options "All Notifications" (default), "Only notifications with recipients", or "Lost notifications only".

Table 29: Notification History Search Criteria

8.4.5 Notification History Preferences

To modify the appearance or behavior of the Notification History control, right-click in the control and select the *Preferences* option from the Notification History Context Menu. This opens the Notification History Preferences (Figure 108).

These preferences allow you to turn Auto Refresh on and off. The auto refresh feature automatically reloads the current page of data on the provided time interval. This may be useful when you want to always view the most recent records matching the search criteria. If another match is found on a refresh, it will be added to the list.

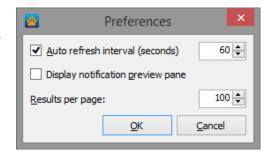


Figure 108: Notification History Preferences

You can also control how often a refresh occurs by providing a larger or smaller number of seconds.

Turning on the Notification Preview pane allows you to see a preview of the selected notification in the Application Workspace without having to load the details separately. This preference is turned off by default to allow more notifications to be seen at once.

The *Results per page* preference allows you to define how many results will appear in the control after a search is executed. Smaller numbers result in quicker searches but require flipping between more pages.

8.5. Reports Control

The Management Reports document high-level metrics concerning the availability of important areas within Cerner Millennium® system. This documentation is offered with both Summary and Event Analysis reports to make identifying trending data easier. The data presented in these reports is based on event data obtained from the Panther sensors, stored in the Panther database.

From the main page for Reports, a list of all available reports is visible. These reports are divided into categories based on the type of information the report provides.

The categories and reports that belong to them are described in Available Reports.

Examples for common reporting features will be demonstrated using the System Availability Summary Report.

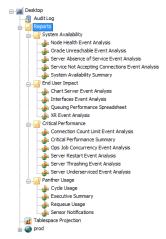


Figure 109: Domain Explorer

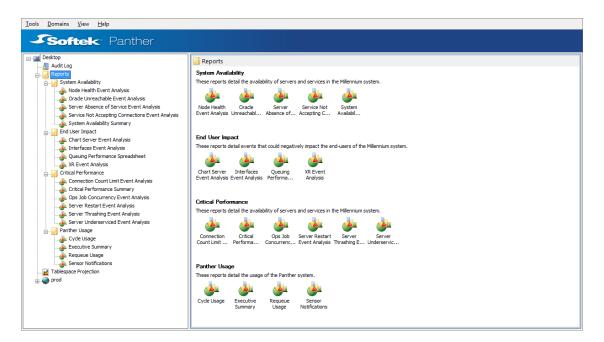


Figure 110: Top-level Reports page

8.5.1 The Reports Control

All reports have the same layout, containing the following elements (Figure 111):

- 1. The Report Title
- 2. The Report Description
- 3. The Report Generation Options
- 4. The Report Delivery History Table

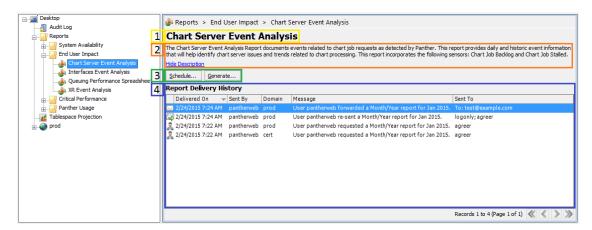


Figure 111: Report control

Report Description

Every report will have a description that can be shown or hidden. This feature can be useful when keeping reports in custom desktops to save space.

Descriptions are shown by default. To hide the description, click the *Hide Description* link underneath the description text (Figure 112).



Figure 112: Expanded description

To view a hidden description, click the Show Description link below the report title (Figure 113).



Figure 113: Collapsed description

Report Generation Options

Reports can be generated in two ways:

1. On Demand

The report is generated the same day that it is requested and it contains data related to past system activity.

2. Scheduled

The report is generated on a schedule and will contain data related to the system at a time after the report is scheduled.

Both of these options are made available through the Report Generation Options in each Report's control. For more information on generating reports, see Reports on Demand and Scheduling Reports.

Report Privileges

There are two privileges needed to be able to view and take action within the Reports control. The privileges can be assigned by someone with the 'Manage Users' privilege, by going to the *User Management* menu within the *Tools* menu. The two privileges and descriptions are listed below.

1. Access Reports

Gives the ability to see the Reports menu within the Domain Explorer, to open Report History, view scheduled reports, and subscribe or unsubscribe to scheduled reports.

2. Manage Reports

Gives the ability to add, change, edit, or remove scheduled reports, and to edit the recipient lists for scheduled reports.

The 'Access Reports' privilege is required at minimum.

Using the Report Delivery History

Each time a report is generated, resent, or emailed, a new entry is added to the Report Delivery History list. This list provides access to several options for interacting with reports that have already been delivered. You can determine how the report came to exist by looking at the icons displayed in (Table 30).

Image	Meaning
	Scheduled Report
A	On Demand Report
	Emailed Report
	Re-sent Report

Table 30: Report Delivery Type Images

These options are all accessible through the Report Delivery History context menu. To access this menu, select a report in the list and right-click. The options available through this menu are listed in detail in (Table 31).

Menu Option	Description
Refresh	Refreshes the list of audit log entries.
Delivery Properties	Opens the delivery information for the selected report.
View Report	Prompts the user to save the report, then opens the report.
Re-send	Allows a user to send a previously delivered report to any other Panther user who has provided a valid email address in Email Preferences.
Email	Allows a user to send a previously delivered report to any individual(s) with an accompanying email priority and additional comments.
Сору	Copies the selected audit records to the system clipboard.
Select All	Selects all of the currently displayed audit records.
About	Displays a dialog with version information about this control.
Columns	Allows individual selection of columns to display in the Delivery History.
Preferences	Displays the Preferences dialog.

Table 31: Report Delivery History Context Menu

Properties of Reports

Each report can have a different set of properties. All reports will have the same four primary properties: Delivery Type, Date Range, Domain, and Recipients. These properties are described in Table 32.

Property	Description
Delivery Type	This property shows if the report will be generated On Demand (only once), every day, every week, or every month.
Date Range	This is the type of date range for which the report will be generated. Possible date ranges include: Month-to-Date, Previous Month, Month/Year, Past N Days, and Custom. These dates are described in Table 33.
Domain	This property indicates which domain on the system will be reported on.
Recipients	This is where the list of interested users will be kept. Users can be added to this list if they have an email address and are allowed to receive notifications.

Table 32: Report Properties

Property	Description
Month-to-Date	This report is generated by a schedule, and will covers the first of the month to the day it was generated.
Previous Month	This report is generated by a schedule on the first day of the month, and completely covers the previous month.
Month/Year	This report is requested ad-hoc (On Demand), and covers a calendar month (incompletely if requested in the month that it covers).
Past N Days	This report is generated by a schedule or ad-hoc and covers the past 'N' days from the day it was generated.
Custom	This report is generated On Demand and covers the date range specified.

Table 33: Report Date Range Types

Viewing Reports

For detailed information on viewing previously delivered reports, see the section on Viewing Reports.

Resending Reports

Reports can be resent to Panther users who have provided their email information in the Email Preferences under the Tools menu. The difference between resending a report and emailing the report is that when resending, the recipients are limited to Panther users that have provided an email address within the Email Preferences and no additional comments can be added to the report.

To resend a report:

- 1. Navigate to the control belonging to the desired report using the Domain Explorer.
- 2. Select the desired report in the Report Delivery History list.
- 3. Right-click the selected report.
- 4. Select the Re-send... option from the context menu. This will open the Recipient Selection dialog.
- 5. From this dialog select the desired recipients. If a desired recipient does not appear in the list, then they may need to have their email set up in Email Preferences.
- 6. Click *OK* to resend the report.

Emailing Reports

Any report shown in the Report Delivery History list can be emailed to anyone desired. Emailing a report from the delivery history will make a new entry in the Report Delivery History.

To email a report:

- Navigate to the control belonging to the desired report using the Domain Explorer.
- 2. Select the desired report in the Report Delivery History list.
- 3. Right-click the selected report.
- 4. Select the Email... option from the context menu. This will open the Email Details dialog.
- 5. Enter the intended recipients in the *To* field. Multiple recipients can be entered by putting a comma between their email addresses.

Preferences

For detailed information on setting up user-specific preferences for all reports, see Report Display Preferences.

8.5.2 Scheduling Reports

Reports can be scheduled to be automatically generated and emailed to interested parties. Setting up a report generation schedule can save time in the future. All scheduled report features can be accessed from the Scheduled Reports Manager. This dialog only shows schedules for the type of report that is appearing in the Application Workspace.

To access the Scheduled Reports Manager:

- 1. Navigate to the control for the report for which you wish to create a schedule.
- 2. Click the *Schedule...* button to open the Scheduled Reports dialog. This dialog will show all existing schedules for this type of report.

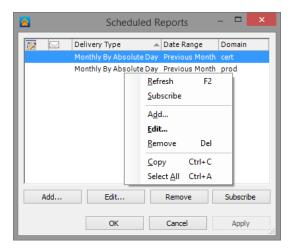


Figure 114: Scheduled Reports dialog



Attention: Schedule changes are audited.

All changes made to report schedules are audited by Panther. To view the audit history for report schedules, go to the Audit Log control.

Creating Schedules

- 1. Open the Scheduled Reports Manager (instructions above).
- 2. Click the *Add* button, or right-click and select the *Add* option from the context menu (this opens the Report Properties dialog).
- 3. Click the down arrow to select one of the listed Date Ranges.
- 4. Click the down arrow and select a domain from the drop-down.
- 5. Additional parameters may be required depending on the type of the report.
- 6. Add recipients to this report by either double-clicking on an Available User name or selecting a name and using the arrow keys in the middle.
- 7. If no users appear in the Available Users list, then users will need to be set up with email information in Email Preferences.

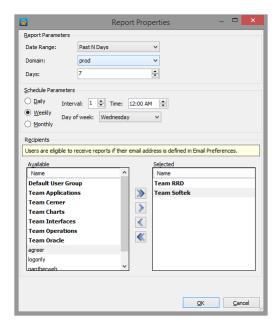


Figure 115: Report Properties dialog

Editing Schedules

There are four ways to edit a scheduled report from the Scheduled Reports dialog:

- 1. Double-click the schedule.
- 2. Select the desired schedule and press the Enter key.
- 3. Select the desired schedule and click the Edit button.
- 4. Right-click the desired schedule and select the Edit option from the context menu.

Taking any of these actions will open the Report Properties dialog. This dialog shows the current parameters for the selected schedule as well as the recipients.

Removing Schedules

There are two ways to remove a schedule from the list in the Scheduled Reports dialog:

- 1. Select the schedule to remove and click the *Remove* button.
- 2. Right-click the schedule to be removed and select the Remove option from the context menu.

Performing either of these actions will flag the schedule to be removed. If a schedule has been flagged for removal by mistake, click the *Cancel* button to close the dialog without saving the changes, and the schedule will not be removed.

Managing Schedule Subscriptions

It is important when setting up schedules to make sure that the proper parties are included in the list of selected users. The following actions are performed from the Report Properties dialog.

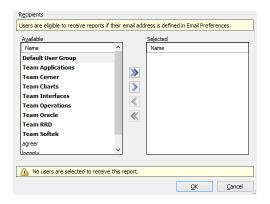


Figure 116: Report recipients control

Adding Recipients

To add recipients to a scheduled report:

- 1. Double-click an existing schedule or select a schedule and click the Edit... button.
- 2. Select the desired user(s) in the *Available Users* list (Ctrl+click can be used to select multiple users at once).
- 3. Click the button or double-click to move the selected user(s) to the Selected Users list.
- 4. Click the OK button to save the selection.
- 5. Click the *OK* button on the Scheduled Reports dialog to save the changes and close the dialog or click the *Apply* button to save the scheduled report but keep the dialog open.

Adding Yourself

There are two ways to add yourself to a scheduled report:

- Follow the method outlined above in the Adding Recipients section.
- 2. Click the Schedule... button from the Report Control.
 - (a) Select an existing schedule within the Scheduled Reports dialog.
 - (b) Click the Subscribe Me button.

If you are already a recipient of the report, the *Subscribe Me* button will be titled *Unsubscribe Me*. An envelope will appear next to any report you are scheduled to receive.

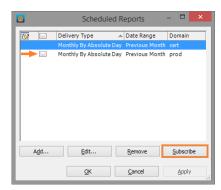


Figure 117: Scheduled Reports

Removing Recipients

To remove recipients from a scheduled report:

1. Double-click an existing schedule.

- 2. Click the Edit button.
- 3. Select the desired user(s) in the Available Users list (Ctrl+click can be used to select multiple users at once).
- 4. Click the button or double-click to move the selected user(s) to the Selected Users list.
- 5. Click the OK button to save the selection.
- 6. Click the OK button on the Report Properties dialog to save the changes to the scheduled report.

Reports on Demand

To generate an On Demand report:

- 1. Navigate to the desired report's control using the Domain Explorer.
- 2. Click the Generate button to open the Report Properties dialog.

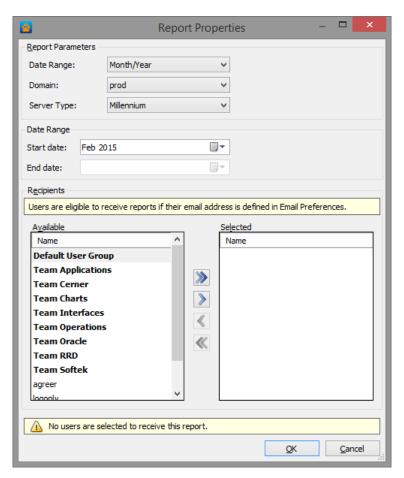


Figure 118: Report Properties dialog

- 3. Select the Date Range desired. Possible Date Range types are described in Table 33.
- 4. Select the desired Domain for the report.

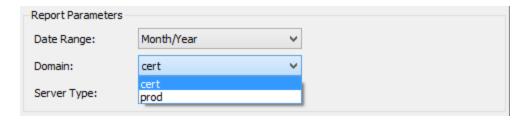


Figure 119: Domain parameter drop-down

- 5. Click the down arrow and select a domain from the drop-down.
- 6. Additional Report Parameters may be required depending on the type of report.
- 7. Select the date range you want the report to cover.
- 8. Double click a user name, or select a user and use the arrow keys in the middle to add an Available User to the Selected Users list.

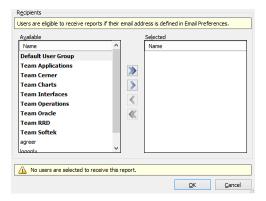


Figure 120: Recipients list

- 9. If no users appear in the Available Users list, then users will need to be set up with email information in Email Preferences.
- 10. Once all of the information has been provided, click the *OK* button to generate the report. It may take some time for Panther to generate the report.

8.5.3 Viewing Reports

Any report that has been sent by Panther can be viewed using the Report control of the same type. For example, to view a System Availability Summary Report that was generated last week:

- 1. Go to the System Availability Summary Report control.
- 2. Locate the desired report and double-click it.

OR

- 1. Locate the desired report and select it.
- 2. Right-click the selected report (only one report can be viewed at a time).
- 3. Select the View Report option from the context menu.

A save file dialog will appear after you double-click the report or select *View Report*. Panther will then attempt to open the report. If your machine can open the file generated by the report, it will be opened in a new window immediately after taking the above steps (Figure 121).

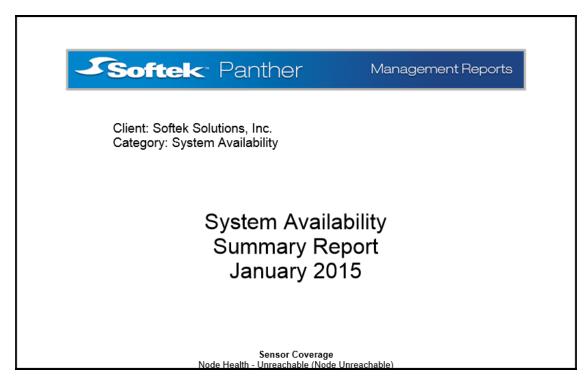


Figure 121: Opened report

If your machine cannot open the report that was generated a system dialog similar to Figure 122 will be displayed. The report will still get saved to your computer, so when software that can open the file is installed you can open the local copy.

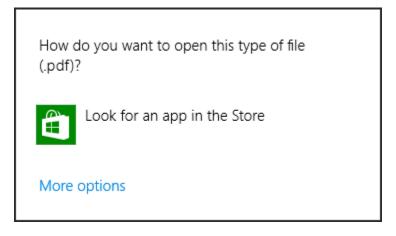


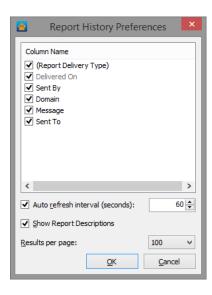
Figure 122: Unknown file type dialog

8.5.4 Report Display Preferences

To access the Report History Preferences dialog:

- 1. Navigate to any report control using the Domain Explorer.
- 2. Right-click inside of the Report Delivery History table.
- Select the *Preferences* option at the bottom of the context menu.

Reports have three settings that can be customized for individual users. Setting the Preferences from any report control will also set the preferences for all of the other report controls with the exception of controls that have been placed on a custom desktop.



Auto Refresh Figure 123: Preferences

Due to the dynamic nature of the Report Delivery History, an auto refresh option has been made available. This option is enabled by default and will cause all new report deliveries to appear on the first page of the history as they are sent. The refresh interval is measured in seconds and can be set to any value between 10 and 999 seconds.

While viewing any pages other than the first page of the history, the Report Delivery History will not refresh. Auto refresh is designed to function in this way to prevent interruptions and changes in the reports shown in the history while viewing later pages. Refreshing from any page other than the first page will return to the first page because this is where the newest records are shown.

Show Report Descriptions

Each report has a description that can be shown or hidden based on the preferences of the current user. All descriptions are shown by default, but they can be hidden at any time by either un-checking the *Show Report Descriptions* checkbox on the Report History Preferences dialog or by clicking the up arrow at the end of the report's title. This will hide the descriptions of all reports.

Results per Page

The Report Delivery History will show 100 records per page by default, but this number can be changed at any time from the Report History Preferences dialog. Setting the Results Per Page for any report will result in all reports having the configured number of Results Per Page.

8.5.5 Available Reports

System Availability

Reports found under *System Availability* will provide graphical information indicating how consistently different parts of the system, to which Panther is connected, are available to perform their intended function. Because it is more often the case that systems are on-line and working, these graphs focus on when a system is off-line or unavailable at a time it is expected to be running. This information can provide insight into the trends of availability in both Millennium and Oracle[®] at your location, which may aid in development of new solutions to increase the system's stability in the future.

Node Unreachable Event Analysis

Node Unreachable events represent situations where the node is off-line or network connectivity issues exist between the Panther server and the node. This report provides daily and historic event information that will help identify these node issues and trends. This report is summarized in the System Availability Summary.

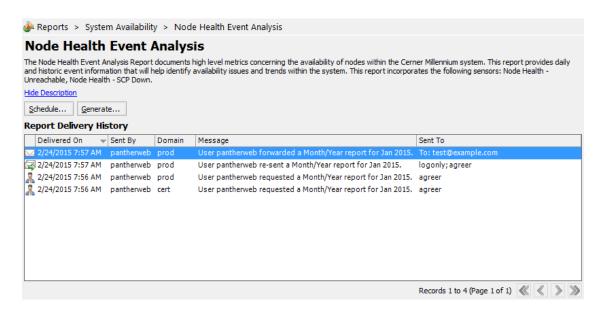


Figure 124: Node Unreachable Event Analysis page

Oracle® Unreachable Event Analysis

Oracle[®] Unreachable events represent situations where Panther could not communicate with the Oracle[®] instance due to a network issue or the instance being off-line. This report provides daily and historic event information that will help identify these issues and trends related to the inability of Panther to communicate with Oracle[®]. This report is summarized in the System Availability Summary.

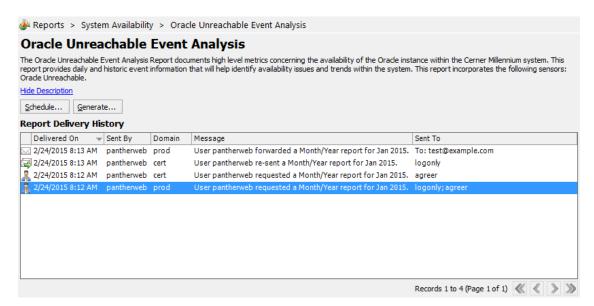


Figure 125: Oracle® Unreachable Event Analysis page

Server Absence of Service (AOS) Event Analysis

The Server AOS Event Analysis has three categories to choose from: Millennium, Ops Exec Server, and Open Engine Server. Server AOS events represent situations where servers had no running instances on

a node to which they were configured to run. This report provides daily and historic event information that will help identify AOS events and trends related to Millennium servers. This report is summarized in the System Availability Summary.

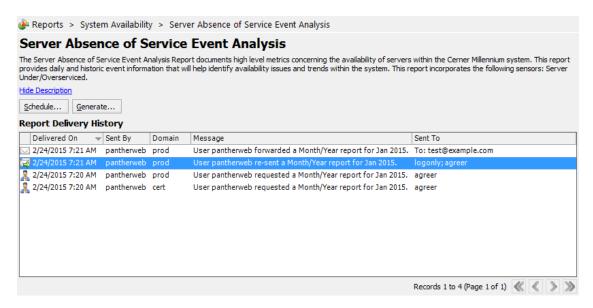


Figure 126: Server Absence of Service (AOS) Event Analysis page

Service Not Accepting Connections Event Analysis

Service Not Accepting Connections events represent situations where services were no longer accepting any connections. This report provides daily and historic event information that will help identify these issues and trends related to service connectivity. This report is summarized in the System Availability Summary.

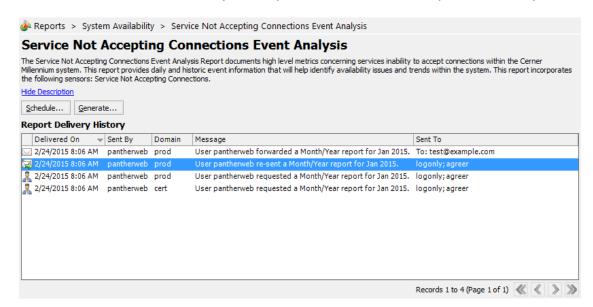


Figure 127: Service Not Accepting Connections Event Analysis page

System Availability Summary Report

As a summary report, this report provides a high-level view of the system over a period of time. The report provides data related to nodes going off-line, absences of service from servers, servers not accepting connections, and absences of service from Oracle[®].

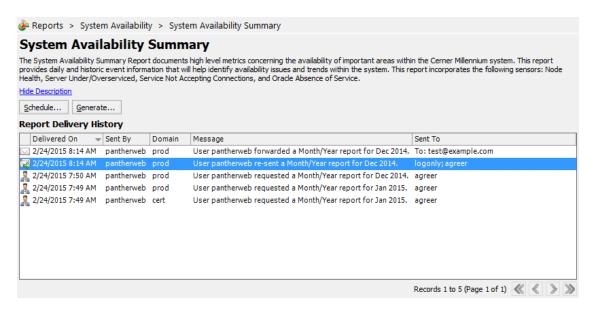


Figure 128: System Availability Summary page

End User Impact

The idea behind any software system is to make everyday tasks easier in some way for general users. End User Impact Reports have been created as a means of preventing inconvenience to general users. These reports are intended to provide insight into trends in the system that could result in user dissatisfaction or frustration so that they can be prevented in the future.

Interfaces Event Analysis Report

Millennium interacts with foreign systems using interfaces. Any time that these interfaces fail to perform properly can result in long wait times for Millennium users. By providing trend graphs of backlogs and stalls experienced by Millennium Interfaces, the Interface Event Analysis Report provides valuable data which can be used to prevent future interface backlogs and stalls.

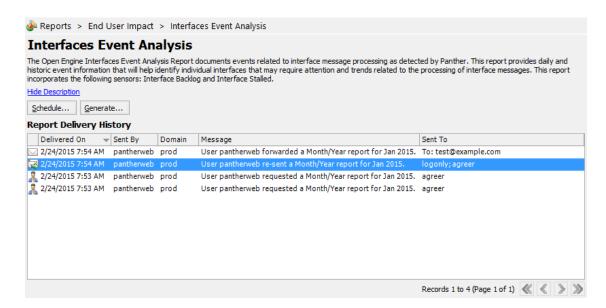


Figure 129: Interfaces Event Analysis page

Chart Server Event Analysis Report

The Chart system is Millennium's way of producing patient information in printed form. The Chart Event Analysis Report provides trend graphs of backlogs and stalls experienced by Millennium Chart Servers. This information may prove invaluable in diagnosing the causes of issues and preventing slowdowns in the system in the future.

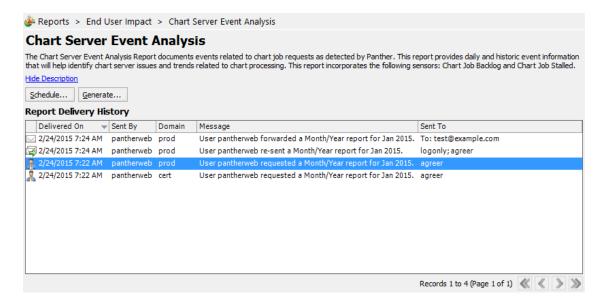


Figure 130: Chart Event Analysis page

Queuing Performance Spreadsheet

The Queuing Performance Spreadsheet (QPS) Report gives an analysis of the amount of queuing that is happening within the Cerner Millennium[®] system. The QPS spreadsheets will provide granular information

that will help identify issues and trends that may affect the performance of the Millennium system and the impact of the system on end users.

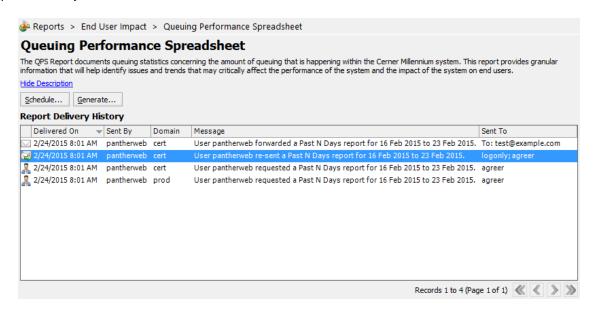


Figure 131: Queuing Performance page

Critical Performance

On a large system, many things are happening at once, making it difficult to track all of the behaviors in the system. It is often the case that such systems suffer from inefficiency as their managers work to keep more serious issues under control. To make the process of improving system performance easier for system administrators, Panther provides Critical Performance reports.

Connection Count Limit Event Analysis

Connection Count Limit documents events related to services that Panther monitored as having a greater number of connections than the defined threshold. This could indicate that additional instances of a server will have the effect of distributing the number of connections across the instances or reducing the number of connections any single service will receive. This report provides daily and historic event information that will help identify when connection counts are exceeded.

Critical Performance Summary Report

As a summary report, this report provides a high-level view of the system over a period of time. The report provides data related to Connection Count Limits, Underserviced Servers, Server Restarts, Thrashing Servers, and Concurrent Ops Jobs.

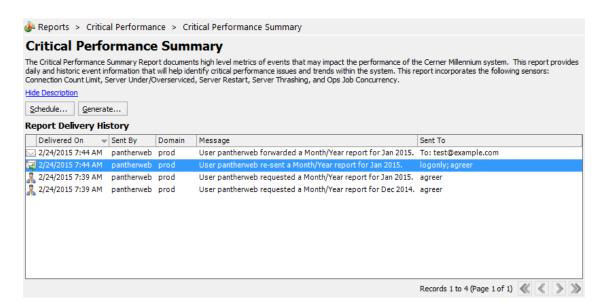


Figure 132: Critical Performance Summary page

Ops Job Concurrency Event Analysis

Ops Job Concurrency events represent situations where ops jobs running concurrently for the same template ID or within the same domain exceed the defined threshold. This report provides daily and historic event information that will help identify when these template IDs or domains were exceeding their concurrency thresholds.

Server Restart Event Analysis

Server Restart events are related to servers that restarted following an abnormal termination. This report provides daily and historic event information that will help identify these issues and trends. Building on the Server Restart sensor, found under the Millennium sensors, which generates short term reports of no more than one week, this report will capture the restart activity on going.

Server Thrashing Event Analysis

The Server Thrashing sensor assesses when the number of times that a server crashes and restarts exceeds the parameter value and time defined in the Event Detection of the sensor. This report provides daily and historic event information that will help identify thrashing events and trends related to servers.

Server Underserviced Event Analysis

Service Underserviced events represent situations where a node's servers had fewer than the configured number of running instances but had more than zero. This report provides daily and historic event information that will help identify Underserviced events and trends related to servers.

8.6. Tablespace Projection Control

The Tablespace Projection control allows you to see data previously collected by Panther regarding the amount of space used by and allocated to Oracle® tablespaces.

To view the Tablespace Projection control, select the *Tablespace Projection* item in the Domain Explorer (Figure 133). This will load the control into the Application Workspace (Figure 134).



Figure 133: Domain Explorer



Figure 134: Tablespace Projection Control

In the left panel of the control are the options for selecting the data to view. First, select the domain, using the domain drop-down.

The domain drop-down contains a list of all domains Panther is currently monitoring, and all domains for which it has recorded tablespace data. Domains which do not have any tablespace data will be grayed out, and have the text "(no data)" after their names.

When a domain has been selected, Panther will load the list of tablespaces for which we have recorded data.

The Units drop-down configures the unit in which numeric values are displayed. Changes will affect both the grid and the chart.



Units of Measurement

Sizes displayed in the Tablespace Projection control are calculated using binary rather than metric units; i.e., they follow the same method of calculation that is traditionally used in computing, with each unit being 1024 of the preceding unit, rather than 1000 as in the metric system. This is the same method of calculation used by Oracle[®]. However, Oracle[®] uses the more familiar metric prefixes: "mega-" rather than "mebi-", "giga-" rather than "gibi-", etc. The Oracle[®] Tablespace control follows the same convention.

After the list of tablespaces has been populated, click on one to select it. Its most recent recorded used and allocated space will be populated in the grid, along with the amount of free space remaining, and the percentage of space used. These values are not influenced by the search range.

When a tablespace is selected, a chart is automatically generated using the data that Panther has previously recorded for that tablespace within the search range. It will be displayed in the right panel of the control.

If the Oracle[®] server associated with a domain was unavailable for some time, or Panther services were brought down for maintenance, there may be a gap between measured values (Figure 135). If present, this gap will be represented by a dashed line, which stays at the level of the last known value.

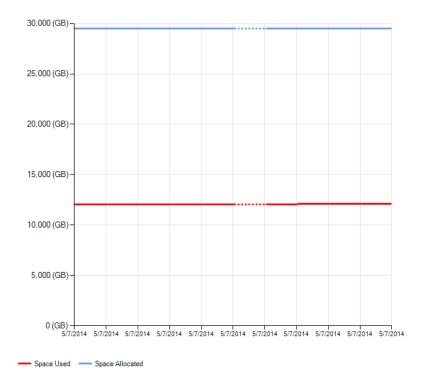


Figure 135: Tablespace Data Across Maintenance Period

The *Refresh* button will update the list of domains and whether they have data. If a domain is selected, that domain's list of tablespaces will be updated, and if a tablespace is selected, the chart will be redrawn.



Data Update Schedule

In order to minimize load on the Oracle[®] servers being monitored, tablespace data is only gathered once every hour. If a new tablespace is introduced, a tablespace's allocated space is changed, or the data used by a tablespace is cleaned up, it may not be immediately reflected in the control.

The Search button will bring up a dialog which allows you to adjust the range of data shown on the chart.

The Get All Data button will cause the Used Space, Allocated Space, Free Space, and % Free columns to be populated for all tablespaces.

Once a chart is displayed, right-click on it to view its context menu.

Menu Option	Description
Refresh	Refreshes the available domains, and the data for the selected domain/tablespace.
Save Data	Allows you to save the data used to build the chart to a CSV file.
Save Image	Allows you to save the currently displayed chart to a PNG-format image file.

Table 34: The Tablespace Projection Chart Context Menu

8.6.1 Search

You can change the range of data displayed in the chart by clicking the *Search* button to bring up the Search dialog.

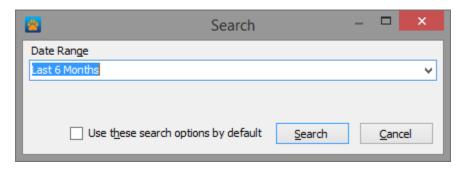


Figure 136: Search Dialog

The Date Range drop-down provides options to use the default search range of 6 months into the past or a custom date range.

Selecting the *Custom...* option enables controls to specify start and end dates for the search.

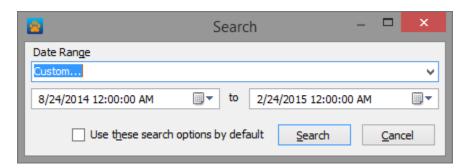


Figure 137: Search Dialog With Custom Date Range

To set a search range as the preferred default search, click the checkbox marked *Use these search options* by default.

9 Charge Capture

Panther charge capture controls provide Cerner clinical clients instant visibility into clinically driven charging issues. The components listed below represent a growing collection of functionality.

For more detailed information about the Panther Charge Capture controls, you may visit their respective section(s).

9.1. Charge Reconciliation Control

The Charge Reconciliation control allows users to reconcile charges on a regular basis. Each user can set up worklists for the charges they are interested in, so they can easily review charges as necessary. The control also allows the user to search for charges for a particular patient by using their FIN number. This control does not make any modifications to the data in Millennium, and does not interact with the billing system. Which charges are marked as reviewed is only saved in the Panther system.

To view the Charge Reconciliation control, select the *Charge Reconciliation* item, under the *Charge Capture* item, in the Domain Explorer (Figure 138).

There are two icons that commonly appear in the upper right-hand corner of the Charge Reconciliation control. These are the Export button, and the Help icon.

The Export button allows you to save the currently displayed data in a Comma-Separated Value (CSV) or Excel® format. When the Export button is clicked, the Windows "Save As" dialog will appear, prompting the user to select a name and location for the file. Data in all grids can also be selected and copied by using keyboard shortcuts or by right-clicking to access the context menu.

The Help icon provides additional information about the data currently being viewed. Hover the mouse cursor over the question mark icon to see an informational tooltip describing the data displayed.

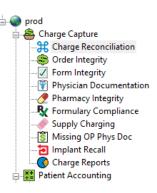


Figure 138: Domain Explorer

9.1.1 Charge Reconciliation Main Control

When the control is loaded, the Search All Charges section will be selected by default. The tree view on the left-hand side of the control can be used to navigate to other sections of the control. Data will not be automatically refreshed on this control.

Searches may take time to load; please note the spinning blue loading icon which will appear in the upper left-hand corner of the control, where the Charge Reconciliation icon normally is.

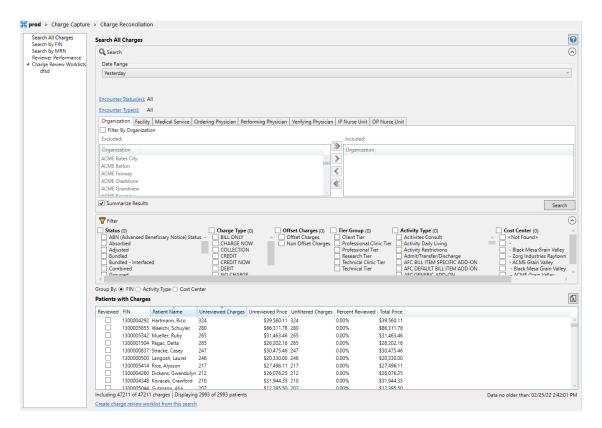


Figure 139: Charge Reconciliation Control

9.1.2 Search All Charges

The Search All Charges section allows the user to search for all charges meeting the specified search criteria. When this section is selected, no search will be automatically performed. The user must select the appropriate criteria in the *Search* area and then click the *Search* button to perform the search. The maximum date range a user can search is 31 days. The user can choose as part of the search criteria whether or not the results will be summarized. When results are returned, they will be displayed in the grid at the bottom of the screen. The *Filter* section can be used to set filter criteria before or after performing a search. If summarizing results, how the results are grouped can also be changed before or after performing a search. Under the grid, the *Create charge review worklist from this search* link can be clicked to open the *Create Charge Review Worklist* dialog prepopulated with the currently selected search and filter criteria. See Section 9.1.8 for more information regarding the create charge review worklist dialog.



Searching Locations

When searching encounters for charges, the current locations are considered as well as the location history for the encounter.

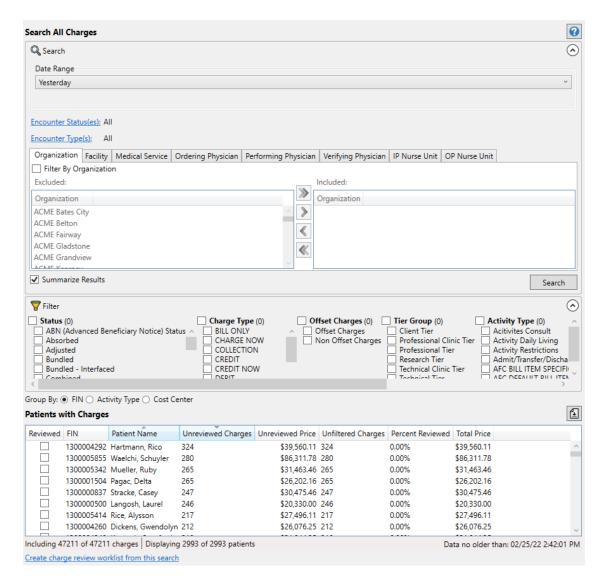


Figure 140: Search All Charges

Changing the group by option updates the results shown in the grid, as well as the actions available.

Group by FIN

When the *FIN* option is selected, the grid will display the FIN and Patient Name for each group. The *Reviewed* column indicates whether all unfiltered charges for the FIN are reviewed. Selecting the checkbox will mark all unfiltered charges for the FIN as being reviewed. Deselecting the checkbox will mark all unfiltered charges for the FIN as unreviewed. Right-clicking the mouse in the *Patients with Charges* grid will open the Context Menu. See Figure 141.

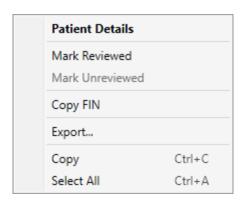


Figure 141: Group by FIN Context Menu

Menu Option	Description
Patient Details	Navigates to the charge details for the patient.
Mark Reviewed	Marks the charge as reviewed within Panther.
Mark Unreviewed	Marks the charge as unreviewed within Panther.
Copy FIN	Copies the selected FIN to the clipboard.
Export	Exports data to .csv or .xslx file.
Сору	Copies the text of the selected rows to the clipboard.
Select All	Selects all of the currently displayed rows.

Table 35: Group by FIN Context Menu

Details for each FIN can be viewed in the *Patient Charge Details* dialog by double-clicking on the row, or using the *View Patient Details* option in the Context Menu.

Patient Charge Details Dialog

The *Patient Charge Details* dialog is opened using the previously selected filters. However, the filters can be changed at this level to further filter the charges. Under the filter section, information about the specific patient encounter is displayed, followed by a grid containing the unfiltered charges for the patient. Charges can be reviewed and unreviewed at this level. At the top, right-hand corner of the *Charges* grid there are previous and next navigation buttons located next to the export button. These buttons allow the user to view details for the next patient in the list on the previous screen without closing the dialog. The lower half of the dialog is used to show the *Orders* grid which includes all orders for the encounter. Orders are not filtered using any search or filter criteria.

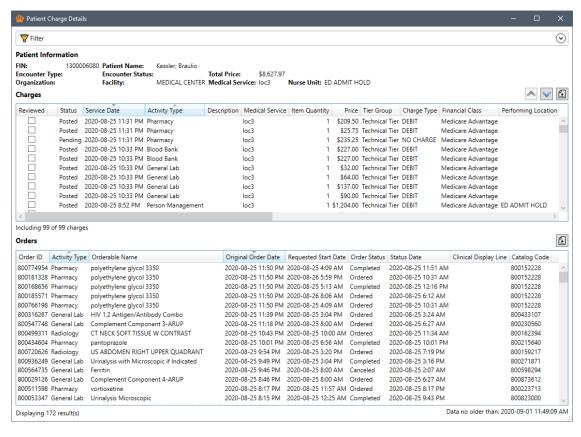


Figure 142: Patient Details Dialog

Right-clicking the mouse in the Charges grid will open the Context Menu. See Figure 143.



Figure 143: Patient Details Charges Context Menu

Menu Option	Description
Mark Reviewed	Marks the charge as reviewed within Panther.
Mark Unreviewed	Marks the charge as unreviewed within Panther.
Export	Exports data to .csv or .xslx file.
Сору	Copies the text of the selected rows to the clipboard.
Select All	Selects all of the currently displayed rows.

Table 36: Patient Details Charges Context Menu

Right-clicking the mouse in the Orders grid will open the Context Menu. See Figure 144.

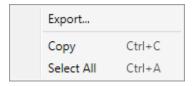


Figure 144: Patient Details Orders Menu

Menu Option	Description
Export	Exports data to .csv or .xslx file.
Сору	Copies the text of the selected rows to the clipboard.
Select All	Selects all of the currently displayed rows.

Table 37: Patient Details Orders Context Menu

Group by Activity Type

When the *Activity Type* option is selected, the grid will display the activity type for each group. Right-clicking the mouse in the *Activity Types with Charges* grid will open the Context Menu. See Figure 145.



Figure 145: Group by Activity Type Context Menu

Menu Option	Description
Activity Type Details	Navigates to the patient summaries for the activity type.
Export	Exports data to .csv or .xslx file.
Сору	Copies the text of the selected rows to the clipboard.
Select All	Selects all of the currently displayed rows.

Table 38: Group by Activity Type Context Menu

Details for each activity type can be viewed in the *Activity Type Details* dialog by double-clicking on the row, or using the *View Activity Type Details* option in the Context Menu. See Activity Type Details Dialog.

Above the grid on the right-hand side of the screen, there is a *View graph* link. When clicked, this link will open the Activity Type Summary dialog. This dialog will graph charges for each activity type with data by either charge count, or charge amount.

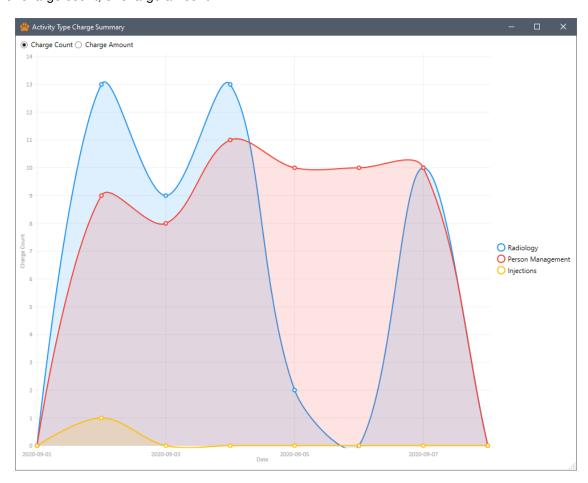


Figure 146: Activity Type Summary Dialog

Activity Type Details Dialog

The Activity Type Details dialog is opened using the previously selected filters, however the filters can be changed at this level to further filter the charges. Under the filter section, a graph is displayed showing the

charge statuses by day for the unfiltered charges. At the bottom of the dialog, the *Patients with Charges* grid contains patient summaries for the unfiltered charges. The *Reviewed* column indicates whether all unfiltered charges for the FIN are reviewed. Selecting the checkbox will mark all unfiltered charges for the FIN as being reviewed. Deselecting the checkbox will mark all unfiltered charges for the FIN as unreviewed.

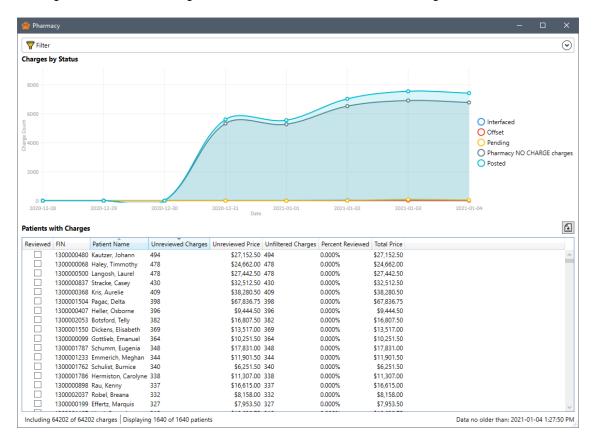


Figure 147: Activity Type Details Dialog

Details for each patient can be accessed by double-clicking on the row, or using the *View Patient Details* option in the Context Menu. See Figure 148. See the Patient Charge Details Dialog section for more information.



Figure 148: Activity Type Details Context Menu

Menu Option	Description
Patient Details	Navigates to the patient charges.
Mark Reviewed	Marks the charge as reviewed within Panther.
Mark Unreviewed	Marks the charge as unreviewed within Panther.
Copy FIN	Copies the FIN of the selected row to the clipboard.
Export	Exports data to .csv or .xslx file.
Сору	Copies the text of the selected rows to the clipboard.
Select All	Selects all of the currently displayed rows.

Table 39: Activity Type Details Context Menu

Group by Cost Center

When the *Cost Center* option is selected, the grid will display the company unit and company unit alias for each group. Right-clicking the mouse in the *Cost Centers with Charges* grid will open the Context Menu. See Figure 149.

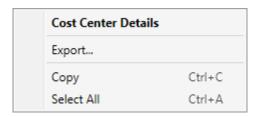


Figure 149: Group by Cost Center Context Menu

Menu Option	Description
Cost Center Details	Navigates to the patient summaries for the cost center.
Export	Exports data to .csv or .xslx file.
Сору	Copies the text of the selected rows to the clipboard.
Select All	Selects all of the currently displayed rows.

Table 40: Group by Cost Center Context Menu

Details for each cost center can be viewed in the *Cost Center Details* dialog by double-clicking on the row, or using the *View Cost Center Details* option in the Context Menu. See Cost Center Details Dialog.

Above the grid on the right-hand side of the screen, there is a *View graph* link. When clicked, this link will open the Cost Center Summary dialog. This dialog will graph charges for each cost center with data by either charge count, or charge amount.



Figure 150: Cost Center Summary Dialog

Cost Center Details Dialog

The Cost Center Details dialog is opened using the previously selected filters, however the filters can be changed at this level to further filter the charges. Under the filter section, a graph is displayed showing the charge statuses by day for the unfiltered charges. At the bottom of the dialog, the Patients with Charges grid contains patient summaries for the unfiltered charges. The Reviewed column indicates whether all unfiltered charges for the FIN are reviewed. Selecting the checkbox will mark all unfiltered charges for the FIN as unreviewed.

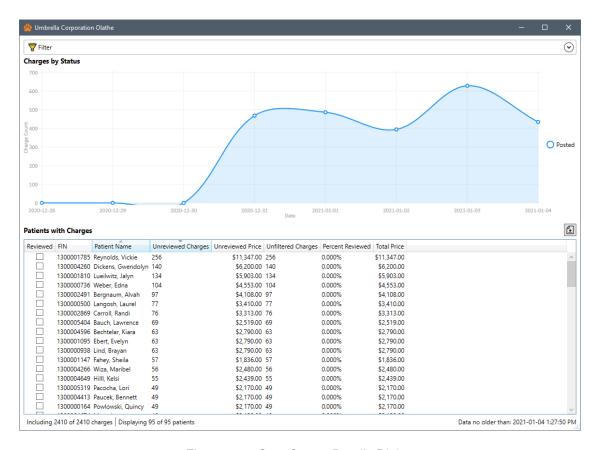


Figure 151: Cost Center Details Dialog

Details for each patient can be accessed by double-clicking on the row, or using the *View Patient Details* option in the Context Menu. See Figure 152. See the Patient Charge Details Dialog section for more information.

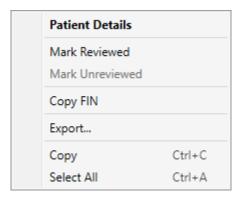


Figure 152: Cost Center Details Context Menu

Menu Option	Description
Patient Details	Navigates to the patient charges.
Mark Reviewed	Marks the charge as reviewed within Panther.
Mark Unreviewed	Marks the charge as unreviewed within Panther.
Copy FIN	Copies the FIN of the selected row to the clipboard.
Export	Exports data to .csv or .xslx file.
Сору	Copies the text of the selected rows to the clipboard.
Select All	Selects all of the currently displayed rows.

Table 41: Cost Center Details Context Menu

No Grouping

When the *Summarize Results* option is unchecked and a search is completed, the grid will display the charge details for all charges matching the search and filter criteria. Right-clicking the mouse in the *Charges* grid will open the Context Menu. See Figure 154.

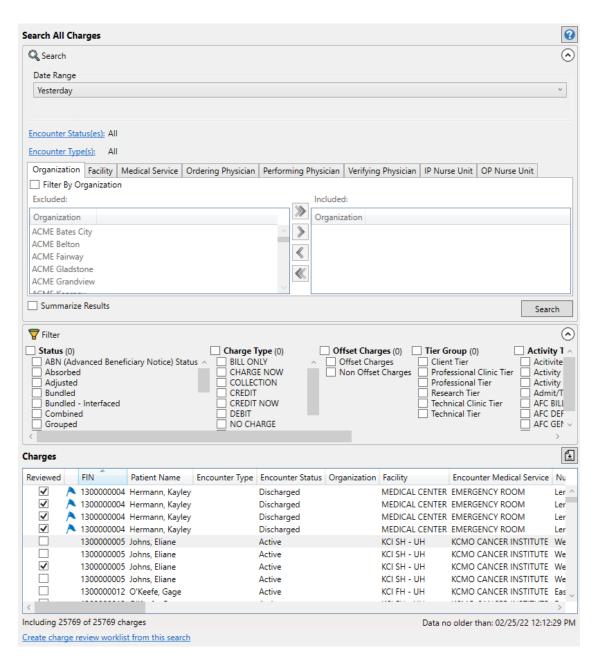


Figure 153: No Grouping



Figure 154: Charge Details Context Menu

Menu Option	Description
Mark Reviewed	Marks the selected charge(s) as reviewed.
Mark Unreviewed	Marks the selected charge(s) as not reviewed.
Copy FIN	Copies the FIN number of the charge.
Export	Exports data to .csv or .xslx file.
Сору	Copies the text of the selected rows to the clipboard.
Select All	Selects all of the currently displayed rows.

Table 42: Charge Details Context Menu

9.1.3 Search by FIN

The Search by FIN section allows the user to search for all charges for a specified FIN. The entered FIN must be an exact match. The Date Range defaults to None, but the user may select a more specific date range to search. The *Filter* section can be used to set filter criteria before or after performing a search.

When results are returned, information about the patient's encounter will be displayed above the *Charges* grid. Details of each charge for the FIN will be displayed in the grid, along with the ability to mark these charges as reviewed.

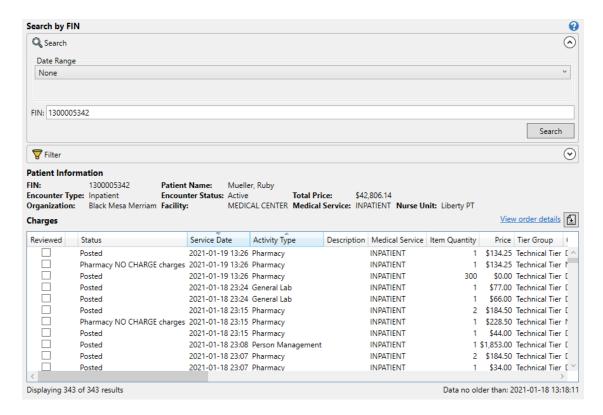


Figure 155: Search by FIN

Right-clicking the mouse in the Charges grid will open the Context Menu. See Figure 156.



Figure 156: Search by FIN Context Menu

Menu Option	Description
Order Details	Opens order details dialog for selected FIN.
Mark Reviewed	Marks the charge as reviewed within Panther.
Mark Unreviewed	Marks the charge as unreviewed within Panther.
Export	Exports data to .csv or .xslx file.
Сору	Copies the text of the selected rows to the clipboard.
Select All	Selects all of the currently displayed rows.

Table 43: Search by FIN Context Menu

9.1.4 Search by MRN

The Search by MRN section allows the user to search for all charges for a specified MRN. The entered MRN must be an exact match. The Date Range defaults to None, but the user may select a more specific date range to search. The *Filter* section can be used to set filter criteria before or after performing a search.

When results are returned, information about the patient will be displayed above the *Charges* grid. The results are grouped by FIN by default, but the user can use the radio buttons above the grid to choose to *Show All Charges* instead.

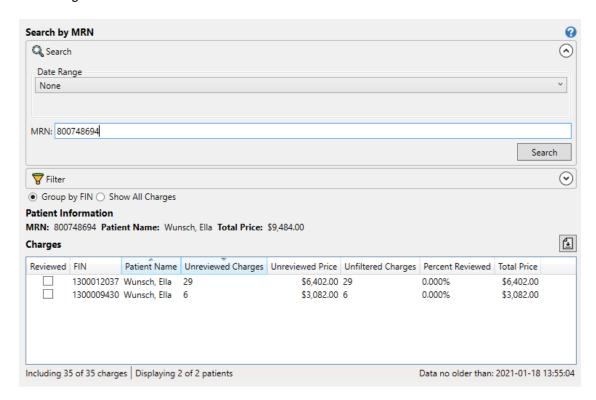


Figure 157: Search by MRN

Group by FIN

When the *Group by FIN* option is selected, the grid will display the FIN and Patient Name for each group. Right-clicking the mouse in the *Charges* grid will open the Context Menu. See Figure 158.

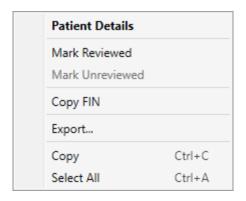


Figure 158: Group by FIN Context Menu

Menu Option	Description
Patient Details	Navigates to the charge details for the patient.
Mark Reviewed	Marks all unfiltered charges for the selected row(s) as reviewed.
Mark Unreviewed	Marks all unfiltered charges for the selected row(s) as unreviewed.
Copy FIN	Copies the selected FIN to the clipboard.
Export	Exports data to .csv or .xslx file.
Сору	Copies the text of the selected rows to the clipboard.
Select All	Selects all of the currently displayed rows.

Table 44: Group by FIN Context Menu

Details for each FIN can be viewed in the *Patient Charge Details* dialog by double-clicking on the row, or using the *View Patient Details* option in the Context Menu.

Show All Charges

When the *Show All Charges* option is selected, the grid will display all of the charges for the MRN. Right-clicking the mouse in the *Charges* grid will open the Context Menu. See Figure 159.



Figure 159: Show All Charges Context Menu

Menu Option	Description
Mark Reviewed	Marks the selected charges as reviewed.
Mark Unreviewed	Marks the selected charges as unreviewed.
Export	Exports data to .csv or .xslx file.
Сору	Copies the text of the selected rows to the clipboard.
Select All	Selects all of the currently displayed rows.

Table 45: Show All Charges Context Menu

9.1.5 Reviewer Performance

The Reviewer Performance section allows the user to see how many changes have been reviewed by each user over the specified time. The Date Range defaults to Today, but the user may select a more specific date range to search.

When results are returned, counts of charges and FINs reviewed are shown per-user. (Encounters with more than one FIN associated with a patient will count as only one FIN.) The results are listed per-user by default, but using the ratio buttons the user can optionally group the results by the Action Type of the charge, or the Cost Center. If one of the grouping options are selected, there will be rows showing the totals per-reviewer. The "Include Totals" checkbox allows the total rows to be hidden if desired, for example if one does not wish the exported data to include the total rows.

The Export button to the upper-right will allow the user to download whatever is shown in the grid, in .xlsx or .csv format.

If the "User Information" feature is enabled and configured on the Panther server, there will be a "Show usernames" checkbox at the bottom of the grid. If this checkbox is checked, the grid will show the usernames of the reviewers. If the checkbox is not checked, it will show the name of the user if available, and the username if not. This checkbox reflects the "Show usernames" global Panther privilege, and toggling the checkbox will alter the global privilege.

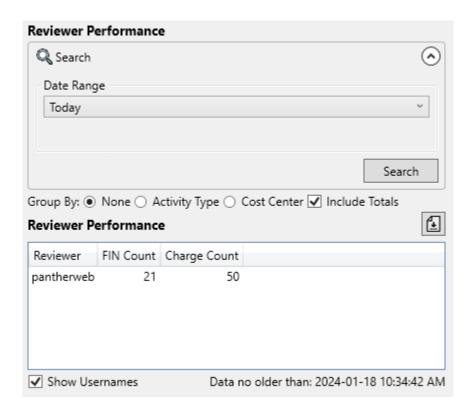


Figure 160: Reviewer Performance

Group by Activity Type

When the *Group by Activity Type* option is selected, the grid further splits a user's review counts by the Activity Type of the reviewed charges.

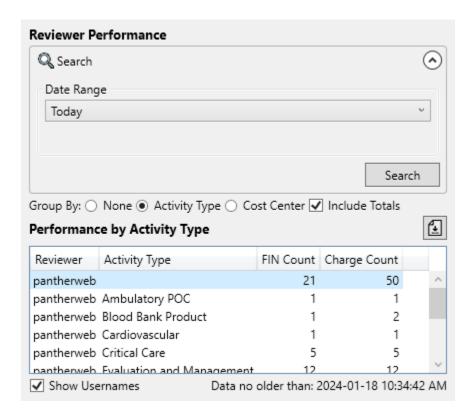


Figure 161: Reviewer Performance Grouped by Activity Type

Group by Cost Center

When the *Group by Cost Center* option is selected, the grid further splits a user's review counts by the Cost Center of the reviewed charges.

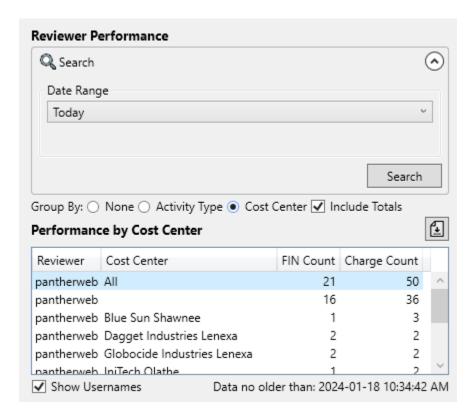


Figure 162: Group by Cost Center

9.1.6 Charge Review Worklists

The *Charge Review Worklists* section allows a user to manage their charge review worklists. This section can be used to add, edit, delete, or view charge review worklists. Existing worklists will also appear in the tree view under the *Charge Review Worklists* node. The worklist can also be viewed by selecting the appropriate node in the tree view. See Section 9.1.8 for more information regarding the create/edit charge review worklist dialog.

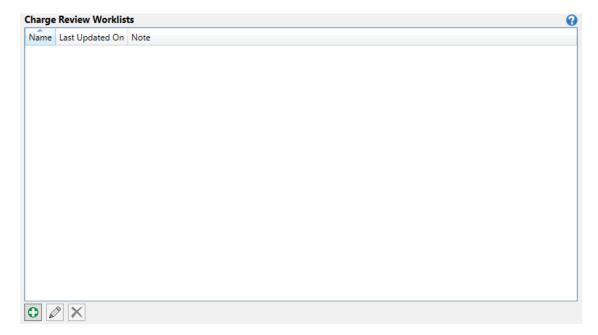


Figure 163: Charge Review Worklists

Right-clicking the mouse in the grid will open the Context Menu. See Figure 164.

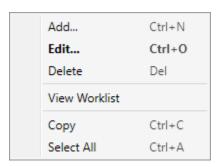


Figure 164: Charge Review Worklists Context Menu

Menu Option	Description	
Add	Opens the Create Charge Review Worklist dialog.	
Edit	Opens the Edit Charge Review Worklist dialog.	
Delete	Deletes the selected charge review worklists.	
View Worklist	Navigates to the appropriate worklist in the tree view.	
Сору	Copies the text of the selected rows to the clipboard.	
Select All	Selects all of the currently displayed rows.	

Table 46: Charge Review Worklists Context Menu

9.1.7 Viewing a Charge Review Worklist

When viewing a Charge Review Worklist, the saved search and filter criteria is used to automatically perform a search when the charge review worklist is selected. The filter criteria can be manipulated while viewing a worklist, but will not be saved as part of the worklist unless the worklist is edited. The user can edit the loaded worklist to change the name, note, search or filter criteria by selecting the edit (pencil) button in the upper right-hand corner of the screen. See Section 9.1.8 for more information regarding editing a charge review worklist. The refresh button is located next to the edit button and will refresh all data displayed by the worklist. The top grid behaves like the Seach All Charges section of the control. Please see Section 9.1.2 for more information regarding grouping options and context menus.

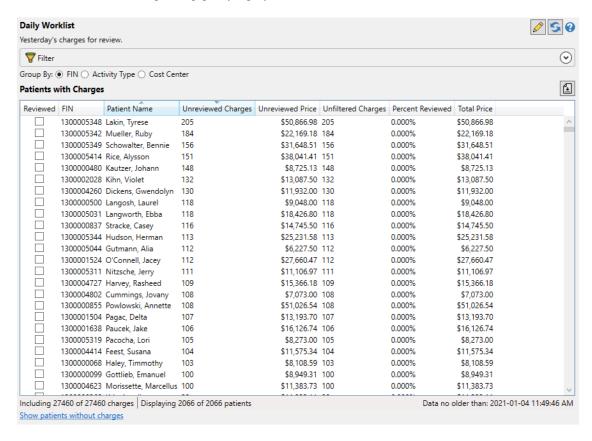


Figure 165: Loaded Charge Review Worklist

At the bottom of the charge review worklist screen, there is a link to *Show patients without charges*. This link will load an additional grid displaying the patient encounters which match the search criteria but have no charges associated with them. Depending on the search criteria, this section can take a long time to load. Once loaded an additional *Patients without Charges* grid will be populated with these patients. Order details for the patient can be viewed by double-clicking the patient row, or using the Context Menu. Right-clicking the mouse in the *Patients without Charges* grid will open the Context Menu. See Figure 166.

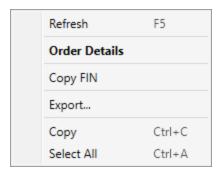


Figure 166: Patients without Charges Context Menu

Menu Option	Description	
Refresh	Refreshes data for both grids in the worklist.	
Order Details	Opens the Order Details dialog.	
Copy FIN	Copies the selected rows FIN to the clipboard.	
Export	Exports data to .csv or .xslx file.	
Сору	Copies the text of the selected rows to the clipboard.	
Select All	Selects all of the currently displayed rows.	

Table 47: Patients without Charges Context Menu

Order Details Dialog

The *Order Details* dialog shows encounter level information at the top, followed by a grid containing all of the order details for the patient's encounter. This can be used to help determine if a patient should have received charges.

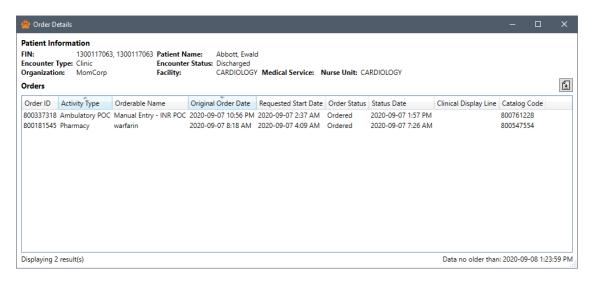


Figure 167: Order Details Dialog

Right-clicking the mouse in the grid will open the Context Menu. See Figure 168.

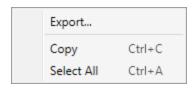


Figure 168: Order Details Context Menu

Menu Option	Description	
Export	Exports data to .csv or .xslx file.	
Сору	Copies the text of the selected rows to the clipboard.	
Select All	Selects all of the currently displayed rows.	

Table 48: Patients without Charges Context Menu

9.1.8 Create/Edit Charge Review Worklist

The Create/Edit Charge Review Worklist dialog allows the user to create or edit a charge review worklist. A charge review worklist is a saved set of search and filter criteria that can be given a name as well as a note for the user. This allows the user to quickly navigate to searches that should be performed and reviewed on a regular basis.

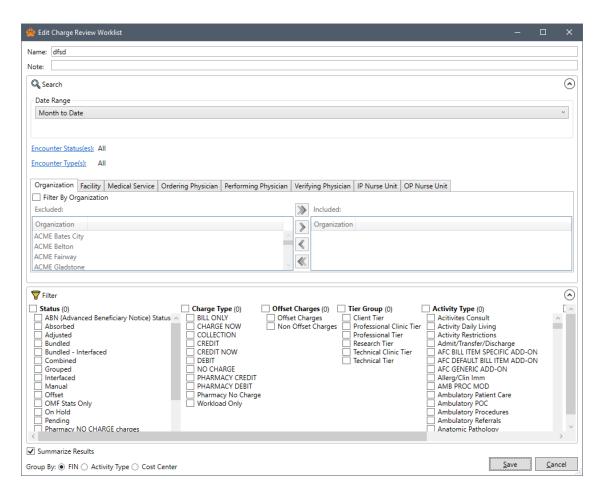


Figure 169: Create Charge Review Worklist Dialog

9.2. Charge Reports Control

The Charge Reports control displays a variety of reports that review and analyze the technical aspects of the Millennium system that can impact performance and stability related to charging.

To view the Charge Reports control, select the *Charge Reports* item in the domain explorer (Figure 170).

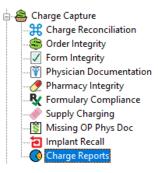


Figure 170: Domain Explorer

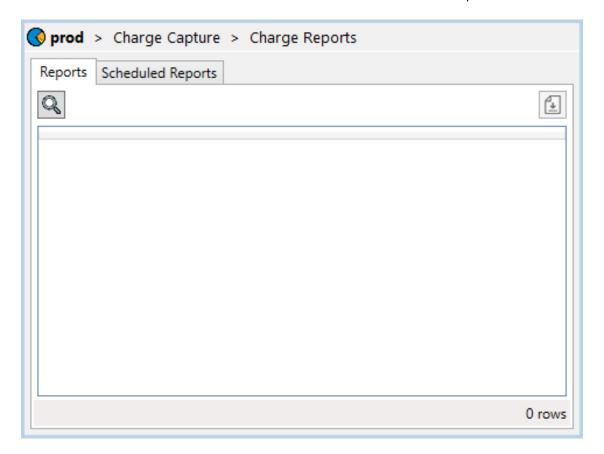


Figure 171: Charge Reports Control

9.2.1 Executing reports

To select a report for execution, click the search button. This will bring up a dialog that displays the list of available reports (Figure 172). It also includes a date range control which is enabled or disabled based upon whether the currently-selected report supports date range criteria.

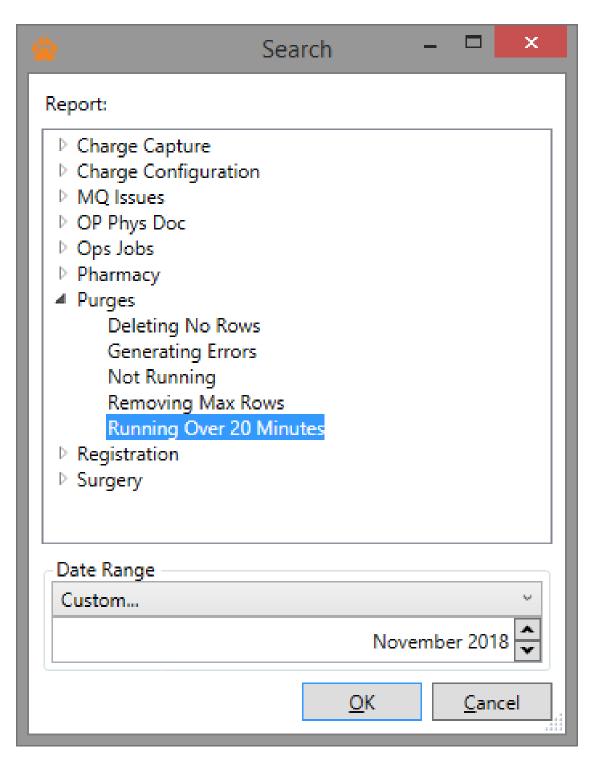


Figure 172: Search Dialog

Upon confirming the search dialog, the control will execute the report and display its results (Figure 173).

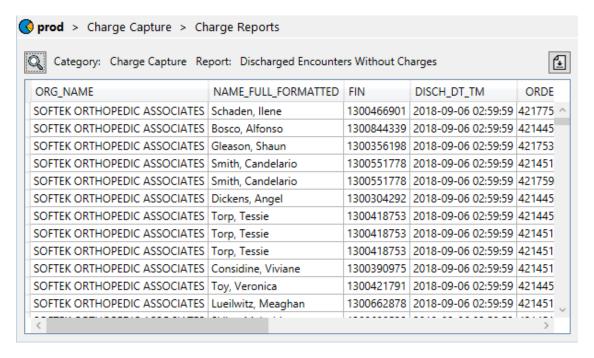


Figure 173: Charge Reports - With Data

The figure also displays the *No Results* overlay that appears when a query does not return any data Figure 174.



Figure 174: Charge Reports - No Results

Exporting Data

The Charge Reports control also allows the export of currently-displayed tabular data. To do so, click the export button. It will then prompt for a file location and save the data in CSV or Excel® format.

9.2.2 Scheduled Reports

Reports can be executed on a schedule. This makes the report data available without having to manually run a report and wait for the results. Click the "Scheduled Reports" tab to access schedules and reports generated by schedules.

The "Scheduled Reports" tab shows the list of reports generated by schedules. The grid provides the ability to view the results of a report.

The grid of reports will automatically refresh. The refresh settings can be configured in the preferences dialog.

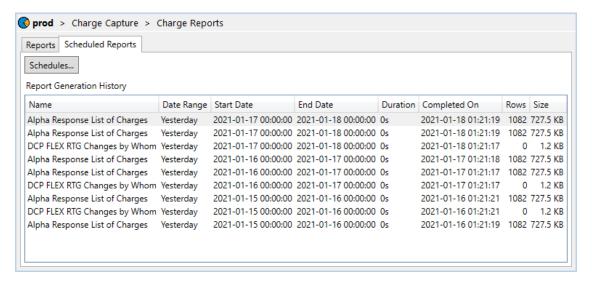


Figure 175: Scheduled Reports



Figure 176: Scheduled Reports Context Menu

Option	Description	
View Report	Opens a dialog to view the report data.	
Refresh	Reloads the list of reports generated by schedules.	
Сору	Copies selected records to the system clipboard.	
Select All	Highlights all records currently being displayed.	
Preferences	Opens the Preferences dialog where autorefresh can be configured.	

Table 49: Scheduled Reports Context Menu

Preferences

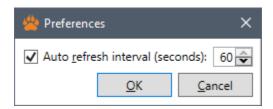


Figure 177: Preferences

Schedules

The "Schedules" button opens the Schedules dialog used to configure schedules. Schedules are only available to users with the "Manage Scheduled Revenue Reports" privilege.



Figure 178: Schedules Menu

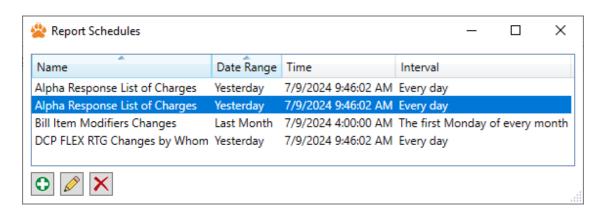


Figure 179: Schedules

Option	Description	
Add	Opens the Edit Schedule dialog to create a new schedule.	
Edit	Opens the Edit Schedule dialog to edit the selected schedule.	
Remove	Flags the selected schedule for removal.	
Run	Runs the schedule immediately to generate a report as soon as possible.	
Сору	Copies selected records to the system clipboard.	
Select All	Highlights all records currently being displayed.	

Table 50: Schedules Context Menu

Edit Schedule

The "Edit Schedule" dialog is used to create and modify schedules. The Report Parameters section contains the name of the report, the date range, and the author of the schedule. The Date Range describes the time range used whenever the report schedule is executed. The author of the schedule is the account name used for organizational security and can impact which data is included in the report. The Start Date is the earliest date the schedule will run. The time component of the Start Date is the time of the day the report will execute.

The Recurrence Pattern describes the frequency when the report schedule will be executed.

The Recipients section defines which users can view the report. Recipients configured to receive Panther emails will receive an email when report completes that allows them to login and download the report.

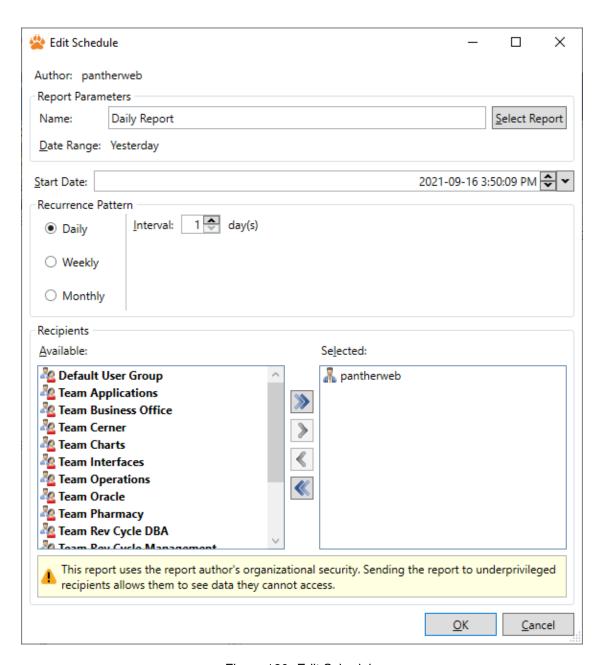


Figure 180: Edit Schedule

9.3. Form Integrity Control

The Form Integrity control shows the recent form activity in Millennium and helps to identify workflow and build issues with forms. This control does not make any modifications to the data in Millennium and does not interact with the billing system.

To view the Form Integrity control, select the *Form Integrity* item in the Domain Explorer (Figure 181).

On the Form Integrity Control's main screen, and on its dialogs, there is a export icon. This allows you to save the currently displayed data in CSV or Excel® format.

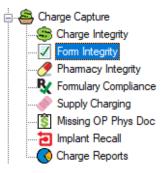


Figure 181: Domain Explorer

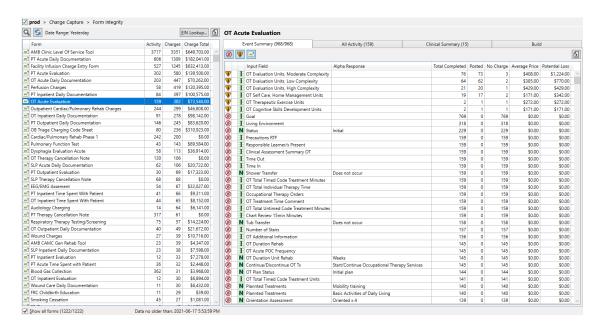


Figure 182: Form Integrity

The grid on the left displays a list of forms with their form activity, charge count, and charge amount. By default, this list is filtered to forms that have charges based on the search criteria. Forms with charges are denoted by a posted icon. The 'Show all forms' checkbox below the grid toggles the filter to display forms that have no associated charges based on the search criteria. Selected a form in the grid will load the data for the form to the right of the grid. Clicking the magnifying glass icon in the top left opens the Search dialog.

9.3.1 Search

The Form Integrity control provides the ability to search by date range, facility, medical service, and position. Search criteria will be remembered and used on subsequent visits to Form Integrity. To filter by facility, medical service, or position select the corresponding tab, check the filter checkbox, and move the desired items to the right side.

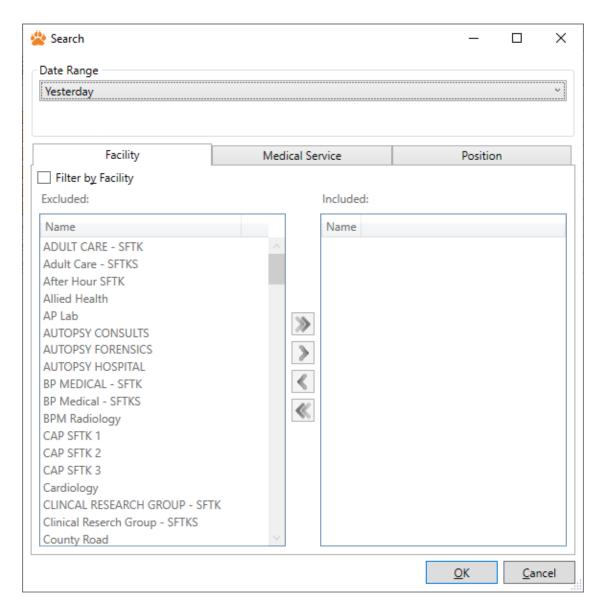


Figure 183: Form Integrity Search

9.3.2 Event Summary

The Event Summary tab in Form Integrity shows the summary of clinical events for a form and whether those events have corresponding charges. The grid shows the event data grouped by the Input Field of the clinical event and by the Alpha Response. The first icon column shows the state of the charging for the event. The second icon column indicates whether Panther detects a build issue with the reference data for the form element. To view build details for any grid row in Event Summary, right click on the row and click 'Build Details'. The third icon column indicates the input type for the row. The details for the row can be viewed by double clicking the row, pressing the enter key, or clicking on Event Details in the context menu.

Filtering

Filter toggle buttons are positioned above the grid. Clicking a filter button will include or exclude rows from the grid based on the charge data for the row.

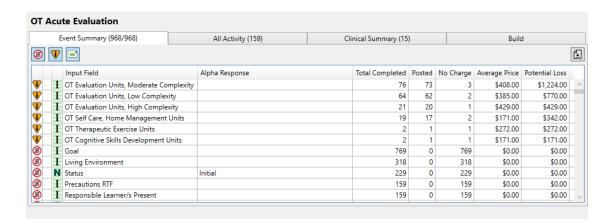


Figure 184: Event Summary

Menu Option	Description	
Event Details	Opens the Event Details dialog for the selected row.	
Build Details	Navigates to the Build Tab and selects the matching Form Components tree node for the selected row.	
Сору	Copies the text of the selected rows to the clipboard.	
Select All	Selects all rows.	

Table 51: Event Summary Context Menu

The Event Summary State icons in the first column follow the filter buttons. The summary icons show the summary for the input field for the selected form for the current search criteria.

Image	Indication	Description
8	No Charge	None of the events for the input field posted a charge.
V	Inconsistent	The input field has both events that posted a charge and events that did not post a charge.
_*	Posted	All of the events for the input field posted a charge.

Table 52: Event Summary State Icons

The Incomplete Build icons in the second column indicate if there are build issues related to the input field. The icon indicates the highest level of severity that is present. No icon is displayed for input fields that have no detected issues.

Image	Indication	Description
€	Error	The associated build item is not correctly configured and will affect charging.
1	Warning	The associated build item is not correctly configured but may not affect charging. The charge point is either missing or is inconsistently defined.
0	Information	The associated build item is not configured to charge but has either price schedule items or bill codes associated with it.

Table 53: Incomplete Build Icons

The Input Type icons in the third column indicate what the input type on the form that is associated with the event summary row. The Input Type indicates the build configuration. More information about the Input Type and how it relates the build of the form is available on the Build Tab.

Image	Indication	Description
N	Alpha Response	The input field uses an alpha response (nomenclature).
Ι	Default Bill Item	The event is tied to the default bill item for the task.
X	Task Specific Bill Item	There is a specific bill item for the task.

Table 54: Input Type Icons

Event Details

Event Details displays a combination of form activity for events and charge data. Some rows will have blank data when the event does not have a corresponding charge.

The Charge Comparison tree on the left highlights differences between No Charge events and the rest of the visible events. All values for No Charge events are displayed under each field. If none of the other events have the same value it will be denoted by bold, red text.

Item attributes in the main grid which match one of the bolded attributes in the Charge Comparison tree will also be bolded.

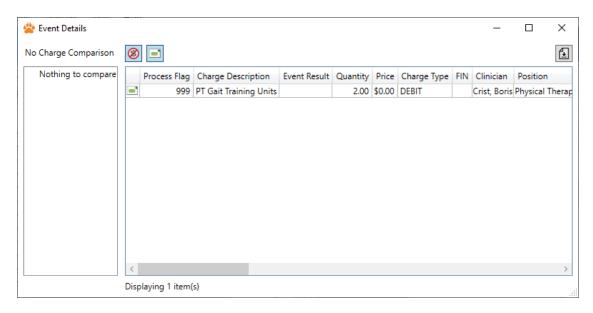


Figure 185: Event Details

Menu Option	Description
Copy Charge Description	Copies the charge description of the selected row to the clipboard.
Copy Bill Item ID	Copies the bill item ID of the selected row to the clipboard.
Copy Fin	Copies the Fin number of the selected row to the clipboard.
Сору	Copies the text of the selected rows to the clipboard.
Select All	Selects all rows.

Table 55: Event Details Context Menu

9.3.3 All Activity

The All Activity tab shows form activity for each FIN and whether or not there are charges for the activity. The charges for the row can be viewed by double clicking the row, pressing the enter key, or clicking Charge Details in the context menu. Details can only be viewed for rows that have charges.

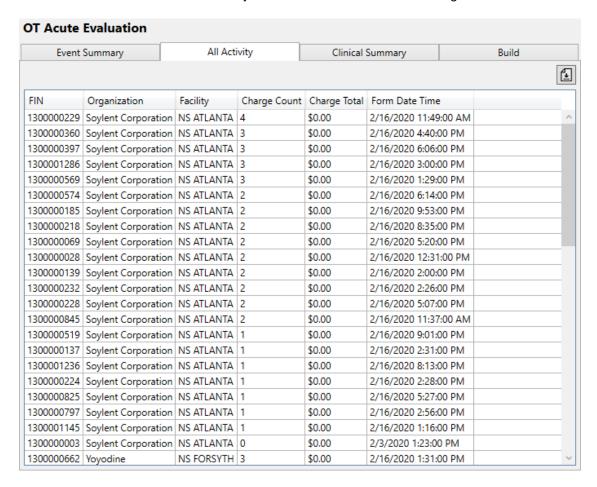


Figure 186: All Activity

Menu Option	Description	
Charge Details	Opens the Charge Details dialog for the selected row.	
Copy Fin	Copies the Fin number of the selected row to the clipboard.	
Сору	Copies the text of the selected rows to the clipboard.	
Select All	Selects all rows.	

Table 56: All Activity Context Menu

Charge Details

The Charge Details dialog shows all of the relevant charges for the selected activity. Charges with an offset are displayed with gray text.

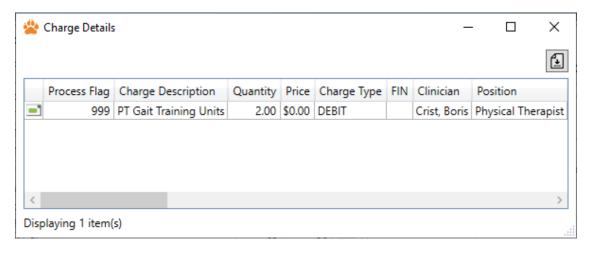


Figure 187: Charge Details

Menu Option	Description
Copy Charge Description	Copies the charge description of the selected row to the clipboard.
Copy Bill Item ID	Copies the bill item ID of the selected row to the clipboard.
Copy Fin	Copies the Fin number of the selected row to the clipboard.
Сору	Copies the text of the selected rows to the clipboard.
Select All	Selects all rows.

Table 57: Charge Details Context Menu

9.3.4 Clinical Summary

The Clinical Activity tab shows form activity grouped by clinician. The grid provides a breakdown of the number of form activity entries per clinician and how many of the activity entries had charges. Activity No Charged is the number of activity entries that did not have any corresponding charges. Charge Count is the total number charges for the clinician's activity. There can be multiple charges per activity so the Charge Ratio column is the Charge Count divided by Form Activity. The charges for the row can be viewed by double clicking the row, pressing the enter key, or clicking Charge Details in the context menu. Details can only be viewed for rows that have charges.

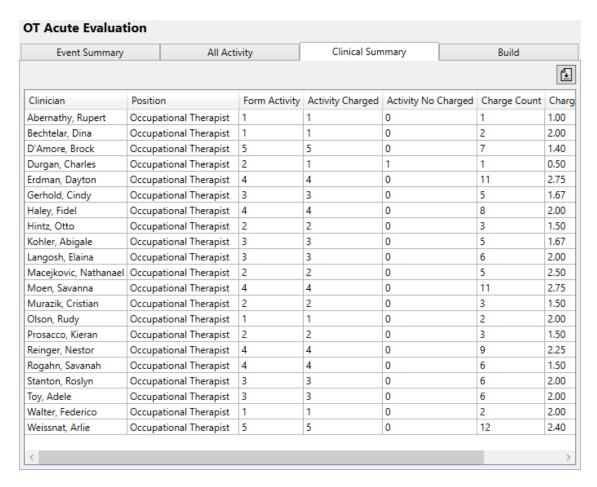


Figure 188: Clinical Summary

Menu Option	Description	
Charge Details	Opens the Charge Details dialog for the selected row.	
Сору	Copies the text of the selected rows to the clipboard.	
Select All	Selects all rows.	

Table 58: Clinical Summary Context Menu

9.3.5 Build

The Build tab shows the hierarchy of the form based on the way it is built. The left side has a tree with the Form Components. Clicking on a node in tree will display the details for that node on the right side. Selecting a parent node on the left side results in the right side showing a grid of all bill items for that node and descendant nodes. Selecting a leaf node on the left side results in the right side showing the details of that node. This includes bill codes, charge points, and price schedules.

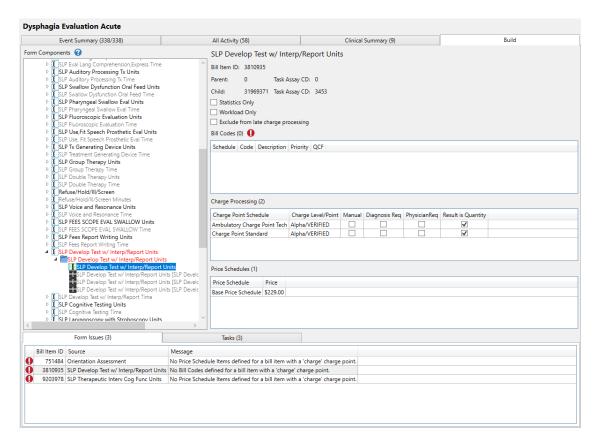


Figure 189: Build Tab

Image	Indication	Description
	Form	This root node of the tree is the Form.
	Section	A form is made up of sections.
I	Input	A section is made up of Inputs.
	Discrete Task Assay	An input is made up of Discrete Task Assays (DTA) This is the parent for the leaf nodes of this form hierarchy. The child nodes to a DTA are the Bill Items and Nomenclatures associated with the DTA.
1	Default Bill Item	This Bill Item is the default bill item for the Discrete Task Assay and does not have a reference task id.
O(Alpha Response	This represents an Alpha Response that is properly configured.
N	Alpha Response Bill Item	This represents an Bill Item defined for a Discrete Task Assay and Nomenclature that is not defined as an Alpha Response for the Discrete Task Assay. There will always be a corresponding issue in the Form Issues tab when this tree node is present.
X	Task Specific Bill Item	This is the Task Specific Bill Item for this Discrete Task Assay.

Table 59: Build Tree Icons

Style	Description
Black Text	This item is configured to charge.
Gray, Thin Text	The item is not configured to charge.
Red Text	One or more children have errors.
Bold Text	This item required.

Table 60: Build Tree Styles

Form Issues

At the bottom of the Build Tab is the Form Issues tab which contains a list of issues that Panther detected for the form. The source of a row in the Form Issues grid can be viewed by double clicking the row, pressing the enter key, or clicking on 'Locate in tree' in the context menu. This will navigate the tree to the corresponding tree node and select it, showing the details on the right side. When a selected tree node has an issue, the right side may show an icon to highlight the affected area(s) that cause the issue.

Menu Option	Description	
Locate in tree	Selects the corresponding node in the Form Components tree.	
Сору	Copies the text of the selected rows to the clipboard.	
Select All	Selects all rows.	

Table 61: Form Issues Context Menu

The following table lists all of the possible form issues that are shown in the Form Issues tab.

Form Issue	Description
Bill Codes For No Charge Charge Point	Bill Codes defined for a bill item with a 'no charge' charge point.
Bill Codes Without Charge Point	Bill Codes defined for a bill item without a charge point.
Bill Item Nomenclature Is Not An Alpha Response	Bill Item defined for a DTA/nomenclature combination that is not defined as an alpha response for that DTA.
Incomplete Charge Point	Incomplete charge point build for bill item.
Inconsistent Charge Points	Inconsistent charge points defined for bill item.
Missing No Bill Codes	No Bill Codes defined for a bill item with a 'charge' charge point.
Missing Price Schedule Items	No Price Schedule Items defined for a bill item with a 'charge' charge point.
Price Schedule Items For No Charge Charge Point	Price Schedule Items defined for a bill item with a 'no charge' charge point.
Price Schedule Items Without Charge Point	Price Schedule Items defined for a bill item without a charge point.
Task Charge Point Is Preventing Form Charges	Task's charge point is preventing items on this form from creating charges.

Table 62: Form Issues List

Tasks

The Tasks tab at the bottom of the Build tab contains a grid that contains the tasks associated with the form. These tasks are at the form level and may sometimes be referred to as Order Tasks. Each task row has a bill item.

These tasks are for the form itself and do not correspond to a single input in the build tree. Unlike the Form Issues tab, there is no 'Locate in tree' functionality for a task.

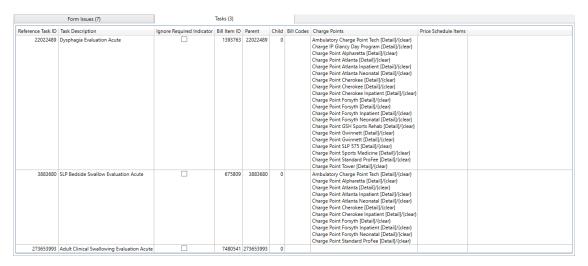


Figure 190: Build Tasks

9.3.6 FIN Lookup

FIN Lookup will search for all form activity for a FIN. Results will be displayed in the FIN Activity dialog.

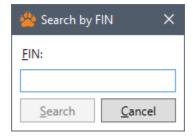


Figure 191: FIN Lookup

FIN Activity

The FIN Activity dialog shows a summary of all form activity for the searched FIN, grouped by form. Displayed activity is not limited to the current date range. Double click a row or use the context menu to view the charges in the FIN Charges dialog.

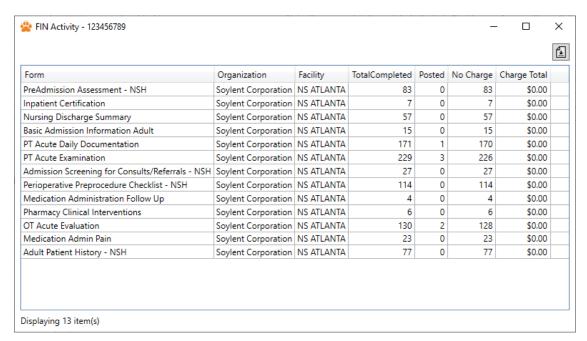


Figure 192: FIN Activity

Menu Option	Description
Charge Details	Navigates to the FIN Charges dialog for the form and FIN.
Сору	Copies the text of the selected rows to the clipboard.
Select All	Selects all rows.

Table 63: FIN Activity Context Menu

FIN Charges

The FIN Activity dialog shows all of the charges for the FIN and the selected form. Charges with an offset are displayed with gray text.

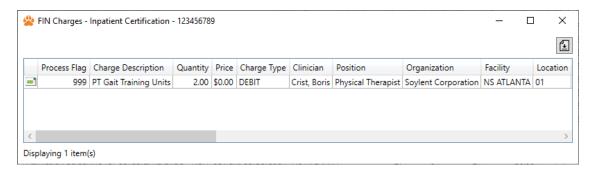


Figure 193: FIN Charges

Menu Option	Description
Copy Charge Description	Copies the charge description of the selected row to the clipboard.
Copy Bill Item ID	Copies the bill item ID of the selected row to the clipboard.
Сору	Copies the text of the selected rows to the clipboard.
Select All	Selects all rows.

Table 64: FIN Charges Context Menu

9.4. Formulary Compliance Control

The Formulary Compliance control analyzes active pharmacy bill items for build issues, HCPCS and QCF issues, and analyzes related NDCs for validity and obsoletion. The control then displays the issues found by category. This control uses the MultumTMdatabase as the source for comparison data. This control does not make any modifications to the data in Millennium, and does not interact with the billing system.

To view the Formulary Compliance control, select the *Formulary Compliance* item, under the *Charge Capture* item, in the Domain Explorer (Figure 194).

There are two icons in the upper right-hand corner of the Formulary Compliance control. These are the Export button, and the Help icon.

The Export button allows you to save the currently displayed data in a CSV or Excel® format. When the Export button is clicked, the Windows "Save As" dialog will appear, prompting the user to select a name and location for the file. Data in all grids can also be selected and copied by using keyboard shortcuts or by right-clicking to access the context menu.

The Help icon provides additional information about the data currently being viewed. Hover the mouse cursor over the question mark icon to see an informational tooltip describing the data displayed.

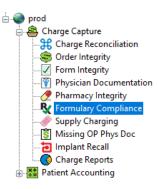


Figure 194: Domain Explorer



Bill Item Price

The price for a bill item is calculated using the default price schedule for the item. If the price for each product associated with a bill item is not the same, the max price will be shown.

9.4.1 Formulary Compliance Main Control

When the control is loaded, the Pharmacy Bill Item Summary will be selected by default. This summary will show all active pharmacy bill items analyzed. For HCPCS/QCF Issues, the selected HCPCS Schedule will be analyzed. The analyzed HCPCS schedule can be changed by selecting a different value from the drop-down above the tree view. The tree view on the left-hand side of the control can be used to navigate to other sections of the control, and is broken down by issue type. During analysis, if a bill item is determined to have a build issue, tests for other sections will not be performed. This control may take time to load; please note the spinning blue loading icon which will appear in the upper left-hand corner of the control, where the Formulary Compliance icon normally is. The status bar at the bottom of the control will display information about the MultumTMdatabase being used for comparison.

Due to facility differences and the accuracy of data contained in Multum™, some recommendations may not be applicable. In this case, some issues can be reviewed and then ignored by users with the *Manage Formulary Compliance* privilege. To ignore an issue, or stop ignoring an issue, use the Context Menu on the grid. Multi-select may be used to ignore/stop ignoring multiple issues at once.

By default, Panther excludes Revenue Codes 0250, 0258, and 0637. If you need Panther to include those Revenue Codes, or to exclude additional Revenue Codes, please contact Panther Support.



Investigational Drugs

If investigational drugs are flagged by the control, use the ability to ignore bill item issues to note that these are investigational drugs and therefore the HCPCS and QCF do not apply. If they are appearing in the Invalid NDC section, they can also be moved to the Facility Driven NDC section by updating the Facility Driven NDC settings. See Figure 207.

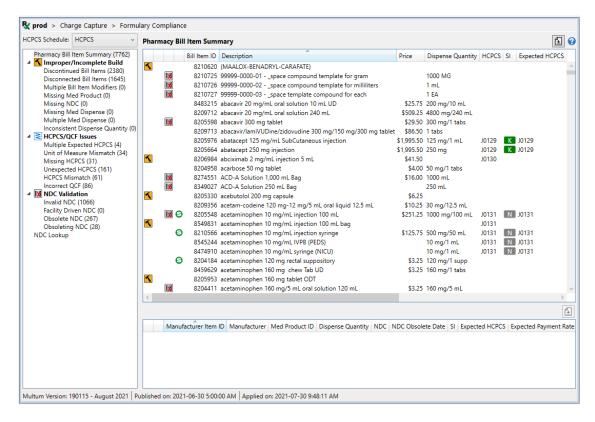


Figure 195: Formulary Compliance Control

To refresh the data on this control, right-click in the navigational tree view on the left-hand side of the control to access the context menu and select the Refresh option. Data will not be automatically refreshed on this control.



Recent Charges and Dispenses

The Formulary Compliance control searches the last seven days when determining recent charges and dispenses within the control.

The Formulary Compliance control uses several icons to help indicate the types of issues found as well as other information. Please refer to Table 65 for more details.

Image	Indication	Description
~	Improper/Incomplete Build	The control is unable to fully analyze this bill item due to issues with the build. This may be caused by an improper build, or may just mean that the build of the bill item is in progress and not yet complete.
W	HCPCS/QCF Issue	The HCPCS or QCF defined for this bill item either could not be validated or does not match the value the control expects.
134	NDC Validation Issue	On bill item - The bill item has products associated with it that have invalid, obsoleting, or obsolete NDCs. On product - The NDC defined for the product is invalid, obsoleting or obsolete.
9	Recent Charges	The bill item has recent charges.
	Recent Dispenses	The product has recently been dispensed.
-	Ignored Issue	The issue for the bill item or NDC has been ignored by a user. Hover over the icon to see a tooltip with information about who ignored the issue and why.

Table 65: Indicator Icons

There are several columns that commonly occur throughout the Formulary Compliance control. Please refer to Table 66 for more details about the source for the data displayed in each column.

Client Build	Derived from Multum™
Bill Item ID	Expected HCPCS
Description	Expected HCPCS Volume
Dispense Volume	Expected QCF (calculated)
HCPCS	NDC Obsolete Date
QCF	
Other HCPCS Schedules	
Manufacturer Item ID	
Manufacturer	
Med Product ID	
NDC	
Price (calculated using default price schedule)	

Table 66: Common Columns

9.4.2 Pharmacy Bill Item Summary

The Pharmacy Bill Item Summary displays all active pharmacy bill items analyzed by the control. It will show which types of issues were detected for each bill item as well as indicate if there were recent charges for the bill item. If the bill item has a HCPCS/QCF issue, the issue can be ignored or stop being ignored from the summary using the Context Menu. See Figure 197.

When a bill item is selected, the lower right-hand panel will display all products associated with the bill item, as well as indicate if any NDC validation issues were detected for the displayed products. NDC validation issues can be ignored or stop being ignored from this section using the Context Menu. See Figure 198.

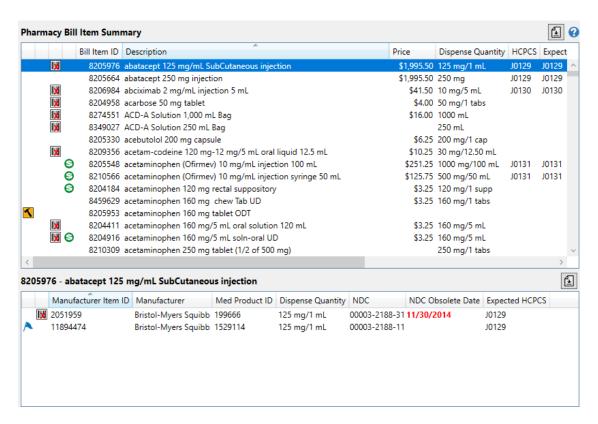


Figure 196: Pharmacy Bill Item Summary

Right-clicking the mouse in the Pharmacy Bill Item Summary grid will open the Context Menu. See Figure 197.

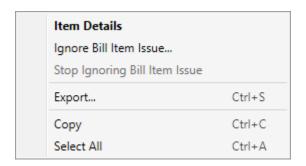


Figure 197: Pharmacy Bill Item Summary Context Menu

Menu Option	Description
Item Details	Navigates to the charge details for the bill item.
Ignore Bill Item Issue	Ignores the selected bill items, or updates the reason if the bill item is already ignored. Only HCPCS/QCF issues can be ingored from the summary.
Stop Ignoring Bill Item Issue	Stops ignoring the selected bill items. Only HCPCS/QCF issues can be uningored from the summary.
Export	Exports data to .csv or .xslx file.
Сору	Copies the text of the selected rows to the clipboard.
Select All	Selects all of the currently displayed rows.

Table 67: Pharmacy Bill Item Summary Context Menu

Right-clicking the mouse in the Med Products grid will open the Context Menu. See Figure 198.

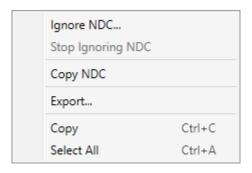


Figure 198: Med Product Context Menu

Menu Option	Description
Ignore NDC	Ignores the NDCs for the selected products, or updates the reason if the NDC is already ignored.
Stop Ignoring NDC	Stops ignoring the NDCs for the selected products.
Copy NDC	Copies the selected item's NDC to the clipboard.
Export	Exports data to .csv or .xslx file.
Сору	Copies the text of the selected rows to the clipboard.
Select All	Selects all of the currently displayed rows.

Table 68: Med Product Context Menu

9.4.3 Improper/Incomplete Build

The Improper/Incomplete Build section is broken down by build issue analyzed with counts of the number of bill items found with the issue. When selecting the *Improper/Incomplete Build* node, the righthand side will display a breakdown of issues and bill item counts. It is possible for a bill item to have more than one build issue.

To view the details for a build issue, select it in the tree view, or right-click the issue in the *Improper/Incomplete Build* view and select *Item Details*. Double-clicking the row will also display the details for the issue. For more information about the types of build issues detected, please refer to Table 69.

Improper/Incomplete Build Issue	Description
Discontinued Bill Items	These bill items are no longer attached to active/effective manufacturer items or med def flex records, but begin with zzz indicating they are intended to be inactive.
Disconnected Bill Items	These bill items are no longer attached to active/effective manufacturer items or med def flex records.
Multiple Bill Item Modifiers	There is more than one Medicare HCPCS code associated with this bill item.
Missing Med Product	The med product related to this manufacturer item does not exist.
Missing NDC	Either there is no NDC defined for the med product, or there are no NDCs for the med def flex id.
Missing Med Dispense	A product associated with this bill item does not have a med dispense record associated with it. Therefore, the tool cannot determine the dispense volume for the bill item.
Multiple Med Dispense	A product is associated with multiple Med Dispense records. Therefore, the tool is unable to determine the correct dispense volume for the product.
Inconsistent Dispense Volume	The inconsistent dispense volume issue indicates that there are multiple products associated with this bill item and they do not have the same dispense volume.

Table 69: Improper/Incomplete Build Issues

When viewing a specific build issue, the top portion of the right-hand panel will display the details available for this bill item. When a bill item is selected, with the exception of the Discontinued and Disconnected Bill Items views, the lower right-hand panel will display all products associated with the bill item, as well as indicate if any NDC validation issues were detected for the displayed products. NDC validation issues can be ignored or stop being ignored from this section using the Context Menu. See Figure 198.

Due to facility differences, some build issues may not be of concern. In this case, issues can be reviewed and then ignored by users with the *Manage Formulary Compliance* privilege. To ignore an issue, or stop ignoring an issue, use the Context Menu on the bill item grid. Build issues are ignored for all HCPCS schedules. See Figure 201. Multi-select may be used to ignore/stop ignoring multiple issues at once.

Ignored issues are hidden from view by default, but can be viewed by selecting the *View ignored issues* checkbox at the bottom of the bill item grid.

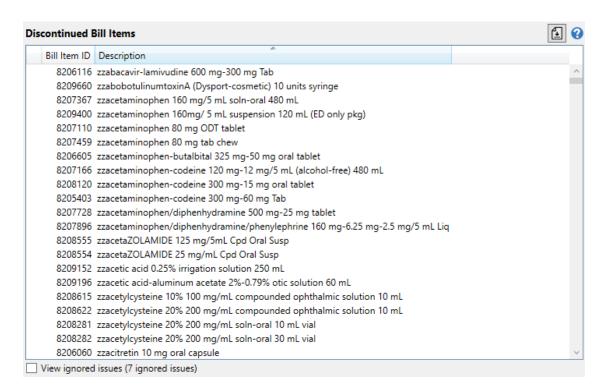


Figure 199: Improper/Incomplete Build Issue - Discontinued Bill Items

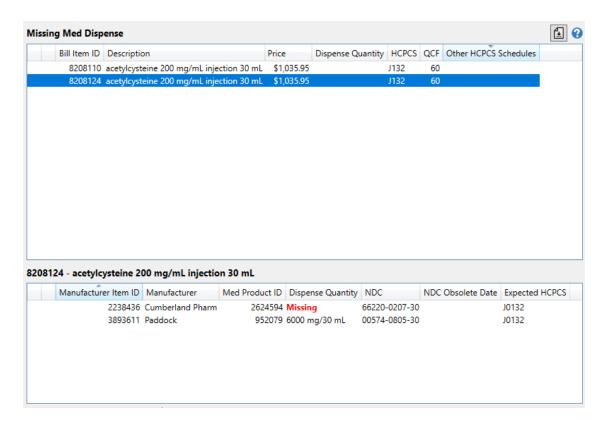


Figure 200: Improper/Incomplete Build Issue - Missing Med Dispense

Right-clicking the mouse in the bill item grids will open the Context Menu. See Figure 201.

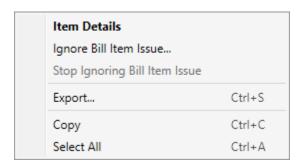


Figure 201: Improper/Incomplete Build Context Menu

Menu Option	Description
Item Details	Navigates to the charge details for the bill item.
Ignore Bill Item Issue	Ignores the selected bill items, or updates the reason if the bill item is already ignored.
Stop Ignoring Bill Item Issue	Stops ignoring the selected bill items. All selected bill items must be ignored for this option to be enabled.
Export	Exports data to .csv or .xslx file.
Сору	Copies the text of the selected rows to the clipboard.
Select All	Selects all of the currently displayed rows.

Table 70: Improper/Incomplete Build Context Menu

Right-clicking the mouse in the Med Products grid will open the Context Menu. See Figure 198.

9.4.4 HCPCS/QCF Issues

The HCPCS/QCF Issues section is broken down by issue analyzed with counts of the number of bill items found with the issue. When selecting the HCPCS/QCF Issues node, the righthand side will display a breakdown of issues and bill item counts. Issues that have been ignored will not be included in the counts. Each bill item will be analyzed for HCPCS/QCF issues in the order of the issues listed. For example, if a bill item has an incorrect HCPCS and QCF, it will only appear in the HCPCS Mismatch section.

To view the details for an issue, select it in the tree view, or right-click the issue in the *HCPCS/QCF Issues* view and select *Item Details*. Double-clicking the row will also display the details for the issue. For more information about the types of HCPCS/QCF issues detected, please refer to Table 71.

HCPCS/QCF Issue	Description
Multiple Expected HCPCS	The NDCs associated with the bill item have varying expected HCPCS codes. All products within a bill item should use the same HCPCS code.
Unit of Measure Mismatch	The dispense volume units and the units of the expected HCPCS do not match. Therefore, an expected QCF cannot be determined.
Missing HCPCS	The bill item does not have a HCPCS code defined, but there is an expected HCPCS based on the NDCs associated with this bill item.
Unexpected HCPCS	There is a HCPCS code defined for the bill item, however based on the NDCs associated with the bill item, there should not be a HCPCS code defined.
HCPCS Mismatch	There is a HCPCS code defined for the bill item, but it does not match the expected HCPCS code.
Incorrect QCF	The HCPCS code is correct, however the QCF does not match the expected QCF.
CMS Billing Unit Mismatch	The CMS Billing Units are inconsistent across multiple med products, or the CMS Billing Unit does not match the Expected HCPCS Volume.

Table 71: HCPCS/QCF Issues

When viewing a specific issue, the top portion of the right-hand panel will display the details available for this bill item. When a bill item is selected, the lower right-hand panel will display all products associated

with the bill item, as well as indicate if any NDC validation issues were detected for the displayed products. NDC validation issues can be ignored or stop being ignored from this section using the Context Menu.

Due to facility differences and the accuracy of data contained in Multum™, some recommendations may not be applicable. In this case, issues can be reviewed and then ignored by users with the *Manage Formulary Compliance* privilege. To ignore an issue, or stop ignoring an issue, use the Context Menu on the bill item grid. HCPCS/QCF Issues are only ignored for the currently selected HCPCS schedule. See Figure 203. Multi-select may be used to ignore/stop ignoring multiple issues at once.

Ignored issues are hidden from view by default, but can be viewed by selecting the *View ignored issues* checkbox at the bottom of the bill item grid.

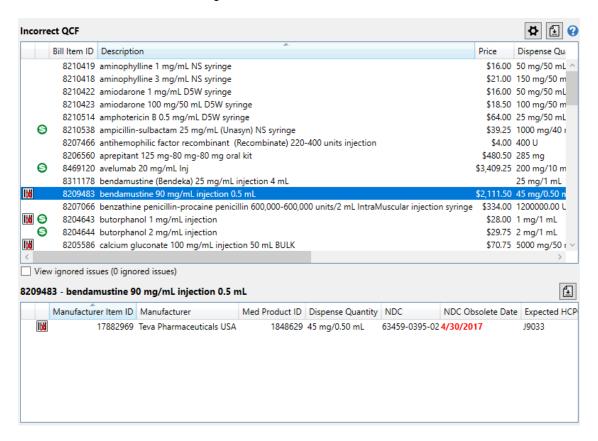


Figure 202: HCPCS/QCF Issues - Incorrect QCF

Right-clicking the mouse in the bill item grid will open the Context Menu. See Figure 203.

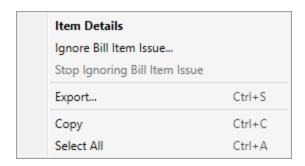


Figure 203: HCPCS/QCF Issues Context Menu

Menu Option	Description
Item Details	Navigates to the charge details for the bill item.
Ignore Bill Item Issue	Ignores the selected bill items, or updates the reason if the bill item is already ignored.
Stop Ignoring Bill Item Issue	Stops ignoring the selected bill items. All selected bill items must be ignored for this option to be enabled.
Export	Exports data to .csv or .xslx file.
Сору	Copies the text of the selected rows to the clipboard.
Select All	Selects all of the currently displayed rows.

Table 72: HCPCS/QCF Issues Context Menu

Right-clicking the mouse in the Med Products grid will open the Context Menu. See Figure 198.

The Incorrect QCF view is slightly different than the other HCPCS/QCF Issues views. It contains a *Percent Billed* column, as well as access to setting a deviation allowed for the Percent Billed. The settings icon appears in the top right of the control before the export icon if the user has the *Manage Formulary Compliance* privilege. Clicking the icon will open a dialog that will allow the user to set the allowed deviation, ranging from 0 to 100. See Figure 204. Items with a percent billed within the range will not be counted as Incorrect QCF issues. When this setting is udpated, the control will automatically refresh.

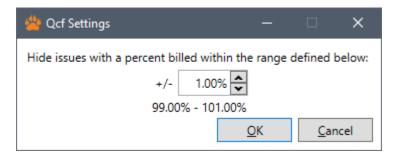


Figure 204: QCF Settings Dialog

9.4.5 NDC Validation

The NDC Validation section is broken down by issue analyzed with counts of the number of bill item products found with the issue. When selecting the NDC Validation node, the righthand side will display a breakdown

of issues and bill item product counts. Issues that have been ignored will not be included in the counts. All products for each bill item will be analyzed for NDC validation issues. Since there can be multiple products for each bill item, a bill item ID may appear more than once. In addition, since a product can be associated with multiple bill items, an NDC may appear more than once.

To view the details for an issue, select it in the tree view, or right-click the issue in the *NDC Validation* view and select *Item Details*. Double-clicking the row will also display the details for the issue. For more information about the types of NDC Validation issues detected, please refer to Table 73.

NDC Validation Issue	Description
Invalid NDC	The NDC is not valid, and is not defined as a facility driven NDC.
Facility Driven NDC	The NDC is not valid, but was defined by the facility.
Obsolete NDC	The NDC has become obsolete.
Obsoleting NDC	The NDC will become obsolete within the next 30 days.

Table 73: NDC Validation Issues

When viewing a specific issue, the right-hand panel will display the details available for the product and bill item.

Due to facility differences and the accuracy of data contained in MultumTM, some recommendations may not be applicable. In this case, issues can be reviewed and then ignored by users with the *Manage Formulary Compliance* privilege. To ignore an issue, or stop ignoring an issue, use the Context Menu on the grid. See Figure 206. Multi-select may be used to ignore/stop ignoring multiple issues at once.

Ignored issues are hidden from view by default, but can be viewed by selecting the *View ignored issues* checkbox at the bottom of the grid.

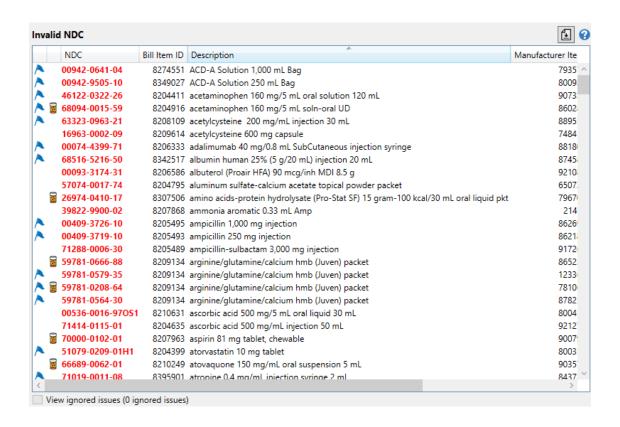


Figure 205: NDC Validation - Invalid NDC

Right-clicking the mouse in the grid will open the Context Menu. See Figure 206.

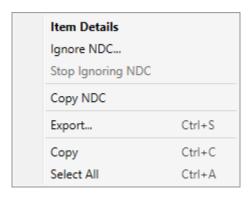


Figure 206: NDC Validation Context Menu

Menu Option	Description
Item Details	Navigates to the dispense details for the product.
Ignore NDC	Ignores the NDCs for the selected products, or updates the reason if the NDC is already ignored.
Stop Ignoring NDC	Stops ignoring the NDCs for the selected products.
Copy NDC	Copies the selected item's NDC to the clipboard.
Export	Exports data to .csv or .xslx file.
Сору	Copies the text of the selected rows to the clipboard.
Select All	Selects all of the currently displayed rows.

Table 74: NDC Validation Context Menu

The Facility Driven NDC section is slightly different. This section separates NDCs that have been determined by the control to be invalid, but the control settings indicate that they have been defined by the facility. These issues cannot be ignored.

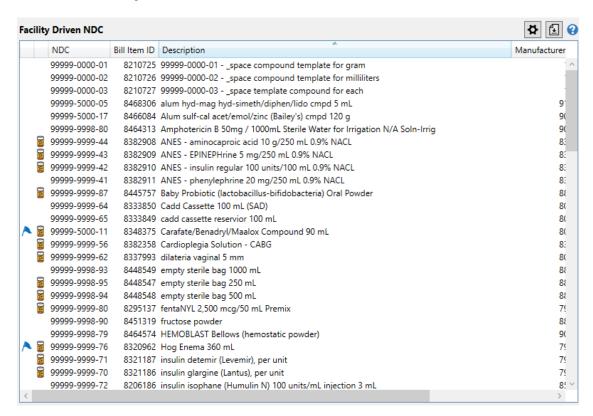


Figure 207: NDC Validation - Facility Driven NDC

For users with the *Manage Formulary Compliance* privilege, a settings icon will appear in the upper right-hand corner of the control next to the export icon. These settings are how the control determines if an invalid NDC was defined by the facility. Users with access to the settings can add, edit, and remove these settings. When these settings are updated, the main control will automatically refresh.

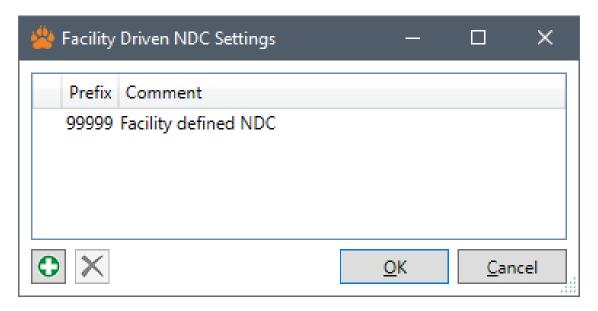


Figure 208: Facility Driven NDC Settings

Right-clicking the mouse in the grid will open the Context Menu. See Figure 209.



Figure 209: Facility Driven NDC Context Menu

Menu Option	Description
Item Details	Navigates to the dispense details for the product.
Export	Exports data to .csv or .xslx file.
Сору	Copies the text of the selected rows to the clipboard.
Select All	Selects all of the currently displayed rows.

Table 75: Facility Driven NDC Context Menu

9.4.6 Bill Item Details Dialog

The selected items bill item ID is displayed in the title bar of the dialog. The charge details for the last seven days are then displayed in the grid with totals being displayed under the grid. This data may take some time to retrieve; please note the loading icon in the lower right-hand corner of the dialog.

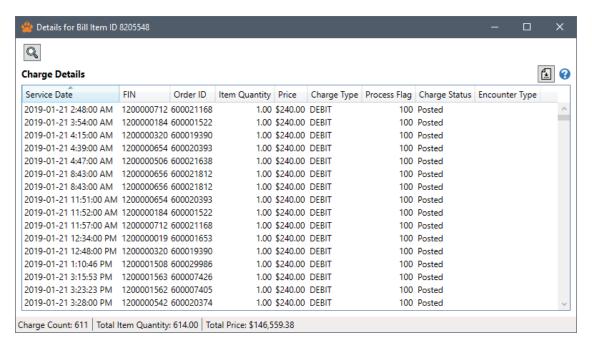


Figure 210: Bill Item Details Dialog

The search icon allows the user to adjust the date range of the search. The maximum search range is 3 months.

Right-clicking the mouse in the grid will open the Context Menu.



Figure 211: Formulary Compliance Details Context Menu

Menu Option	Description	
Copy FIN	Copies the FIN to the clipboard.	
Copy Order ID	Copies the order ID to the clipboard.	
Export	Saves all items to .csv or .xlsx file.	
Сору	Copies the text of the selected rows to the clipboard.	
Select All	Selects all of the currently displayed rows.	

Table 76: Formulary Compliance Details Context Menu

9.4.7 Dispense Details Dialog

The NDC for the selected product is displayed in the title bar of the dialog. The dispense details for the last seven days are then displayed in the grid with totals being displayed under the grid. This data may take some time to retrieve; please note the loading icon in the lower right-hand corner of the dialog.

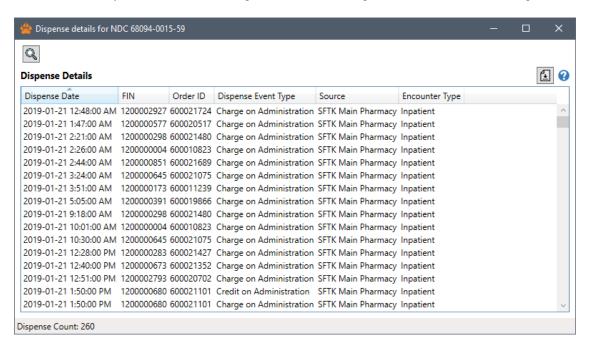


Figure 212: Dispense Details Dialog

The search icon allows the user to adjust the date range of the search. The maximum search range is 3 months.

Right-clicking the mouse in the grid will open the Context Menu. See Figure 211.

9.4.8 NDC Lookup

The NDC Lookup section allows the user to search the data contained in Multum™to see the expected HCPCS information. A full or partial NDC may be searched with or without dashes.

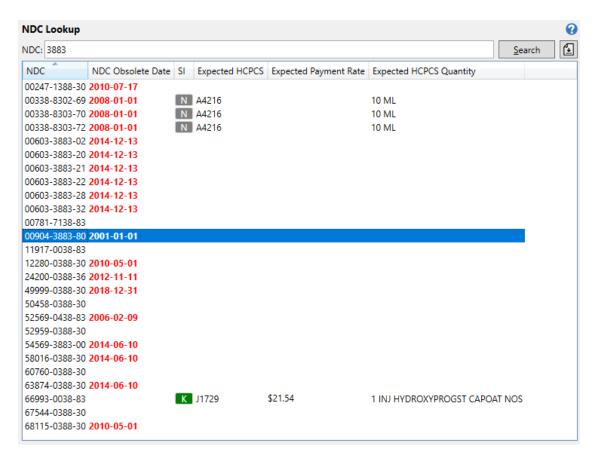


Figure 213: NDC Lookup



Figure 214: Formulary Compliance NDC Lookup Menu

Menu Option	Description
Export	Exports data to .csv or .xslx file.
Сору	Copies the text of the selected rows to the clipboard.
Select All	Selects all of the currently displayed rows.

Table 77: Formulary Compliance NDC Lookup Context Menu

9.5. Implant Recall Control

The Implant Recall control provides a means for the user to search for usages of specific implants, to aid in the process of identifying surgeries involving recalled implants.

To view the Implant Recall control, select the *Implant Recall* item in the Domain Explorer (Figure 215).

In the upper left corner is the Search button, which will launch the Search dialog. You must first define search criteria using the Search dialog in order to perform a search.

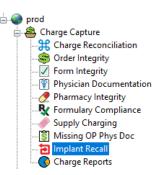


Figure 215: Domain Explorer

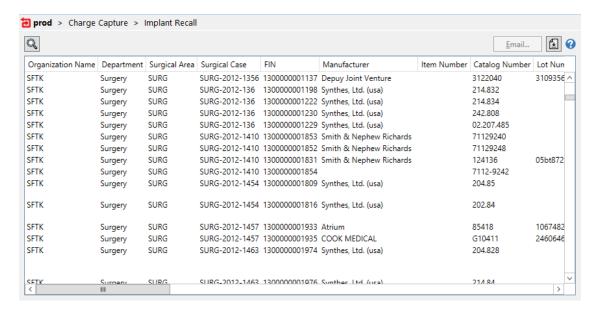


Figure 216: Implant Recall Control

To the upper right, there is an *Email...* button, which will launch a dialog allowing you to email the selected rows.

To the right of that is a *Export* icon. This allows you to save the currently displayed data in CSV or Excel[®] format

When the Export button is clicked, the Windows "Save As" dialog will appear, prompting the user to select a name and location for the file. The grid data can also be selected and copied by using keyboard shortcuts or the context menu.

To view the context menu, select an item in the grid and right-click.

Menu Option	Description
Email	Launches the Email Details dialog.
Export	Saves the data shown in the grid to a user-selected file.
Сору	Copies the text of the selected rows to the clipboard.
Select All	Selects all rows.

Table 78: Implant Recall Context Menu

9.5.1 Search

The Search dialog allows the user to limit implant results by providing one or more Universal Device Identifier (UDI)s.

There can be at most one Device Identifier defined by the search criteria. Multiple Production Identifiers can be defined, and each should be placed on a separate line. At least one field must contain text.

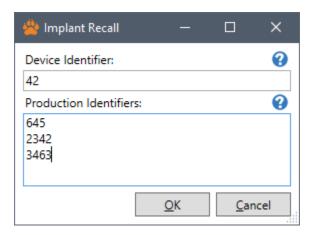


Figure 217: Search dialog

9.5.2 Email Details

To send any number of records via email, select the records you wish to send, and click the *Email...* button or right-click and select *Email...* from the context menu.

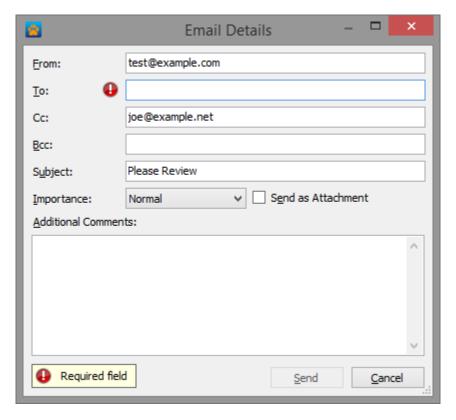


Figure 218: Email Details dialog

This will open the Email Details dialog (Figure 218) with the *From* field populated with your user email address (if you have set one up in Email Preferences) and the Subject filled in as "Recalled Implant Details".

In order to send the email, you are required to provide one or more email addresses in the *To* field separated by commas.

9.6. Missing OP Phys Doc Control

The Missing OP Phys Doc control shows the outpatient encounters in Millennium that have no documentation from physicians. This control does not make any modifications to the data in Millennium and does not interact with the billing system.

To view the Missing OP Phys Doc control, select the *Missing OP Phys Doc* item in the Domain Explorer (Figure 219).

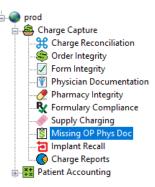


Figure 219: Domain Explorer

Facilities

The facilities view allows undocumented encounters to be viewed by facility. Clicking a tree on the left will show the encounter list for the selected item. The top level of the tree shows facilities. The second level of the tree shows med services. The third level of the tree shows nurse units. Each item in the tree shows the number of encounters without documentation in parenthesis.

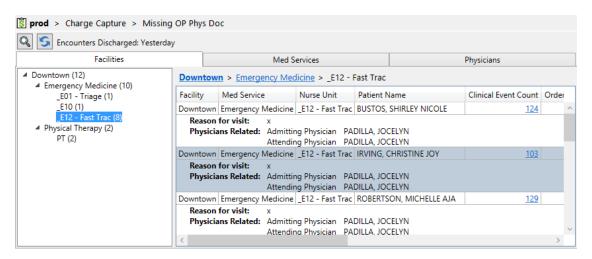


Figure 220: Facilities

Med Services

The med service view allows undocumented encounters to be viewed by med service. Clicking a tree on the left will show the encounter list for the selected item. The top level of the tree shows med services. The second level of the tree shows Facilities. The third level of the tree shows nurse units. Each item in the tree shows the number of encounters without documentation in parenthesis.

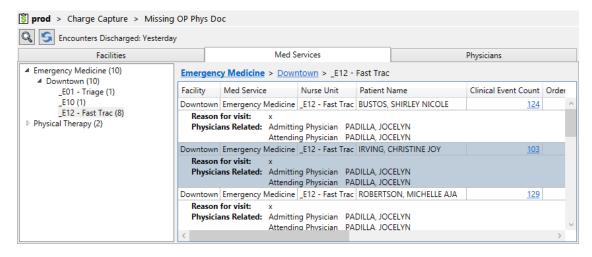


Figure 221: Med Services

Physicians

The physician view allows undocumented encounters to be viewed by physician. Clicking a physician will show the encounter list containing encounters the physician is related to.

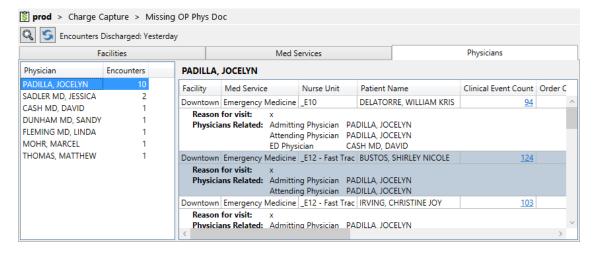


Figure 222: Physicians

9.6.1 Encounter List

The encounter list shows outpatient encounters with no physician documentation for the selected item.

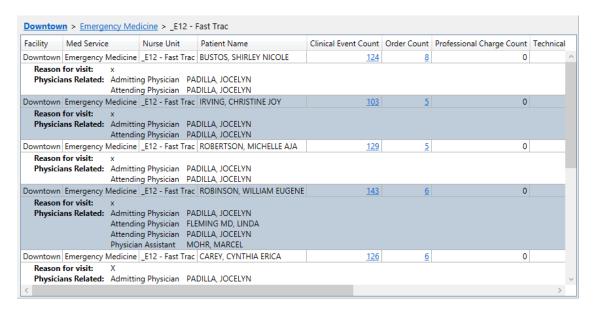


Figure 223: Encounters

Links shown above the encounter list can be clicked to change the current view. (Figure 224).



Figure 224: Bread Crumbs

The duration of an encounter may be highlight to indicate problems with the encounter. See table 79 for more details.

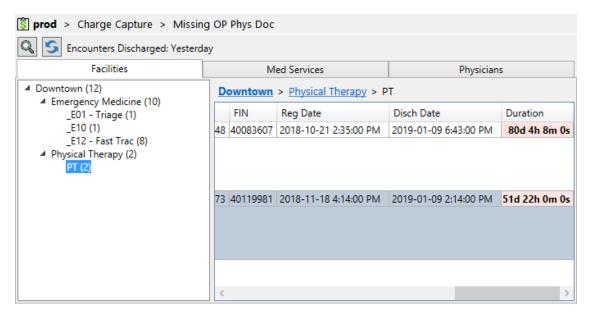


Figure 225: Highlighted Encounter Durations

Color	Description
Yellow	The duration for the was below 15 minutes. The patient may have left against medical advice and not received treatment.
Reds	The duration exceeded 24 hours. The encounter may need to be classified as in inpatient.

Table 79: Missing OP Phys Doc Duration Highlighting Rules

From the encounter list, additional information for the encounter can be retrieved by clicking links in the count columns or by selecting an item from the context menu.

Right-clicking the mouse in the encounter list table will open the Context Menu. See figure 226.

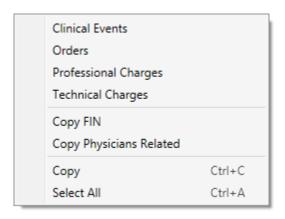


Figure 226: Missing OP Phys Doc Encounter List Context Menu

Menu Option	Description
Clinical Events	Navigates to the clinical events view for the selected row.
Orders	Navigates to the orders view for the selected row.
Professional Charges	Navigates to the professional charges view for the selected row.
Technical Charges	Navigates to the technical charges view for the selected row.
Copy FIN	Copies the FIN number of the selected row to the clipboard.
Copy Physicians Related	Copies the related physicians and relationships of the selected row to the clipboard.
Сору	Copies the text of the selected rows to the clipboard.
Select All	Selects all of the currently displayed Departments.

Table 80: Missing OP Phys Doc Encounter List Context Menu

Clinical Events

The clinical event view displays all clinical events for the encounter.

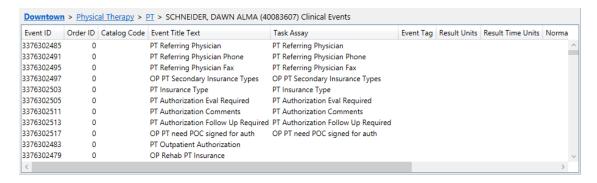


Figure 227: Clinical Events

Orders

The orders view displays orders for the encounter with the status of *Complete*, *In Process*, *Ordered*, *Pending Complete*, or *Pending Review*.

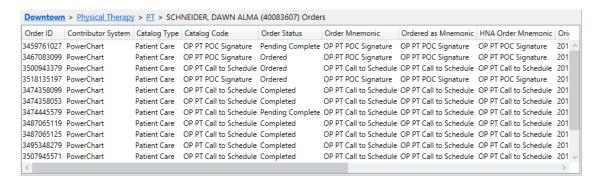


Figure 228: Orders

Professional Charges

The professional charge view displays professional charges for the encounter. Professional charges are identified as any charge from a tier group with *PRO* in the tier group's name.

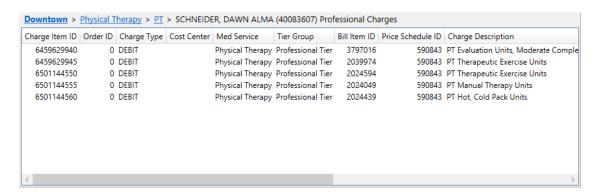


Figure 229: Professional Charges

Technical Charges

The technical charge view displays technical charges for the encounter. Technical charges are identified as any charge from a tier group without *PRO* in the tier group's name.



Figure 230: Technical Charges

9.6.2 Search

The Physician Documentation control provides the ability to provide search critera to restrict its data by date range, encounter type, facility, and med service. The search icon displays a dialog that will allow the user to change the search critera. (figure 231).

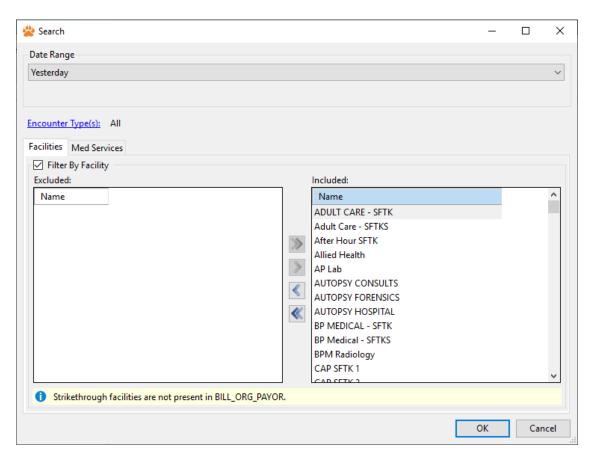


Figure 231: Search Dialog

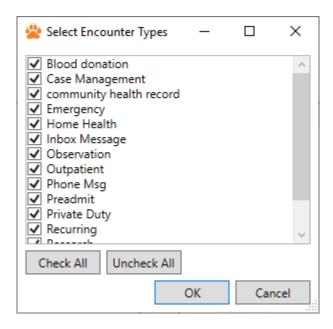


Figure 232: Select Encounter Types Dialog

In addition to preset data ranges, a custom date range can also be selected. However, due to the volume of data being analyzed, date ranges are limited to 31 days.

When a Facility is present in the "organization" table but not in the "BILL_ORG_PAYOR" table, it is denoted by a strikethrough.

The search criteria will apply to all tabs in the main control.



Search Hover help

The OP Phys Doc control provides additional information in the form of hover tooltips. Hover the mouse cursor over the Search Button to see the tooltip. See figure 233.

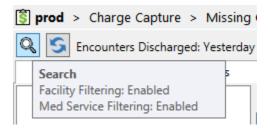


Figure 233: Hover criteria

9.7. Order Integrity Control

The Order Integrity control shows the recent orders and charges in Millennium and helps to ensure that orders result in charges. This control does not make any modifications to the data in Millennium and does not interact with the billing system.

To view the Order Integrity control, select the *Order Integrity* item in the Domain Explorer (Figure 234).

On the Order Integrity Control's main screen, and on its primary dialogs, there is a export icon. This allows you to save the currently displayed data in CSV or Excel[®] format.

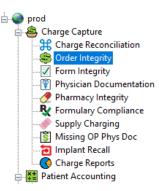


Figure 234: Domain Explorer



Patient Discharge Timing

Often times charges are held until the patient is discharged from the hospital. This is why, by default, the Order Integrity control only analyzes orders that have a "Completed" status for encounters that have a "Discharged" status. The search critera can be changed to analyze "Completed" orders for "Active" encounters.

9.7.1 Orderable Summaries

Three orderable summary views are available at the top of the tree: Inconsistent, No Charge, and Posted. These views summarize the data within each department over the currently selected date range. If a department has no orderables in the summary category, that department will not show up in the grid. Ignored orderables are not included in the summary category counts. Double-clicking or selecting *View Department* from the context menu will select the department in the tree and select the view corresponding to the summary.

Inconsistent Orderable Summary

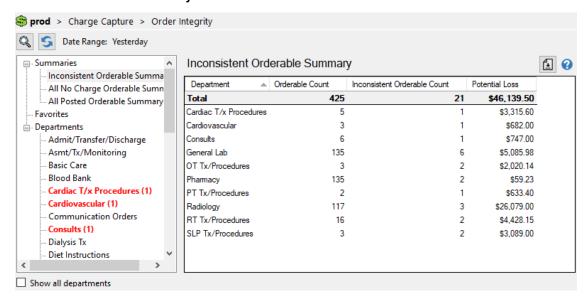


Figure 235: Inconsistent Orderable Summary

All No Charge Orderable Summary

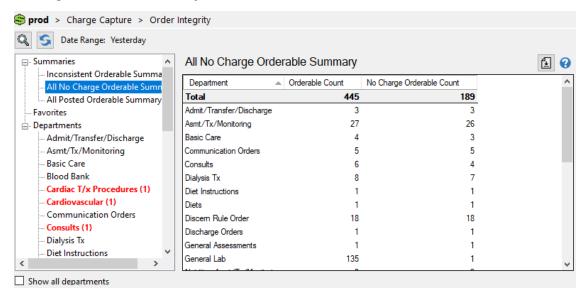


Figure 236: All No Charge Orderable Summary

All Posted Orderable Summary

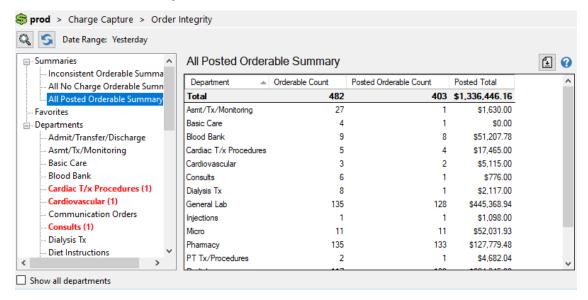


Figure 237: All Posted Orderable Summary

Right-clicking the mouse in the Summary tables will open the Summary Context Menu. See figure 238.

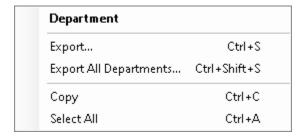


Figure 238: Order Integrity Summary Context Menu

Menu Option	Description
Department	Navigates to the Department Summary table.
Export	Exports the data shown in the grid to a user-selected file.
Export All Departments	Exports all Orderables from all Departments that match the Orderable Status of the table. See table 82 for more details.
Сору	Copies the text of the selected rows to the clipboard.
Select All	Selects all of the currently displayed Departments.

Table 81: Order Integrity Orderable Summary Context Menu

9.7.2 Department Summary

The *Departments* item in the tree shows a summary of orderable counts for each department as well as how many were classified as Inconsistent, No Charge, and Posted. Ignored orderables do not count toward the different categories but are still included in the overall orderable count for each department.

From the department summary view, more information about a single department can be retrieved by double-clicking the department or by selecting the *Department* context menu item. This will navigate to the Department Detail view.

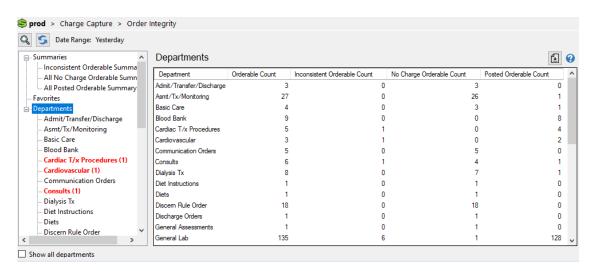


Figure 239: Order Integrity Department Summary

9.7.3 Department Detail

The tree contains a list of all of the departments. Selecting a department in the tree will show a summary of that department, containing all of the orderables for that department with orders matching the search criteria. Ignored orderables will not will not be shown in this view by default. A user may select the *View ignored orderables* checkbox to see any ignored orderables matching the other filter criteria.

Orders that only have offset charges will appear in the *Offset Charge* column and orders that only have statistics only charges will appear in the *Stats Only Count* column. These orders will not affect the status of the orderable unless all orders are offset or stats only, in which case the orderable will be considered posted.

From the department view, more information about a single orderable can be retrieved by double-clicking the orderable or by selecting the *Orders* context menu item. This will open the Orderable Details dialog.

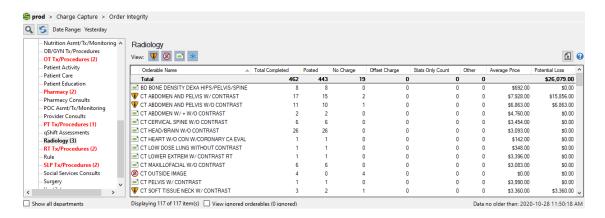


Figure 240: Order Integrity Department

By default, departments without orders are hidden from the tree. They can be shown by checking the *Show All Departments* checkbox. See figure 241.

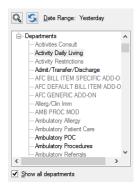


Figure 241: Show all departments

Users can use the context menu to *Ignore Orderable Status* and *Stop Ignoring Orderable Status*. Only users with the *Manage Order Integrity* privilege may perform these actions. Ignoring an orderable only ignores the current status. For example, if the orderable is in an All No Charge status when it is ignored, but is an Inconsistent status for a different date range, then it will not show as ignored when it has an Inconsistent status.

Department Views

The orderables grid for a department can be filtered using the *View* buttons above the orderables grid. The views filter on the status of each orderable row in the grid. See table 82 for more details.

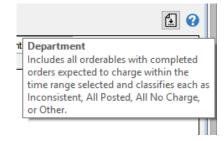
Image	Status	Description
V	Inconsistent	An orderable is inconsistent when some of the orders resulted in Posted or Offset Charge charges and some resulted in No Charge.
8	All No Charge	An order is classified as No Charge if there is not a corresponding charge. An orderable is classified as All No Charge when all orders are No Charge.
	All Posted	An order is classified as Posted when all corresponging charges have a posted status, or have been offset. An order is classified as Offset Charge when all corresponding charges for the order indicate that they have been offset. An orderable is classified as All Posted when all orders are Posted or Offset Charge.
*	Other	An order is classified as Other when any of the corresponding charges that have not been offset, have a status that is not Posted. An orderable is classified as Other when it is not Inconsistent, and there is at least one order classified as Other.

Table 82: Orderable Statuses



Hover help

The Order Integrity control provides additional information in the form of hover tooltips. Hover the mouse cursor over the question mark icon to see the tooltip. See figure 242.



Favorites

Figure 242: Hover help

The Order Integrity tree contains a section for favorites where departments can be pinned for easy access. Right click on a department in the tree to add or to remove it from favorites. Favorited departments will be visible regardless of whether they have any orders.

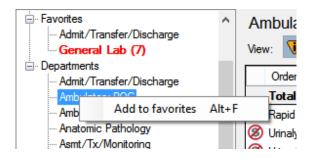


Figure 243: Add Favorite

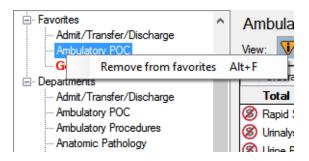


Figure 244: Remove Favorite

9.7.4 Searching

The Order Integrity control provides the ability to search by date range, encounter status, encounter type, tier group, and facility. The search icon displays a dialog that will allow the user to change these criteria. (figure 245).

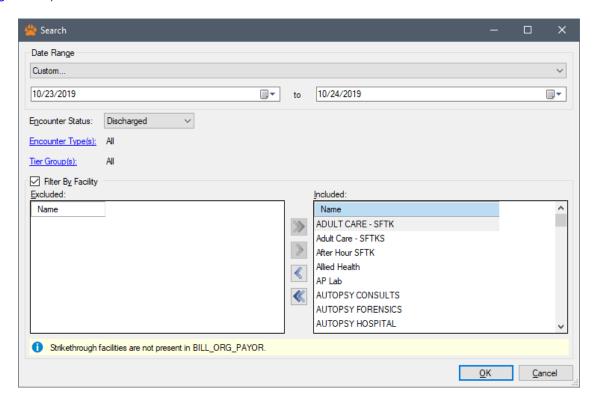
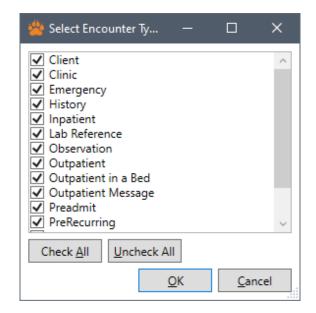


Figure 245: Search Filters Dialog



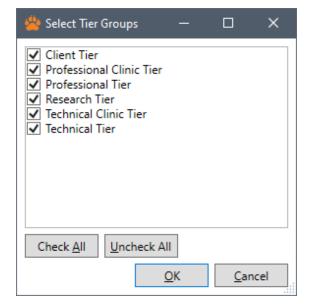


Figure 246: Select Encounter Types Dialog

Figure 247: Select Tier Groups Dialog

In addition to preset data ranges, a custom date range can also be selected. However, due to the volume of data being analyzed, date ranges are limited to 31 days.

When a Facility is present in the "organization" table but not in the "BILL_ORG_PAYOR" table, it is denoted by a strikethrough.

The search critera used will apply to the summary data seen in the main control as well as the data seen within the Orderable Details dialog.



The Order Integrity control provides additional information about the current search in the form of hover tooltips. Hover the mouse cursor over the Search Button to see the tooltip. See figure 248.

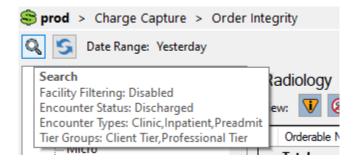


Figure 248: Hover criteria

9.7.5 Orderable Details

The top grid shows a breakdown of the statuses for the orders that match the search criteria.

The Charge Comparison tree on the left highlights differences between No Charge orders and the rest of the visible orders. All values for No Charge orders are displayed under each field. If none of the other orders have the same value it will be denoted by bold, red text. If a Facility is present in the "organization" table, but is absent from the "bill_org_payor" table, it is denoted with a strikethrough. This can be used to help identify build issues.

Item attributes in the main grid which match one of the bolded attributes in the Charge Comparison tree will also be bolded.

Flag icons indicate the order has offset charges. Stats Only icons indicate the order has statistics only charges. Offset and Stats Only charges are not reflected in the *Charge Count* column. Additional details about these orders/charges can be viewed in the Order Details or Encounter Order Details dialog.

The Order Details dialog is accessible from the Orderable Details screen by double-clicking on an order row in the grid or by selecting *View Details For Order* in the context menu.

The Encounter Details dialog is accessible by selecting *View Orders For Encounter ID* in the context menu, see figure 250.

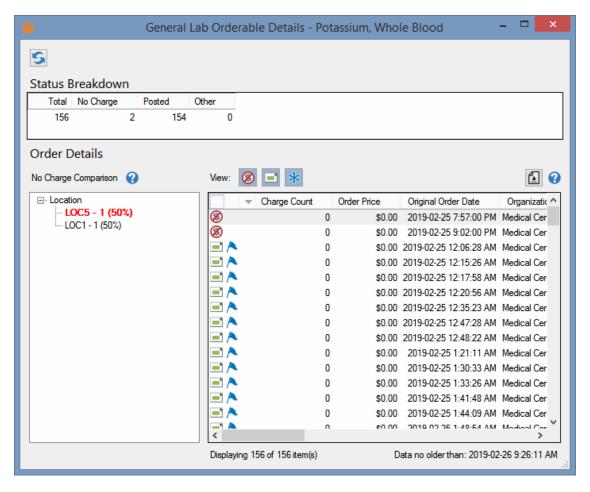


Figure 249: Orderable Details

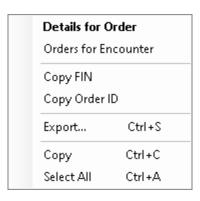


Figure 250: Order Integrity Department Context Menu

9.7.6 Order Details

The Order Details dialog shows all charges for the order selected from the Orderable Details dialog. Gray text indicates an offset or stats only charge.

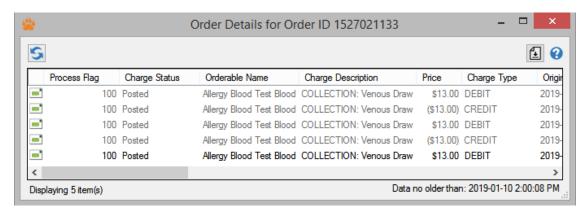


Figure 251: Order Details

9.7.7 Encounter Order Details

The Encounter Order Details dialog shows all orders/charges for a patient within the department and date range that match the Encounter ID of the order selected from the Orderable Details dialog.

The colored rows indicate which order was selected when the dialog was launched. Gray text indicates an offset or stats only charge.

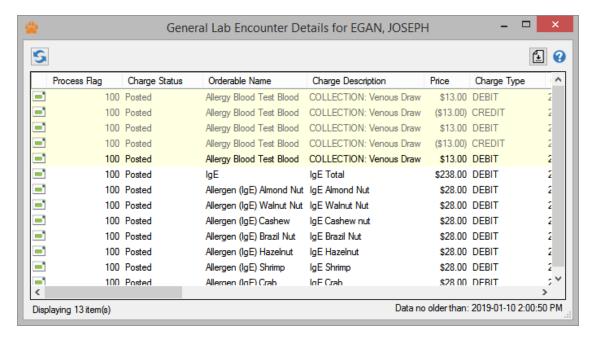


Figure 252: Patient Order Details

9.8. Pharmacy Integrity Control

The Pharmacy Integrity control shows charge discrepancies, documentation discrepancies, and shrinkage for pharmacy. The control analyzes all encounters discharged within the specified date range which have associated pharmacy orders. This control does not make any modifications to the data in Millennium, and does not interact with the billing system.

For in depth information about how calculations are done, see Appendix F.

To view the Pharmacy Integrity control, select the *Pharmacy Integrity* item, under the *Charge Capture* item, in the Domain Explorer (Figure 253).

There are two icons in the upper right-hand corner of the Pharmacy Integrity control. These are the Export button, and the Help icon.

The Export button allows you to save the currently displayed data in a CSV (comma-separated values) or XLSX (Microsoft Excel® workbook) format. When the Export button is clicked, the Windows "Save As" dialog will appear, prompting the user to select a name and location for the file. Data in all grids can also be selected and copied by using keyboard shortcuts or by right-clicking to access the context menu.

The Help icon provides additional information about the data currently being viewed. Hover the mouse cursor over the question mark icon to see an informational tooltip describing the data displayed.

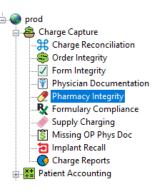


Figure 253: Domain Explorer



Rounding Information

The Pharmacy Integrity control rounds costs, prices, and quantities to two decimal places. Therefore, if a value is less than 0.005 it will show as 0.00.

9.8.1 Pharmacy Integrity Main Control

When the control is loaded, the default date range will be "Yesterday," and the other criteria used will be based on user preferences. The main control will show the Pharmacy Summary once data is retrieved and analyzed. This control may take time to load; please note the spinning blue loading icon which will appear in the upper left-hand corner of the control, where the Pharmacy Integrity icon normally is.

To determine whether an order is administered or not administered, and whether a drug is dispensed or returned, Panther references a list of defined codes, which can be configured by Panther Support.

By default, all orders with a status of Administered are counted as Administered.

By default, the following codes are considered to be Dispensed:

- · Cart Doses
- · Device Ad Hoc
- · Device Dispense
- · Device Dispense
- · Device Override

- · Device Override
- · Dispense
- · Dispense Count
- Dispense update
- · Dispenses / Day
- · Early Refill
- · Extra Dose
- Extra Refill
- Fill List
- · First Doses
- Initial Doses
- · Late Refill
- Next Dose

By default, the following codes are considered to be Not Administered:

- · Early/Late Reason
- · Expired Medication
- · Form/Form Match
- · Inactive Order Found
- · Incompatible Drug Form
- · Incompatible Drug Form Route
- · Incompatible Ingredients
- Incorrect Volume
- Med Interval Alert
- · Med Interval Override
- · Med Not Identified
- · Medication Scan Override
- · Missing Diluent
- No Order In System
- No Route Form Checking Performed
- · No Task in Time Range
- Not Administered/Task Purged
- Not Done
- · Not Given
- Overdose

- · Past Task Match
- · Patient Mismatch
- · Patient Not Identified
- PPID Override
- Pump Program and Documentation mismatch
- · Synonym Mismatch
- · Task Not Found
- Underdose

By default, the following codes are considered to be Returned:

- Cancel Fill
- Device Empty Return
- · Device Return
- · Fill Credit
- · Manual Reverse
- · Pharmacy Return
- Void Fill

Pharmacy Summary

The Pharmacy Summary breaks the data down by drug class, and shows how many drugs within each class have charge discrepancies, documentation discrepancies, and shrinkage. The Total row will show the total of each column. Each link will show the drug detail for the drug class and type of discrepancy selected. If a link is selected in the Total row, it will show drugs within all drug classes for the type of discrepancy selected.

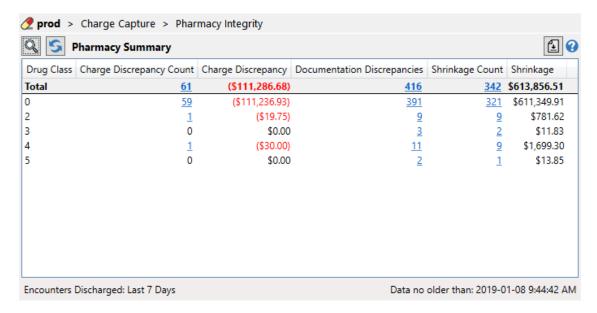


Figure 254: Pharmacy Summary

Right-clicking the mouse in the Pharmacy Summary grid will open the Summary Context Menu. See Figure 255.

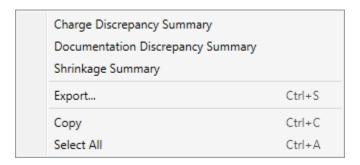


Figure 255: Pharmacy Integrity Summary Context Menu

Menu Option	Description
Charge Discrepancy Summary	Navigates to the Charge Discrepancy Summary grid.
Documentation Discrepancy Summary	Navigates to the Documentation Discrepancy Summary grid.
Shrinkage Summary	Navigates to the Shrinkage Summary grid.
Export	Saves the data displayed in the grid to a user-specified file.
Сору	Copies the text of the selected rows to the clipboard.
Select All	Selects all of the currently displayed rows.

Table 83: Pharmacy Integrity Summary Context Menu

Charge Discrepancy Summary

The Charge Discrepancy Summary lists all drugs for the selected drug class which have charge discrepancies, and how many encounters there are with discrepancies per drug. A charge discrepancy occurs when the actual number of charges or the actual charge total vary from what the tool calculates as the expected charge count and the expected charge total. The last column is the Charge Discrepancy, which is the difference between the actual and expected charge totals. To see details about the encounters for a drug, double-click the row, or right-click on the row and select and "Mnemonic Charges" in the context menu. Both of these options will navigate to the Charge Details for the selected drug.

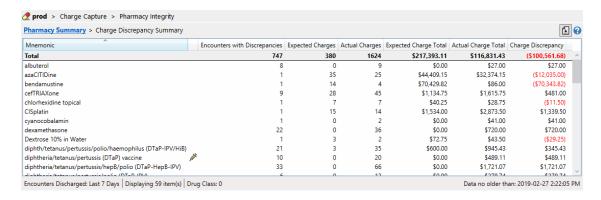


Figure 256: Charge Discrepancy Summary

Right-clicking the mouse in the grid will open the Charge Discrepancy Summary Context Menu. See Figure 257.

Drugs with one or more encounters for which there was an administration of a drug with a funding source marked as ignored will be indicated with an icon in the "Has Administration(s) from Ignored Funding Sources" column, and the said administrations will not be included in the Expected Charge Count or Expected Charge Total calculations.

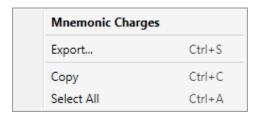


Figure 257: Pharmacy Integrity Charge Discrepancy Summary Context Menu

Menu Option	Description
Mnemonic Charges	Navigates to the details grid for mnemonic's charge discrepancies.
Export	Saves the data displayed in the grid to a user-specified file.
Сору	Copies the text of the selected rows to the clipboard.
Select All	Selects all of the currently displayed rows.

Table 84: Pharmacy Integrity Summary Context Menu

Charge Details

When viewing the charge details for a drug, the breadcrumb bar just above the grid will be updated to include the drug name selected. The grid will be updated to show all of the encounters with charge discrepancies for the selected drug and the breakdown of charges and totals for each. The first four columns indicate whether the same encounter also has each type of documentation discrepancy.

Image	Discrepancy Type	Description
◎ .	Unaccounted	This type of discrepancy occurs when the net quantity dispensed exceeds the quantity administered.
3	Invalid	This type of discrepancy usually occurs when the quantity administered exceeds the quantity dispensed. Not administered and returned also affect this calculation. This type of discrepancy can also occur if the quantity returned exceeds the quantity dispensed.
X	Undocumented Return	When a drug is returned, there should be corresponding documentation in the patient's chart indicating that the drug was not given to the patient. This type of discrepancy indicates that this documentation was not completed.
	Calculation Error	When our tool is unable to determine if the quantities dispensed and administered are equivalent, then the encounter is marked as having a calculation error. For example, this can happen if the dispense is documented in mg, but the administration is documented in puffs.

Table 85: Documentation Discrepancy Types

To see details about a specific encounter, double-click the row, or right-click on it and select "Encounter Detail" from the context menu (Figure 259). See Section 9.8.2 for more information about the Encounter Details dialog.



Figure 258: Charge Details

Right-clicking the mouse in the detail grids will open the Detail Context Menu.

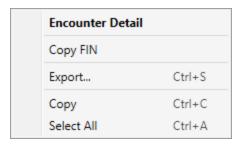


Figure 259: Pharmacy Integrity Detail Context Menu

Menu Option	Description
Encounter Detail	Navigates to the Encounter Details dialog.
Copy FIN	Copies the FIN to the clipboard.
Export	Saves the data displayed in the grid to a user-specified file.
Сору	Copies the text of the selected rows to the clipboard.
Select All	Selects all of the currently displayed rows.

Table 86: Pharmacy Integrity Detail Context Menu

Documentation Discrepancy Summary

The Documentation Discrepancy Summary lists all drugs with documentation discrepancies for the selected drug class, and the number of encounters with each type of documentation discrepancy. There are four types of documentation discrepancies. See Table 85 for more details.

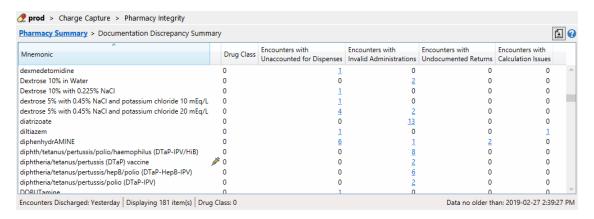


Figure 260: Documentation Discrepancy Summary for Drug Class 2

To get more detail, click the link for the drug and discrepancy type of interest to show the encounters with that type of discrepancy.

Right-clicking the mouse in the grid will open the Documentation Discrepancy Summary Context Menu. See Figure 261.

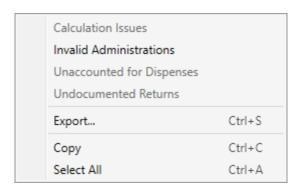


Figure 261: Pharmacy Integrity Documentation Discrepancy Summary Context Menu

Menu Option	Description
Calculation Issues	Navigates to the Calculation Issues details grid.
Invalid Administrations	Navigates to the Invalid Administrations details grid.
Unaccounted for Dispenses	Navigates to the Unaccounted for Dispenses details grid.
Undocumented Returns	Navigates to the Undocumented Returns details grid.
Export	Saves the data displayed in the grid to a user-specified file.
Сору	Copies the text of the selected rows to the clipboard.
Select All	Selects all of the currently displayed rows.

Table 87: Pharmacy Integrity Documentation Discrepancy Summary Context Menu

Documentation Discrepancy Details

When viewing the discrepancy details for the selected drug and type of documentation discrepancy, the grid will be updated to show all of the encounters for the selected drug with the selected type of discrepancy. The FIN for each encounter will be shown, along with the total quantities dispensed and administered for each encounter. Dispense columns are grouped by a blue background, and administration columns are grouped by a yellow background. If there is an additional grouping of columns about the discrepancy, they will have a pink background. The last column indicates whether the encounter also has a charge discrepancy. To see details about a specific encounter, the row can be double-clicked, or the row can be right-clicked and "Encounter Detail" can be selected (Figure 253). See Section 9.8.2 for more information about the Encounter Details dialog.

Encounters with Unaccounted

When viewing the encounters with unaccounted dispenses, the grid will contain the quantity which is unaccounted for, and the cost of the unaccounted drugs. These columns are grouped by a pink background. The Unaccounted Cost is the amount it would cost the hospital to replace the unaccounted quantity based on the price schedules defined. Additionally, there will be an Anesthesia Administered column displaying the quantity of the drug which was administered during anesthesia. This does not affect the unaccounted calculation as anesthesia drugs should be dispensed from a special cart and the dispenses will not be visible in this control.

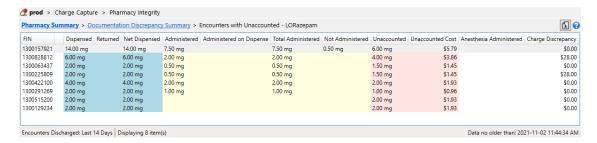


Figure 262: Encounters with Unaccounted - LORazepam

Encounters with Invalid Administrations

When viewing the encounters with invalid administrations, the grid will contain the quantity considered to be invalid. This column will have a pink background.

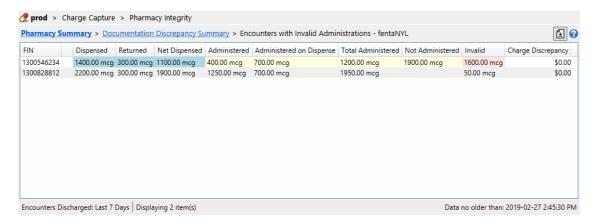


Figure 263: Encounters with Invalid Administrations - fentaNYL

Encounters with Undocumented Returns

When viewing the encounters with undocumented returns, there are no additional columns added to the grid.

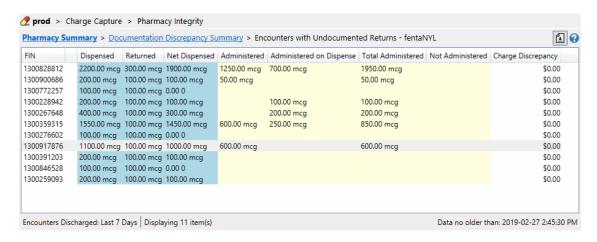


Figure 264: Encounters with Undocumented Returns - fentaNYL

Encounters with Calculation Issues

When viewing the encounters with calculation issues, the grid will not include the net and total columns as these calculations may not be able to be performed depending on the type of calculation issue.

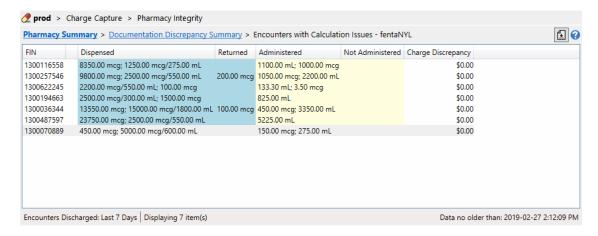


Figure 265: Encounters with Calculation Issues - fentaNYL

Shrinkage Summary

The Shrinkage Summary lists all drugs with shrinkage for the selected drug class. Shrinkage is the total amount of drugs that are unaccounted for or wasted. The Shrinkage Summary also shows the cost to the hospital for these drugs. This can be used to determine if there is potential training or stocking changes that can be completed to result in less shrinkage. The summary will also show how many encounters have shrinkage for each drug. To see details about the encounters for a drug, double-click the row, or right-click it and select "Mnemonic Shrinkage" from the context menu.



Figure 266: Shrinkage Summary Drug Class 2

Right-clicking the mouse in the summary grids will open the Shrinkage Summary Context Menu. See Figure 267.



Figure 267: Pharmacy Integrity Shrinkage Summary Context Menu

Menu Option	Description
Mnemonic Shrinkage	Navigates to the Shrinkage Details grid.
Export	Saves the data displayed in the grid to a user-specified file.
Сору	Copies the text of the selected rows to the clipboard.
Select All	Selects all of the currently displayed rows.

Table 88: Pharmacy Integrity Shrinkage Summary Context Menu

Shrinkage Details

When viewing the shrinkage details for a drug, the grid will be updated to show all of the encounters with shrinkage for the selected drug, and the breakdown of unaccounted and wasted for each. To see details about a specific encounter, double-click the row, or right-click the row and select "Encounter Detail" (Figure 253). See Section 9.8.2 for more information about the Encounter Details dialog.



Figure 268: Shrinkage Details

Search Criteria

Search criteria can only be changed when viewing the top-level Pharmacy Summary grid and affects all data shown in the control. To open the Search Filters dialog, click the search button in the upper left corner of the control. The available criteria are Date Range, Encounter Types, and Facilities. The Date Range criteria specifies the discharge dates to be searched. There are several preconfigured options, or a Custom option to allow a user configured date range. The maximum date range allowed is 14 days. The control will automatically adjust start and end dates to not exceed this constraint. The default date range when the control is loaded is Yesterday. The currently selected date range is shown in the lower-left corner of the main control.

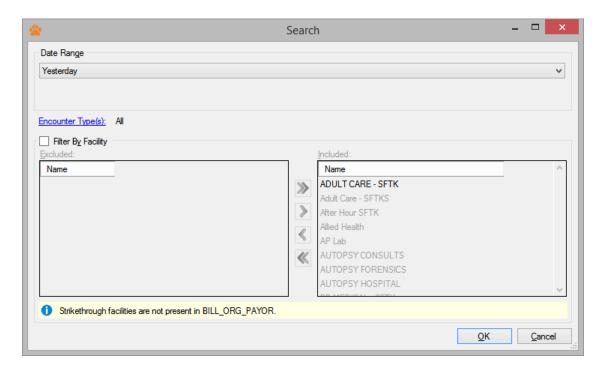


Figure 269: Pharmacy Integrity Search Dialog

The Encounter Types criteria initially defaults to All. Once a user changes this criteria, it will be saved as a user preference, and will be used each time the user loads the control. To change the encounter types selected, click the "Encounter Type(s)" link to open the Select Encounter Types dialog. The Check All and Uncheck All buttons select all and deselect all encounter types respectively. Selecting the box next to an encounter type will select or deselect the specific encounter type. At least one encounter type must be selected. To apply changes, click OK. To leave the Encounter Type(s) criteria unchanged, click Cancel.

There are two components to the facility search criteria. The first is the Filter by Facility checkbox. This indicates whether or not the include/exclude lists should be included in the search criteria. The default is for the Filter by Facility checkbox to be unchecked. Once a user changes this criteria, it will be saved as a user preference and will be used each time the user loads the control, along with the facilities specified in the include/exclude list. The second is the actual selection of facilities. By default, all facilities will appear in the Included list, which means they will be included in the search criteria. To exclude or include specific facilities adjust the Excluded and Included lists appropriately. The single right arrow will move the selected item(s), and the double right arrow, all items, from the Excluded list. The single left arrow will move the selected item(s), and the double left arrow, all items, from the Included list to the Excluded list. When a facility is present in the "ORGANIZATION" table, but is not in the "BILL_ORG_PAYOR" table, it is denoted by a strikethrough.

To apply the new search criteria, click the OK button; to discard changes to the search criteria, select Cancel. When OK is selected, the control will begin loading data using the newly specified search criteria. The loading icon will appear in the upper left-hand corner of the control while new data is loaded. While data is loading, search and refresh icons are disabled.



Search Criteria Hover

Hover the mouse over the search icon instead of clicking it to see a tooltip with some detail about the current search criteria.

Refresh

The refresh icon can be used at the Pharmacy Summary level to update the data displayed in the control using the defined search criteria. Depending on the criteria, this make take a while. Please note the loading icon in the upper left-hand corner of the control. Data will not be automatically refreshed on this control.

9.8.2 Encounter Details Dialog

The selected encounter's drug mnemonic and FIN are displayed in the title bar of the dialog. The content of the dialog is broken down into six sections. When the dialog loads, the first five sections will be populated. However, the Order Details section must acquire more data before being populated. Please note the loading icon in the upper right-hand corner. This indicates the *Order Detail* section is still loading. The first section is the *Charge Summary* which gives a summary of the charges for the encounter and will indicate if there is a charge discrepancy. The *Dispense Information* gives a high level aggregate of the dispenses for the encounter. The *Administration Information* section gives a high level aggregate of the administrations for the encounter. The *Documentation Discrepancy Information* section identifies any documentation discrepancies on the encounter. The *Anesthesia Information* section gives a high level aggregate of the anesthesia administrations for the encounter. These administrations are not included in any calculations and are presented for informational purposes only. The *Order Detail* section lists all the orders for the selected mnemonic for the encounter and a breakdown of charges, dispenses, and administrations for each order. To view more detail about a specific order, double-click the row, or right-click and select "*Order Detail*" in the context menu. See Figure 271.

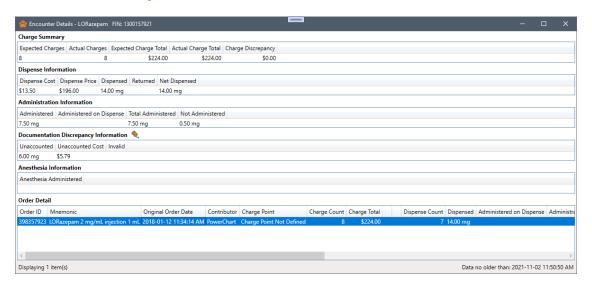


Figure 270: Encounter Details Dialog



Figure 271: Pharmacy Integrity Encounter Detail Context Menu

Menu Option	Description
Order Detail	Navigates to the Order Details dialog.
Copy Order ID	Copies the order ID to the clipboard.
Сору	Copies the text of the selected rows to the clipboard.
Select All	Selects all of the currently displayed rows.

Table 89: Pharmacy Integrity Encounter Detail Context Menu

9.8.3 Order Details Dialog

The Order Details Dialog contains the Order ID and the drug mnemonic in the title bar. The content of the dialog is broken into four sections. The *Charge Details* section shows all actual charges counted for the specific order and their detail. The *Dispense Details* section shows all dispenses and returns counted for the order and their detail. To see more detail about the ingredients dispensed, select the row for a dispense. An additional detail row will appear to show details about the ingredients dispensed. To hide the detail row, CTRL + Click the row to deselect it. The *Administration Details* section lists all administrations counted for the order, including administered and not administered events and details about these events. The *Anesthesia Administration Details* section lists all anesthesia administrations for the order.

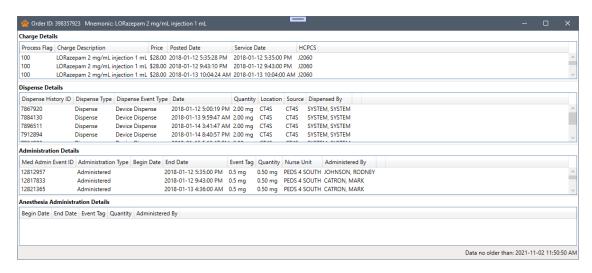


Figure 272: Order Details Dialog

9.9. Physician Documentation Control

The Physician Documentation control is an interactive tool to help reconcile physician notes and professional fees. The tools attempts to automatically associate physician notes with charges then allows you to manually correct the associations.

To view the Physician Documentation control, select the *Physician Documentation* item in the domain explorer (Figure 273).

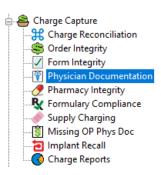


Figure 273: Domain Explorer

To the upper left of the control is the Search button, and the Refresh button. The first time you load the control, you will need to specify the search criteria before any data will load. On subsequent visits to the control, if you have set a default search it will automatically populate the Search dialog with those settings, and all you need to do to run that same search will be click the Refresh button. Click the Search button to load the Search dialog and set the search criteria. The Refresh button will only be enabled after data has been loaded. Clicking on it will cause the a new search to be issued using the current search criteria.

There is an input box and two icons in the upper right-hand corner of the Physician Documentation control. These are the FIN search box, Export button, and the Help icon.

The FIN search box will limit the data displayed to only encounters with a FIN that contains the specified number.

The Export button allows you to save the currently displayed data in a CSV or Excel® format. When the Export button is clicked, the Windows "Save As" dialog will appear, prompting you to select a name and location for the file. Data in all grids can also be selected and copied by using keyboard shortcuts or by right-clicking to access the context menu.

The Help icon provides additional information about the data currently being viewed. Hover the mouse cursor over the question mark icon to see an informational tooltip describing the data displayed.

9.9.1 Searching

The Physician Documentation Control provides the ability to search based on selected date range, clinical documentation type (a.k.a. note type), facility, physician group, physician, tier matrix, activity type, entry mode, and encounter type. The lists of selected facilities, and physician groups are empty by default. If there is a warning icon on a tab, that means that criteria needs to be selected on that tab before the search can be performed. (Figure 274) The search type will affect how the date range is applied. (Table 90)

Search Type	Description
Discharged Encounters	Filters data to only include patient encounters that were discharged in the selected date range.
Notes	Filters data to only show physician notes that were performed in the selected date range.
Charges	Filters data to only show charges with a service date in the selected date range.

Table 90: Physician Documentation Search Types



Search Displays the Current Criteria

When opened, the Search dialog will display the criteria used for the most recent search. This makes it easy to modify an existing search.

The Physician Documentation Control supports Preset Searches, where you can save sets of search criteria. To load a saved search preset, click on the name of the preset in the list along the left side of the dialog. To save changes to the current preset search, click the "Save" button. To save the current criteria as a new search preset, click the "Save As…" button. To delete a preset search, click the "Delete" button.

To set the current search criteria as your default search, check the "Use these search options by default" checkbox before performing the search. Even if the default search criteria has been set, you will need to click the "Refresh" button after loading the Physician Documentation control. This allows for a chance to change the search criteria if the default search criteria is taking a long time to load.

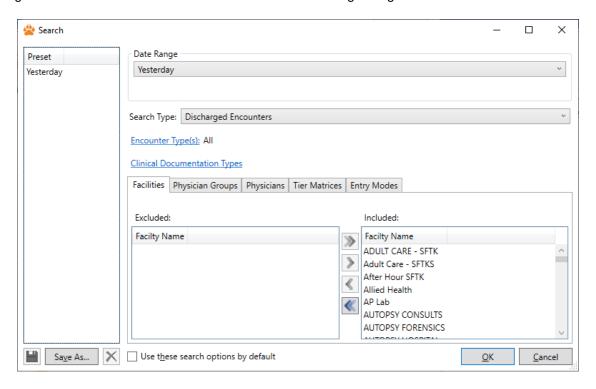


Figure 274: Search Dialog

The Encounter Types criteria initially defaults to All. Once a user changes this criteria, it will be saved as a user preference and will be used each time the user loads the control. To change the encounter types selected, click the "Encounter Type(s)" link to open the Select Encounter Types dialog. (Figure 275) The Check All and Uncheck All buttons select all and deselect all encounter types respectively. Selecting the box next to an encounter type will select or deselect the specific encounter type. At least one encounter type must be selected. To apply changes, click OK. To leave the Encounter Type(s) criteria unchanged, click Cancel.

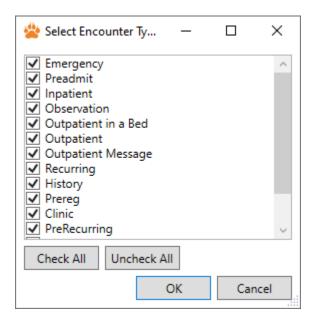


Figure 275: Select Encounter Types Dialog

The Clinical Documentation Types are all included by default. Once a user changes this criteria, it will be saved as a user preference and will be used each time the user loads the control. To change the Clinical Documentation Types selected, click the "Clinical Documentation Types" link to open the Clinical Documentation Types dialog. (Figure 276)

The Clinical Documentation Types dialog contains a tree of the documentation types and sub-types. Within the Millennium database, types may be defined as being an event. Types which are not marked as events are indicated with folders. Types which are marked as events are indicated with a note icon. A Note's type could be defined by either an event type or a non-event type. For that reason, a type with sub-types may be included in the search criteria independently from the types beneath them in the tree. If you uncheck everything beneath a type, it will remain checked until you purposefully uncheck it as well.

Some hospitals may on occasion create a new Note with a Clinical Documentation Type that is not currently marked as Active. For that reason, all Clinical Documentation Types are shown as options for the search criteria. If a Clinical Documentation Type is not marked as Active, it will be shown in grey, italicized text.

Typing in the textbox at the top of the dialog will filter the Clinical Documentation Types shown in the dialog to those which have a matching name, or have a type descending from them which has a matching name. The Check All and Uncheck All buttons select all and deselect all Clinical Documentation Types, visible and non-visible. The Hide Checked checkbox, if checked, will hide all types in the tree where their sub-types are all checked, or they have no sub-types. If a type is checked, but has at least one unchecked sub-type, it will still be down. The Hide Unchecked checkbox does the opposite, and will hide all types that are unchecked. Checking the box next to a type within the tree will select or deselect it. At least one Clinical Documentation Type must be selected. To apply changes and exit the dialog, click OK. To leave the Clinical Documentation Types criteria unchanged, click Cancel.

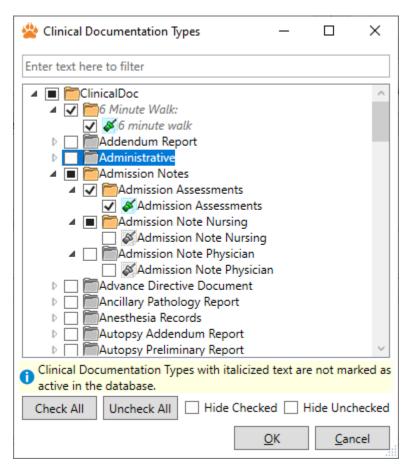


Figure 276: Clinical Documentation Types Dialog

9.9.2 Search Presets

Search criteria can be saved to presets using the save buttons in the bottom left. Presets allow setting up search criteria one time. The buttons are disabled until the criteria is complete. This prevents saving presets that will always be empty. Clicking on a preset will load its criteria into the search dialog. This criteria can then be used for a search, modified before the search (with or without saving the changes to the saved preset), or set as the default search.

Search presets can be copied to other users and groups. Because these presets can take a long time to configure, it may be useful to set up searches one time and make them available to other users. To copy a search, right click on the preset and click "Copy Preset...".

Option	Description
Delete	Removes the selected preset.
Save	Saves changes to the selected preset.
Save As	Saves the current criteria to a new preset. This can be used to duplicate a preset.
Copy Preset	Copies the selected preset to other users. This requires the "Copy Preferences" global privilege.

Table 91: Physician Documentation Presets Context Menu

9.9.3 Documented Charge Summary

The Documented Charge Summary view (Figure 277) displays a list of note types and the number of each type of associated charge. To launch the Summary Details dialog and view the details for all charges of that description, associated with that note type, you can either double-click on a row, or right-click and select "Details..." from the context menu.

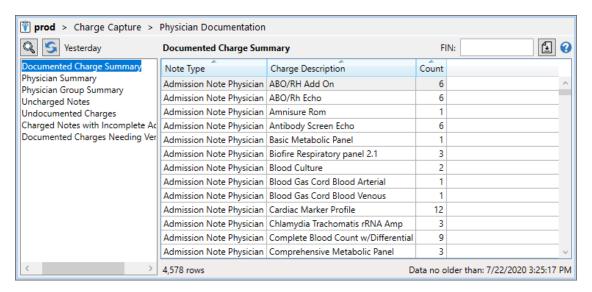


Figure 277: Documented Charge Summary

9.9.4 Summary Details Dialog

The Summary Details dialog (Figure 278) lists the physician notes and/or charges that were counted in the summary. Double-clicking a row will open the Encounter Details dialog. (Section 9.9.5) You can also access the Encounter Details dialog by right-clicking to bring up the context menu, and selecting "Encounter Details...".

Notes can be ignored or unignored if the Summary Details dialog was launched for Uncharged or Ignored notes. To ignore a note right-click the note and select "Ignore Uncharged Note". To unignore a note right-click the note and select "Stop Ignoring Uncharged Note".

Rows with grey text are associated with a note of a type that is not marked as "Active". They are also indicated with a flag in the "Inactive" column. If you hover the cursor over an inactive flag, you can see the specific state of the note type.

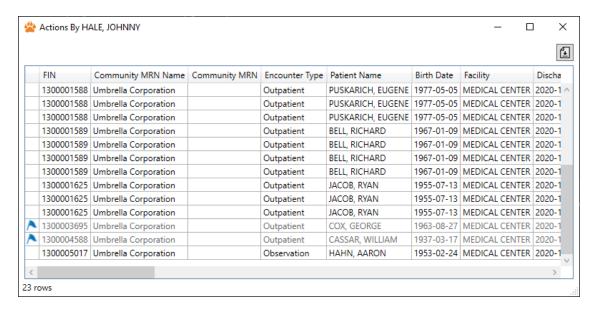


Figure 278: Summary Details Dialog

9.9.5 Encounter Details Dialog

The Encounter Details dialog allows for the correlation of charges and notes to be modified. This does not modify data in Millennium, only Panther's correlations of charges and notes. (Figure 279)

Notes are displayed on the left side. Charges are displayed on the right. If a note and a charge are linked they will be displayed on the same line. If a note or charge is not correlated it will be indicated by a blank line in the neighboring list.

To unlink a note and charge select the row in both the Notes and Charges grids and click the Unlink button. To link a note and charge select the note in the Notes grid and charge in the Charges grid and click the Link button.

Notes with gray text have been ignored and will not show up in lists of uncharged notes. To ignore a note right-click the note and select "Ignore Uncharged Note". To unignore a note right-click the note and select "Stop Ignoring Uncharged Note".

Data in the rest of the control will be refreshed when the Encounter Details dialog is closed.

Double-clicking a row containing data in the Notes grid will open the Clinical Event Activity dialog, or you can right-click to access the context menu and click "Clinical Event Activity".

If a row in the Notes grid has an indicator in the "Document Indicator" column, that means the Note has one or more Clinical Documents in a format viewable within Panther. Selecting "Clinical Document(s)" in the context menu will bring up the Clinical Documents dialog.



Notes may be associated with more than one charge

Charges may only be associated with one note, but notes may be associated with more than one charge. There are some cases where Panther's logic will associate a note with multiple charges, or you can manually link a note to multiple charges. If a note is associated with multiple charges, the note's information will show up multiple times, on the same line as each associated charge.

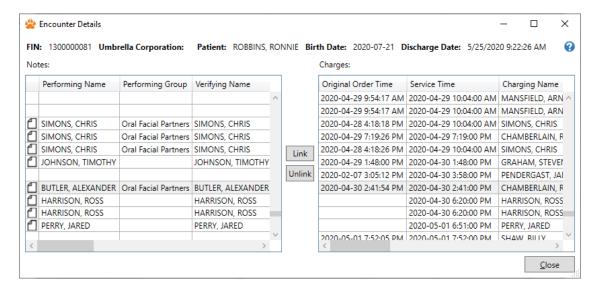


Figure 279: Encounter Details Dialog

9.9.6 Clinical Event Activity Dialog

The Clinical Event Activity dialog lists the actions that were performed on the specified event. (Figure 280)

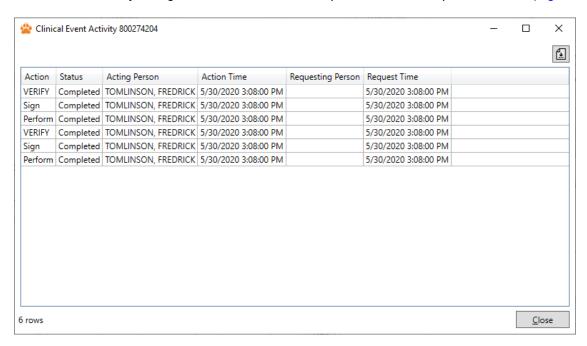


Figure 280: Clinical Event Activity Dialog

9.9.7 Clinical Documents Dialog

The Clinical Documents dialog provides the ability to view Clinical Documents of supported file types which are associated with a given note. Panther currently supports viewing TIFF, RTF, and XHTML documents. If there are multiple associated documents, there will be a list of the documents along the left side of the dialog

with an icon indicating the file type, and the document's title. If there is only one associated document, the list will be hidden to allow for more room to view the document. (Figure 281)

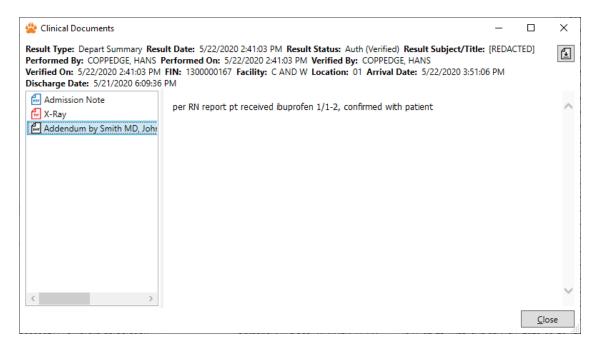


Figure 281: Clinical Documents Dialog

9.9.8 Physician Summary

The Physician Summary view (Figure 282) displays a summary of activity for each physician in the selected time period. This includes the number of notes written, notes verified, and charges for the physician. Clicking the physician's name will open the Summary Details dialog, listing all notes and charges which match the search criteria and are associated with that physician. Clicking a number will open the same dialog, listing the notes and/or charges included in that count. You can also launch the Summary Details dialog by right-clicking on a row to access the context menu, and clicking on one of the detail options listed in the context menu.

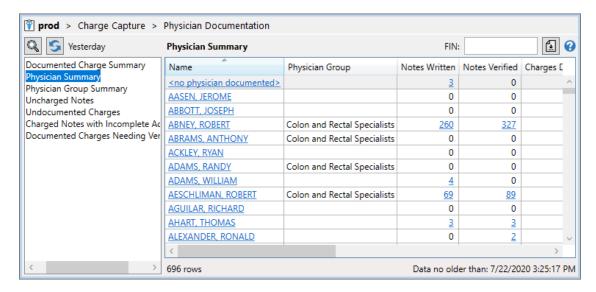


Figure 282: Physician Summary

9.9.9 Physician Group Summary

The Physician Group Summary view (Figure 283) displays a summary of activity for each physician group in the selected time period. This includes the number of notes written, notes verified, and charges for the physician group. Clicking the physician group's name will open the Trending Details dialog, listing all notes and charges which match the search criteria and are associated with that physician group. Clicking a number will open the same dialog, listing the notes and/or charges included in that count. You can also launch the Trending Details dialog by right-clicking on a row to access the context menu, and clicking on one of the detail options listed in the context menu.

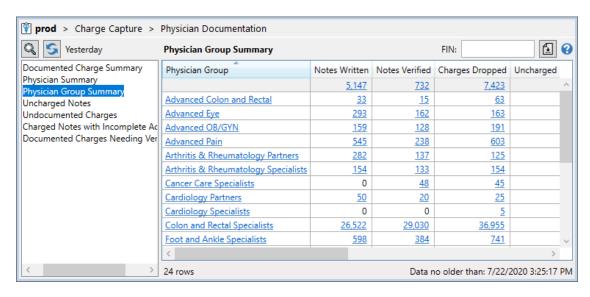


Figure 283: Physician Group Summary

9.9.10 Trending Details Dialog

The Trending Details dialog (Figure 284) shows the number of physician notes and/or charges that were counted in the summary by discharged date. Double-clicking a row will open the Summary Details dialog. (Section 9.9.4) You can also access the Summary Details dialog by right-clicking to bring up the context menu, and selecting "Details...".

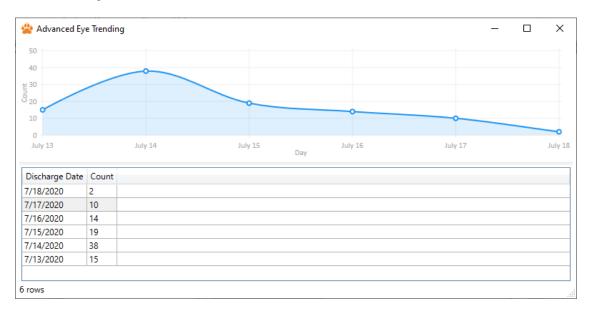


Figure 284: Trending Details Dialog

9.9.11 Uncharged Notes

The Uncharged Notes view (Figure 285) shows a list of notes that did not have a corresponding charge. Double-clicking a row will open the Encounter Details dialog where the note can be manually associated with a charge. (Section 9.9.5) You can also access the Encounter Details dialog by right-clicking to bring up the context menu, and selecting "Details...".

Notes with grey text are of a type that is not marked as "Active". They are also indicated with a flag in the "Inactive" column. If you hover the cursor over an inactive flag, you can see the specific state of the note type.

If a note will not have a charge associated with it the note can be ignored. To ignore a note right-click the note and select "Ignore Uncharged Note". Ignored notes can be access from the Physician Summary view (Section 9.9.8) by clicking the numbers in the Ignored Notes column.



Exclude note types that don't generate charges

If there is a note type listed under Uncharged Notes that you wish to exclude from your search criteria, for instance if the note type is not expected to charge, you can right-click the row and choose *Exclude Note Type(s) From Search* from the context menu to alter your search criteria to exclude the selected note type(s). The control will refresh with all instances of those note type(s) removed.

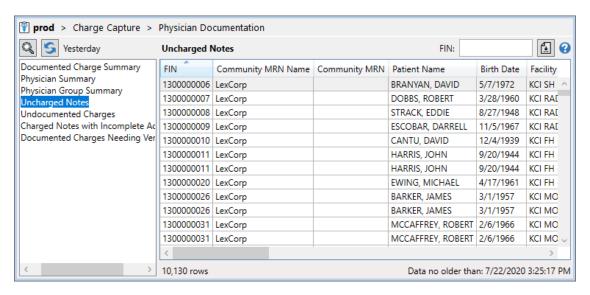


Figure 285: Uncharged Notes

9.9.12 Undocumented Charges

The Undocumented Charges view (Figure 286) shows a list of charges that did not have a corresponding note. Double-clicking a row will open the Encounter Details dialog where the charge can be manually associated with a note. (Section 9.9.5) You can also access the Encounter Details dialog by right-clicking to bring up the context menu, and selecting "Details...".

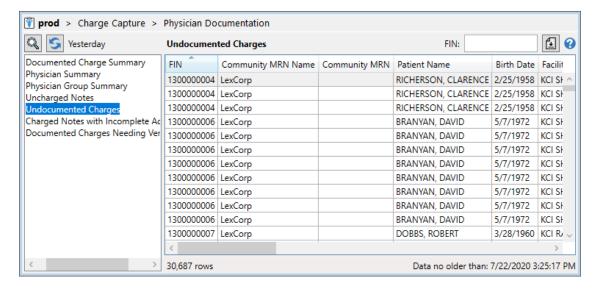


Figure 286: Undocumented Charges

9.9.13 Charged Notes with Incomplete Actions

The Charged Notes with Incomplete Actions view (Figure 287) shows charges that are associated with notes that are still flagged as requested. Double-clicking a row will open the Encounter Details dialog where

the charge's association with notes can be changed manually. (Section 9.9.5) You can also access the Encounter Details dialog by right-clicking to bring up the context menu, and selecting "Details...".

Rows with grey text are associated with a note of a type that is not marked as "Active". They are also indicated with a flag in the "Inactive" column. If you hover the cursor over an inactive flag, you can see the specific state of the note type.

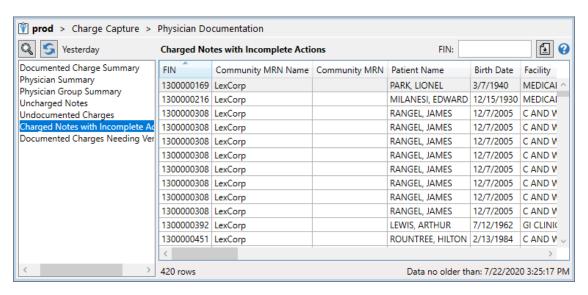


Figure 287: Charged Notes With Incomplete Actions

9.9.14 Documented Charges Needing Verification

The Documented Charges Needing Verification view (Figure 288) shows charges that are associated with notes but do not have a verifying physician. Double-clicking a row will open the Encounter Details dialog where the charge's association with notes can be changed manually. (Section 9.9.5) You can also access the Encounter Details dialog by right-clicking to bring up the context menu, and selecting "Details...".

Rows with grey text are associated with a note of a type that is not marked as "Active". They are also indicated with a flag in the "Inactive" column. If you hover the cursor over an inactive flag, you can see the specific state of the note type.

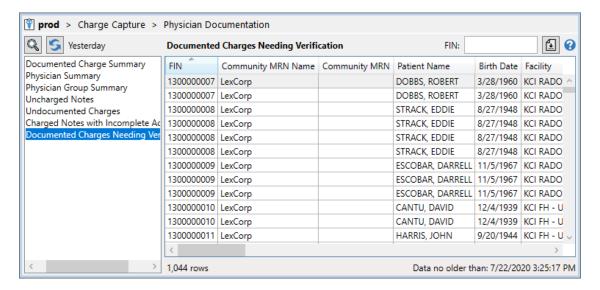


Figure 288: Documented Charges Needing Verification

9.9.15 Scheduled Reports

See Charge Capture Scheduled Reports. Unlike general reports, Scheduled Reports for Physician Documentation use the search criteria to define scope. The search criteria works the same as the control except that the Custom date range is not allowed for Scheduled Reports.

When selecting search criteria, selecting a search preset will cause that preset name to be populated as the report name. This name can be modified in the Edit Schedule dialog.

9.10. Physician Timing Control

The Physician Timing control is an interactive tool to help identify delays in compensation for professional fees.

To view the Physician Timing control, select the *Physician Timing* item in the domain explorer (Figure 289).



Figure 289: Domain Explorer

To the upper left of the control are the Search and Refresh buttons. The first time you load the control you will need to specify the search criteria before any data will load. On subsequent visits to the control, if a default search has been configured, the Search dialog will be automatically populated with those settings. To run the same search, click the Refresh button. Click the Search button to load the Search dialog and set the search criteria. The Refresh button will only be enabled after data has been loaded. Clicking on it will issue a new search using the current search criteria.

The Export button allows you to save the currently displayed data in a CSV or Excel® format. When the Export button is clicked, the Windows "Save As" dialog will appear, prompting you to select a name and location for the file. Data in all grids can also be selected and copied by using keyboard shortcuts or by right-clicking to access the context menu.

9.10.1 Searching

The Physician Timing Control provides the ability to search based on selected date range, clinical documentation type (a.k.a. note type), facility, physician group, physician, tier matrix, activity type, entry mode, and encounter type. The lists of selected facilities and physician groups are empty by default. If there is a warning icon on a tab, that means that criteria needs to be selected on that tab before the search can be performed. (Figure 290)



Search Displays the Current Criteria

When opened, the Search dialog will display the criteria used for the most recent search, making it easy to modify an existing search.

The Physician Timing Control supports Preset Searches, where you can save sets of search criteria. To load a saved search preset, click on the name of the preset in the list along the left side of the dialog. To save changes to the current preset search, click the "Save" button. To save the current criteria as a new search preset, click the "Save As..." button. To delete a preset search, click the "Delete" button.

To set the current search criteria as your default search, check the "Use these search options by default" checkbox before performing the search. Even if the default search criteria has been set, you will need to

click the "Refresh" button after loading the Physician Documentation control. This allows for a chance to change the search criteria if the default search criteria is taking a long time to load.

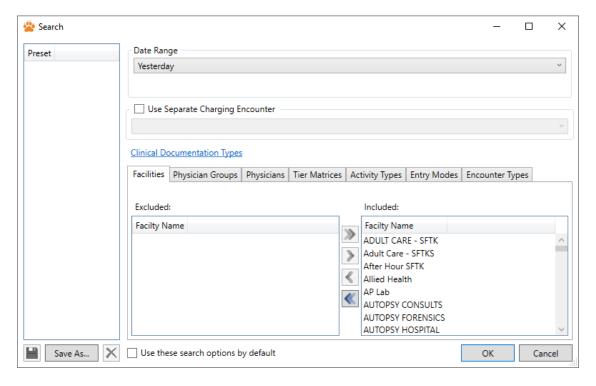


Figure 290: Search Dialog

Use Separate Charging Encounter is disabled by default. If you create a second encounter to handle billing of physician documentation check the box and select the encounter type.

The Clinical Documentation Types are all included by default. Once a user changes this criteria, it will be saved as a user preference and will be used each time the user loads the control. To change the Clinical Documentation Types selected, click the "Clinical Documentation Types" link to open the Clinical Documentation Types dialog. (Figure 291)

The Clinical Documentation Types dialog contains a tree of the documentation types and sub-types. Types may be defined as events within the Millennium database. Types which are not marked as events are indicated with folders. Types which are marked as events are indicated with a note icon. A Note's type could be defined by either an event type or a non-event type. For that reason, a type with sub-types may be included in the search criteria independently from the types beneath them in the tree. If you uncheck everything beneath a type, it will remain checked until you purposefully uncheck it as well.

Some hospitals may, on occasion, create a new Note with a Clinical Documentation Type that is not currently marked as Active. For that reason, all Clinical Documentation Types are shown as options for the search criteria. If a Clinical Documentation Type is not marked as Active, it will be shown in grey, italicized text.

Typing in the textbox at the top of the dialog will filter the Clinical Documentation Types shown in the dialog to those which have a matching name, or have a type descending from them which has a matching name. The Check All and Uncheck All buttons select all and deselect all Clinical Documentation Types, visible and non-visible. The Hide Checked checkbox, if checked, will hide all types in the tree where their sub-types are all checked, or they have no sub-types. If a type is checked, but has at least one unchecked sub-type, it will still be shown. The Hide Unchecked checkbox does the opposite, and will hide all types that are unchecked.

Checking the box next to a type within the tree will select or deselect it. At least one Clinical Documentation Type must be selected. To apply changes and exit the dialog, click OK. To leave the Clinical Documentation Types criteria unchanged, click Cancel.

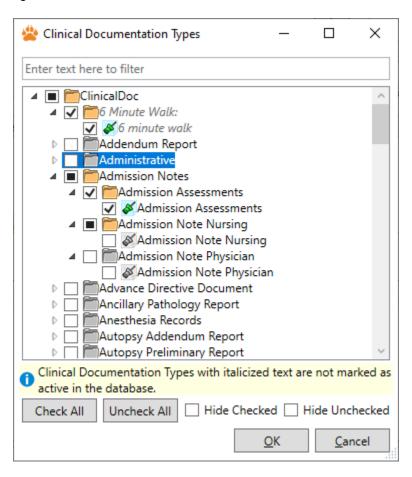


Figure 291: Clinical Documentation Types Dialog

9.10.2 Search Presets

Search criteria can be saved to presets using the save buttons in the bottom left, so that the user only has to configure the specific criteria once. The buttons are disabled until criteria configuration is complete. This prevents saving presets that will always be empty. Clicking on a preset will load its criteria into the search dialog. This criteria can then be used for a search, modified before the search (with or without saving the changes to the saved preset), or set as the default search.

Search presets can be copied or shared to other users and groups. Because these presets can take a long time to configure, it may be useful to set up searches one time and make them available to other users. To copy a search, right click on the preset and click "Copy Preset...". To share a search, right click on the preset and click "Share Preset...".

Option	Description
Delete	Removes the selected preset.
Save	Saves changes to the selected preset.
Save As	Saves the current criteria to a new preset. This can be used to duplicate a preset.
Copy Preset	Copies the selected preset to other users. This requires the "Copy Preferences" global privilege.
Share Preset	Shares the selected preset to other users. This requires the "Allow Preset Share" global privilege.

Table 92: Physician Timing Presets Context Menu

9.10.3 Timing Summary

The Physician Timing Summary view (Figure 292) displays a list of physicians with a summary of the progress their notes have made towards compensation and the average time notes are spending in each step. To view the notes in a given state for a physician click the total link to launch the Summary Details dialog. Previously generated summaries can be viewed by selecting one from the Report Generation History at the top.

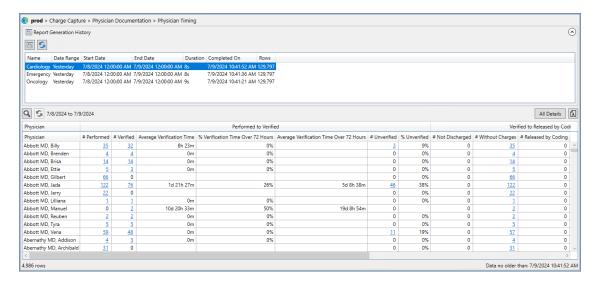


Figure 292: Documented Charge Summary

9.10.4 Timing Summary Details Dialog

The Summary Details dialog (Figure 293) lists the physician notes counted in the summary with timing information on their progress towards bill transmission.

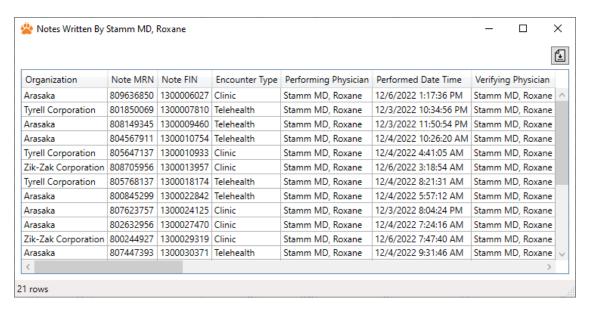


Figure 293: Summary Details Dialog

9.10.5 Scheduled Reports

See Charge Capture Scheduled Reports. Unlike general reports, Scheduled Reports for Physician Documentation use the search criteria to define scope. The search criteria works the same as the control except that the Custom date range is not allowed for Scheduled Reports.

When selecting search criteria, selecting a search preset will cause that preset name to be populated as the report name. This name can be modified in the Edit Schedule dialog.

9.11. Rules Engine Control

The Rules Engine control allows users to define and execute rules against charge data in Millennium® to identify issues. This can include simple things such as ensuring the correct matching CPT® and HCPCS codes are used for a charge to something more complex like ensuring co-dependent charges for CT scans and contrast occur on the same day for a given encounter.



Figure 294: Domain Explorer

To view the Rules Engine control, select the *Rules Engine* item under *Charge Capture* item in the Domain Explorer (Figure 294).

9.11.1 Copyright Notice

As per AMA requirements, upon first loading the control, the user is presented with a CPT copyright notice (Figure 295).

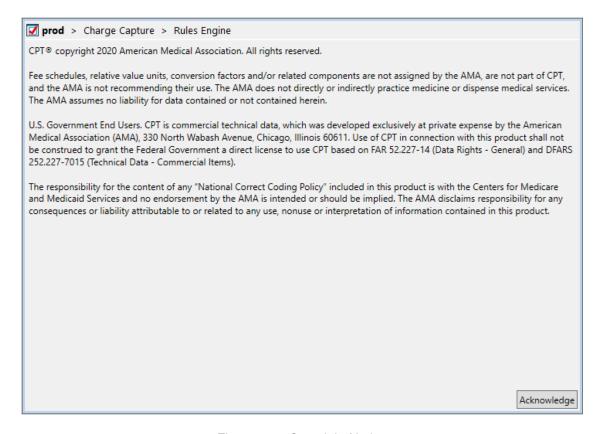


Figure 295: Copyright Notice

Clicking *Acknowledge* closes the notice, making the rest of the control available. The notice is automatically closed on subsequent visits to the control once acknowledged. It can, however, be re-opened for review by clicking on the *CPT*[®] *Copyright Notice* link.

9.11.2 Rules Engine Main Control

The main control (Figure 296) focuses on management and execution of rules. The current set of rules are displayed in a list on the left, details for the currently-selected rule are shown in the middle, and a list of tags attached to the visible rules is shown on the right. Filtering can be done using the search bar above, while the actual management and execution functions are provided as buttons at the very top (Table 93).

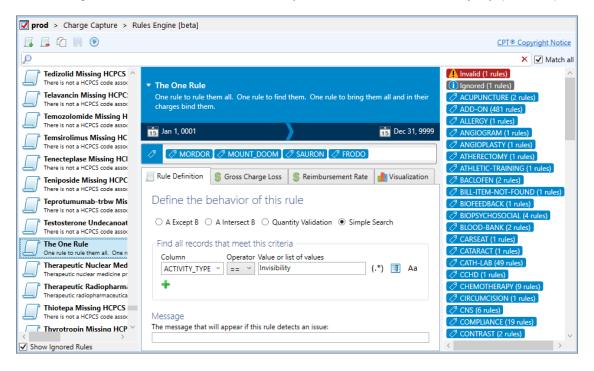


Figure 296: Rules Engine Control



Table 93: Rules Engine Button Legend

Rules List

The list of current rules are displayed alphabetically on the left, including their names, descriptions, and a status icon (Table 94). This status icon can indicate whether a rule has pending changes (add/modify/remove) and whether it is valid. The list also includes a Context Menu to perform operations on the rules (Table 95).



Unsaved Changes

If there are unsaved rule changes when leaving the control, the user will be asked whether to discard them or remain in the control.

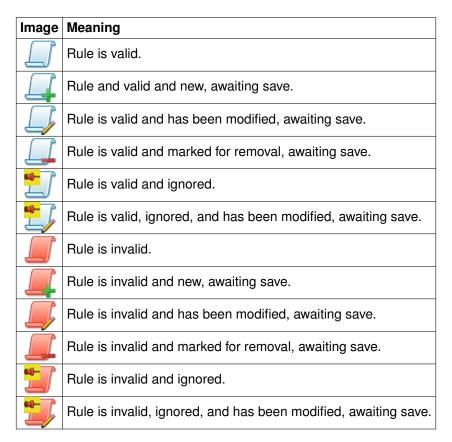


Table 94: Rule Icon Legend

Menu Option	Description
Create New Rule	Creates a new rule and selects it.
Delete Rule	Deletes the selected rule (if not locked).
Copy Rule	Copies the selected rule (if not locked).
Ignore Selected Rules	Ignores the selected rules (if not pending addition or removal).
Stop Ignoring Rules	Stops ignoring the selected rules.
Save Rules	Saves all pending rule changes.
Run Visible Rules	Executes all rules in the list. This is affected by the current rule filter.
Run Selected Rules	Executes the selected rules.
Select All	Selects all visible rules.

Table 95: Rules List context menu

Ignoring Rules

If one or more rules should be excluded from execution (e.g., they fail to account for hospital-specific workflows), this can be done by selecting the target rules, clicking *Ignore Selected Rules...*, and supplying a reason to the prompt.

The Show Ignored Rules check box below the rules list controls whether ignored rules will appear in the list (unchecked by default). If checked, excluded rules will reappear in the list, displaying a note in the top-left of their status images. Hovering over the status image will display a tool tip containing the time and reason the rule was ignored, as well as the user who ignored it (Figure 297).

Rule is valid

Ignored by pantherweb on 2021-08-18 14:17:50

Because your friends don't dance, and if they don't dance, well, they're no friends of mine.

Figure 297: Ignored Rule Tooltip

Rules can be restored by selecting them and clicking Stop Ignoring Rules.

Rule Details

The rule detail control on the right allows users to modify a rule's definition, cost of failure behavior, or whether it should include chart visualization in its execution results.

Locked Rules

Panther will include a number of pre-packaged rules which will appear with a padlock icon (). These rules are locked for modification by users, as they are maintained by Softek and its partners. The exceptions are the Gross Charge Loss, Reimbursement Rate, and Visualization sections.

Name and Description

The rule's name and description are the first items displayed within rule details. When a rule is unlocked,

hovering over the name or description will display a pencil icon () to the left, and clicking the text will allow modification.

Effective Dates

The begin effective and end effective dates for a rule are listed under the rule's title. A rule will only apply to charges with a SERVICE_DT_TM within the effective date range of the rule. Clicking these dates will open a date picker that can be used to select a different date. The begin and end effective dates default to Jan 1, 0001 and Dec 31, 9999 respectively.

Taas

The rule's tags appear immediately below the effective dates. Here, users can add one or more tags to aid in categorization and filtering rules (Figure 298).



Figure 298: Tags

Tags will also appear in locked rules. Users are allowed to add tags to locked rules if they wish; however, the rule may also contain one or more predefined tags which cannot be modified. These locked tags will always appear first, and they will use a darker color to make them distinguishable from user tags (Figure 299).

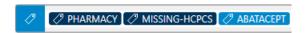


Figure 299: Mixed Tags

When adding a tag, it will appear as normal text while in edit mode (Figure 300). To finish editing a tag, press *Enter* or *Space*. Once completed, the tag will change to the standard tag appearance (Figure 301).



Figure 300: Tag in Edit Mode Figure 301: Completed Tag

Rule Definition

The Rule Definition tab is where the rule's type, criteria, and failure message are specified. There are four types of rules supported:

- A Except B (Figure 302)
- A Intersect B (Figure 303)
- Quantity Validation (Figure 304)
- Simple Search (Figure 305)

Define the behavior of this rule

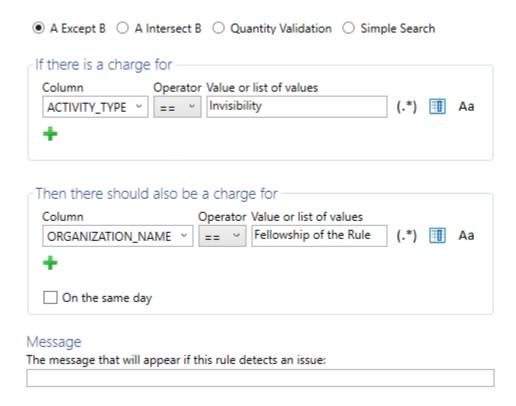


Figure 302: A Except B

A Except B rules find all charges meeting the search criteria, then look for other charges matching the validation criteria, optionally limiting the scope to charges within the same day. For example, one can define a rule to verify that any charge for a CT scan is accompanied by a charge for contrast on the same day. If the matching charge is not found, the rule will trigger a failure.

Define the behavior of this rule

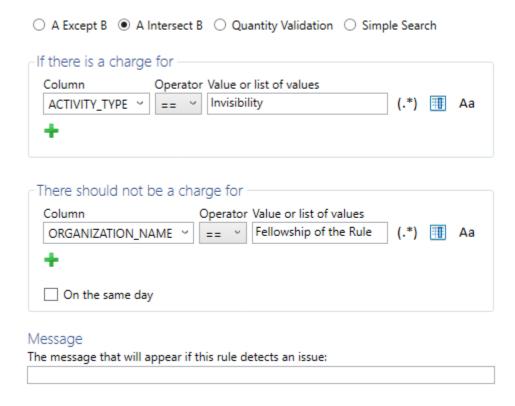


Figure 303: A Intersect B

Similar to A Except B rules, A Intersect B rules find all charges meeting the search criteria, then look for other charges matching the validation criteria, optionally limiting the scope to charges within the same day. However, the rule will trigger a failure if the matching charge *is* found.

Define the behavior of this rule

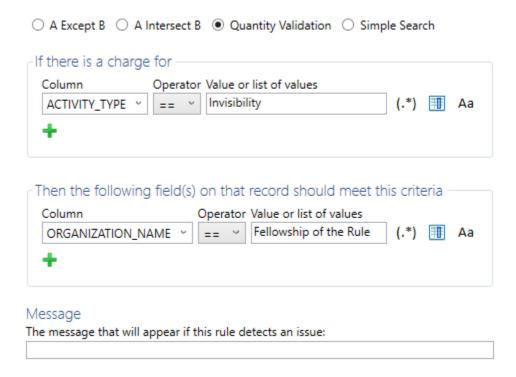


Figure 304: Quantity Validation

Quantity Validation rules find all charges meeting the search criteria, then trigger a failure for each one which does not also meet the validation criteria.

Define the behavior of this rule

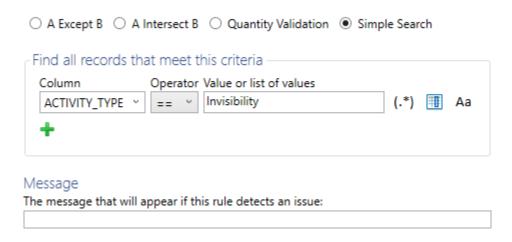


Figure 305: Simple Search

Simple Search rules trigger failures for any charges that meet the search criteria.

Criteria Definition

Panther supports several different types of criteria (Table 97), chosen based upon the value provided and the toggle options selected (Table 96).

Button	Option
(.*)	Use Regular Expression
===	Use Column
Aa	Case Insensitive

Table 96: Rules Engine Criteria Options

Unless specified otherwise, valid characters include alphanumeric and whitespace characters as well as $!@\#\$\%^\&()`[]|\-$,

Туре	Format	Toggle	Example
Range	Groups of numeric characters, separated by hyphen		1 - 100
List	Groups of characters, separated by semicolon		abc; def; ghi
Wildcard	Characters followed by an asterisk		abc*
Regular Expression	A valid regular expression ¹	(.*)	abc\d+
Column	A valid column name ²	##	ITEM_PRICE
Value	Any combination of characters not covered by the other types		abc

Table 97: Rules Engine Criteria Types

Column is a special criteria type that compares the value of the selected column with the column specified by *Value* within the same row.

The Case Insensitive toggle can be used with all criteria types.

Non-empty Operator values can only be used with Value and Column criteria types.

¹Regular Expression Language Quick Reference

²Rules Engine Columns

Multiple Criteria

Panther also supports the use of multiple criteria chained together with AND or OR operators (Figure 306). Operators are left-associative¹.

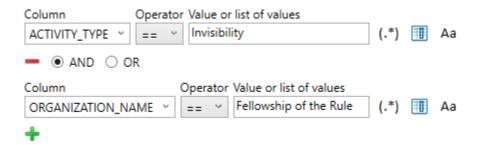


Figure 306: Multiple Criteria

Gross Charge Loss

The Gross Charge Loss tab (Figure 307) controls how the rules engine tallies gross charge losses as it encounters rule failures. This includes both the loss for an individual failure and the scope of failure.

Gross Charge Loss

If the rule detects a problem, specify the gross charge loss of the problem identified by this rule.

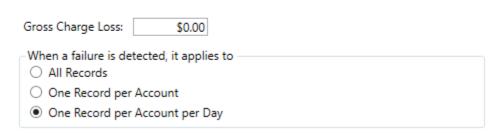


Figure 307: Gross Charge Loss tab

Here, the gross charge loss can be specified directly as a dollar amount. In the case of A Except B rules, the option to automatically calculate loss based on charges matching the validation criteria is also available (Figure 308).

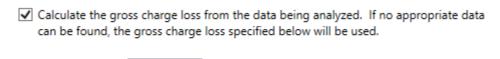


Figure 308: Auto Calculate Loss

\$0.00

Failure scope defines whether the loss for each failure should count toward the total, whether it should only

Gross Charge Loss:

¹Operator associativity

count one failure per account, or whether it should count one failure per account each day. This cannot be modified for locked rules, and its value is shared with the failure scope defined in the Reimbursement Rate tab.

Reimbursement Rate

The Reimbursement Rate tab (Figure 309) controls how the rules engine tallies reimbursement losses as it encounters rule failures. This includes both the loss for an individual failure and the scope of failure.

Reimbursement Rate If the rule detects a problem, specify the reimbursement rate of the problem identified by this rule. Reimbursement Rate: \$0.00 When a failure is detected, it applies to All Records One Record per Account One Record per Account per Day

Figure 309: Reimbursement Rate tab

Here, the reimbursement rate can be specified directly as a dollar amount. In the case of A Except B rules, the option to automatically calculate loss based on charges matching the validation criteria is also available (Figure 310).

✓ Calculate the reimbursement rate from the data being analyzed. If no appropriate data can be found, the reimbursement rate specified below will be used.
Reimbursement Rate: \$0.00

Figure 310: Auto Calculate Loss

Failure scope defines whether the loss for each failure should count toward the total, whether it should only count one failure per account, or whether it should count one failure per account each day. This cannot be modified for locked rules, and its value is shared with the failure scope defined in the Gross Charge Loss tab.

Visualization

The Visualization tab (Figure 311) can be used to define settings for a chart which will then be displayed in the Run Results view.

Rule Results Visualization

Visualization of the data can help identify the root cause of the issue. To include a visualization of the identified issues, select a column by which to group records.

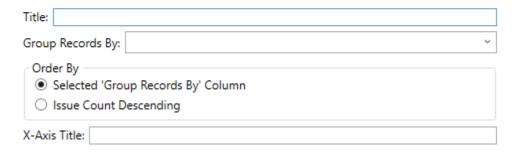


Figure 311: Visualization tab

To remove a visualization, clear the *Group Records By* field and save.

Tags List

The list of tags for all visible rules is displayed alphabetically on the right, including each tag's name and a count of visible rules including said tag. If any visible rules are invalid, there will also be a special tag for *Invalid* placed at the top of the list. Additionally, if *Show Ignored Rules* is checked and any rules are ignored, there will be a special tag for *Ignored* placed at the top of the list, appearing just below *Invalid* if there are invalid rules as well.

Double-clicking a tag will automatically append it to the current filter.

Filtering Rules

The search bar at the top of the control allows users to filter the list of rules based upon the entered terms. The filter will perform a case-insensitive match of terms against a rule's name, description, failure message, criteria values, and tags. Tags must be prefixed with a hash symbol (#) and require an exact match, while the other fields will also match substrings. Additionally, an exclamation point (!) can be used as a term to filter for invalid rules, and a tilde (\sim) can be used as a term to filter for ignored rules.



Figure 312: Filtering Rules

When multiple terms are provided, the *Match all* box determines whether rules must match all terms or any term.

The current filter can be cleared by clicking on the clear button (X).

9.11.3 Run Results

The Run Results view displays the results of all rules which were executed, providing an overall summary broken down by activity type, summaries for each activity type broken down by rule, and result details for each rule within a given activity type. Estimated reimbursement loss is displayed next to each item in the tree, and items at each level in the tree are ordered by descending reimbursement loss.

Summary Results

The Summary view (Figure 313) provides a high-level view of losses broken down by activity type. Double-clicking an activity type in the summary table will select it in the tree. Clicking the export button will export an executive summary of results in Microsoft Word[®] and open it.

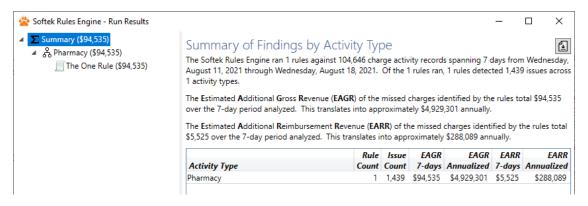


Figure 313: Summary Results

Activity Type Results

The Activity Type view (Figure 314) displays a summary of losses by rule. Double-clicking a rule will select it in the tree. Clicking the export button will export the current view to Microsoft Excel[®] and open it.



Figure 314: Activity Type Results

Rule Results

The Rule Results view (Figure 315) displays a summary of failures for the rule within its parent activity type, a breakdown of distinct values for several fields along with their failure rates, and a table including all charges with issues detected by the rule, and (optionally) a chart based upon the visualization settings of said rule. The export button at the top-right will export the summary and table to Microsoft Excel® and open it. The export button immediately above the table will export only the table. The chart button allows a user to modify the visualization settings for the rule, which will immediately update (or hide) the chart.

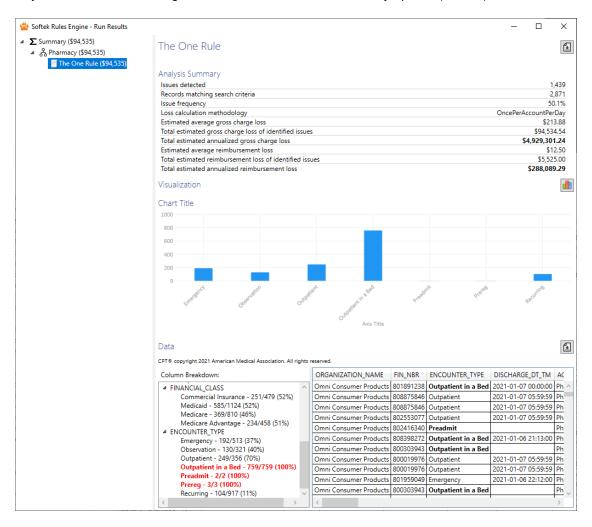


Figure 315: Rule Results

Column Breakdown

The column breakdown displays the distinct values found for each breakdown column among the records matching the search criteria and their failure rates.

Breakdown Columns:

- ADMIT_TYPE
- ORGANIZATION_NAME
- FACILITY
- BUILDING
- NURSE_UNIT
- LOCATION
- FINANCIAL_CLASS
- MEDICAL_SERVICE
- ENCOUNTER_TYPE
- ENCOUNTER_TYPE_CLASS

Data Table

The table includes all charges with issues for the given rule and activity type. The table provides some basic operations in its Context Menu to select and copy data, export the data out to a document, or even search all charges for the FIN of the selected row (Table 98).

Menu Option	Description
View all Charges	Searches all charges for the FIN of the selected row.
Copy FIN	Copies the FIN of the selected row.
Copy Charge Item ID	Copies the charge item ID of the selected row.
Copy Bill Item ID	Copies the bill item ID of the selected row.
Copy CDM	Copies the CDM of the selected row.
Copy HCPCS	Copies the HCPCS of the selected row.
Copy CPT	Copies the CPT of the selected row.
Export	Exports the data in the table to an Excel® or CSV file.
Сору	Copies the selected rows to the system clipboard.
Select All	Selects all rows.

Table 98: Rule Results grid context menu

Values with 100% failure rates in the column breakdown are bolded in the table.

9.11.4 Charges for Fin

The Charges for Fin view displays all charges for a given Fin, allowing a deeper look at what charges occurred for a particular Fin, which may aid in determining why a charge issue from the Rule Results view may have occurred. The table provides some basic operations in its Context Menu to select and copy data or export the data out to a document (Table 99). Additionally, there are fields that can be used to filter the displayed charges by HCPCS, CDM, CPT, Revenue Code, or Charge Description.

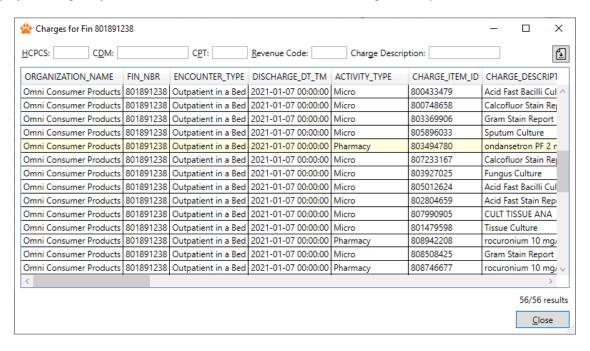


Figure 316: Charges for FIN

Menu Option	Description
Copy Charge Item ID	Copies the charge item ID of the selected row.
Copy Bill Item ID	Copies the bill item ID of the selected row.
Copy CDM	Copies the CDM of the selected row.
Copy HCPCS	Copies the HCPCS of the selected row.
Copy CPT	Copies the CPT of the selected row.
Export	Exports the data in the table to an Excel® or CSV file.
Сору	Copies the selected rows to the system clipboard.
Select All	Selects all rows.

Table 99: Charges for Fin grid context menu

The row matching the charge used to open Charges for Fin is highlighted and brought into view when the window appears.

9.12. Supply Charging Control

The Supply Charging control shows charging and usage information pertaining to supplies. This control does not make any modifications to the data in Millennium and does not interact with the billing system.

To view the Supply Charging control, select the *Supply Charging* item in the Domain Explorer (Figure 317).

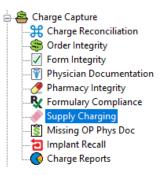


Figure 317: Domain Explorer

9.12.1 Surgical Cases

Surgical Cases Summary

The Surgical Cases Summary view displays an overview of surgical cases within the selected date range, providing the number of procedures, items, and implants related to each case. Clicking the procedures, items, and implant records links will display the list of procedures, items, or implant records for the selected surgical case.

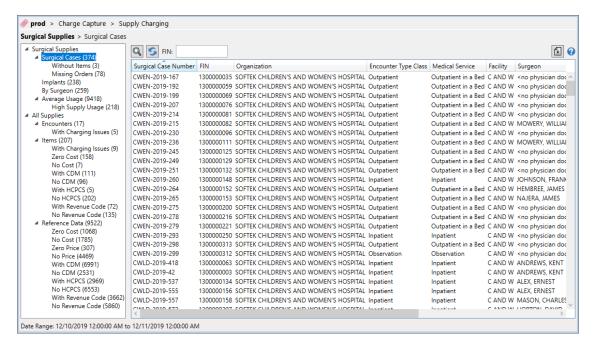


Figure 318: Surgical Cases Summary View

Right-clicking the mouse in the surgical case summary grid will open the Context Menu. See Figure 319.

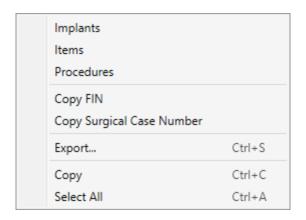


Figure 319: Surgical Cases Summary Context Menu

Without Items

The Without Items view displays the same information available in the Surgical Cases View (Figure 319) but only for cases that no supply usage associated with any of the procedures for the case. Double-clicking an item will show its details. Clicking the procedures, items, and implant records links will display the list of procedures, items, or implant records for the selected surgical case.

Missing Orders

The Missing Orders view displays the same information available in the Surgical Cases View (Figure 319) but only for cases that do not have an order linked to the primary procedure for the case. Double-clicking an item will show its details. Clicking the procedures, items, and implant records links will display the list of procedures, items, or implant records for the selected surgical case.

Procedures by Case

The Procedures by Case view displays all procedures related to a surgical case. Clicking an items link will display the items used during the procedure.

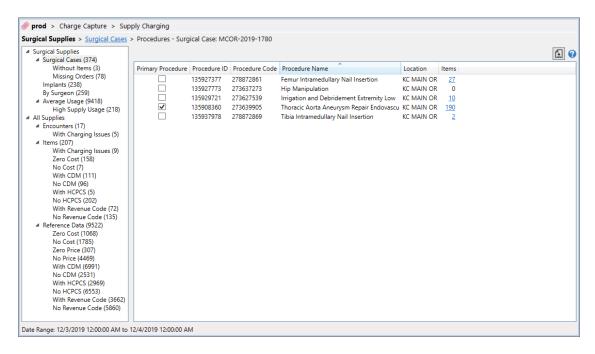


Figure 320: Procedures by Case View

Right-clicking the mouse in the procedures by case grid will open the Context Menu. See Figure 321.

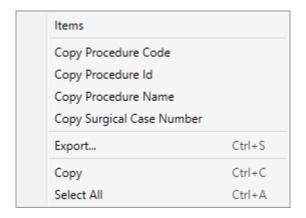


Figure 321: Procedures by Case Context Menu

Items by Procedure

The Items by Procedure view displays details for all items used during a procedure. Double-clicking an item will show the charge details view for that item.

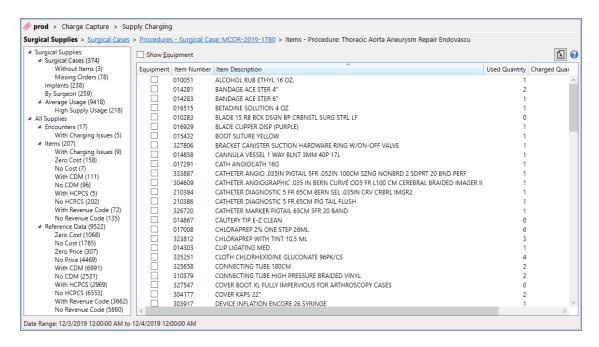


Figure 322: Items by Procedure View

Right-clicking the mouse in the Items by Procedure grid will open the Context Menu. See Figure 323.

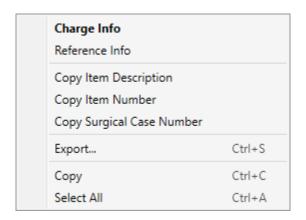


Figure 323: Items by Procedure Context Menu

Item Charge Details

The Item Charge Details view displays details for all charges on an item used during a procedure.

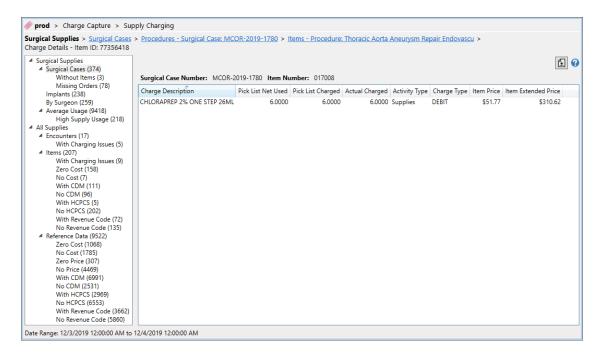


Figure 324: Item Charge Details View

Right-clicking the mouse in the Item Charge Details grid will open the Context Menu. See Figure 325.

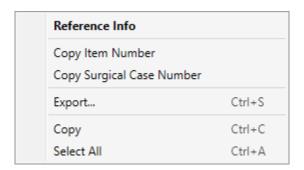


Figure 325: Item Charge Details Context Menu

Items by Case

The Items by Case view displays all items related to a surgical case. Double-clicking an item will show the charge details view for that item.

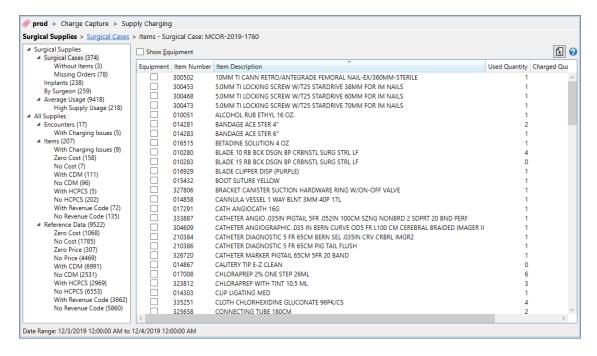


Figure 326: Items by Case View

Right-clicking the mouse in the Items by Case grid will open the Context Menu. See Figure 327.

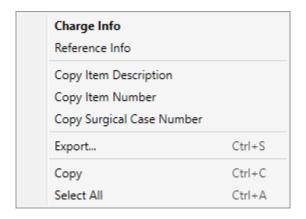


Figure 327: Items by Case Context Menu

Item Charge Details

The Item Charge Details view displays details for all charges on an item used for a surgical case.

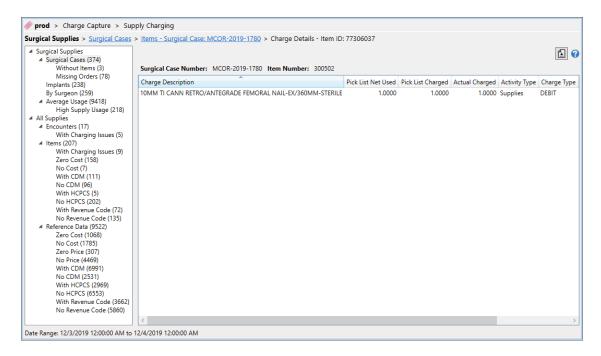


Figure 328: Item Charge Details View

Right-clicking the mouse in the Item Charge Details grid will open the Context Menu. See Figure 329.

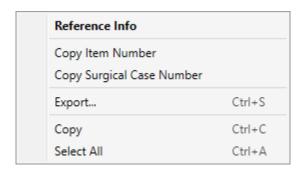


Figure 329: Item Charge Details Context Menu

Implants by Case

The Implants by Case view displays all implants related to a surgical case. Double-clicking an implant will show the charge details view for that implant.

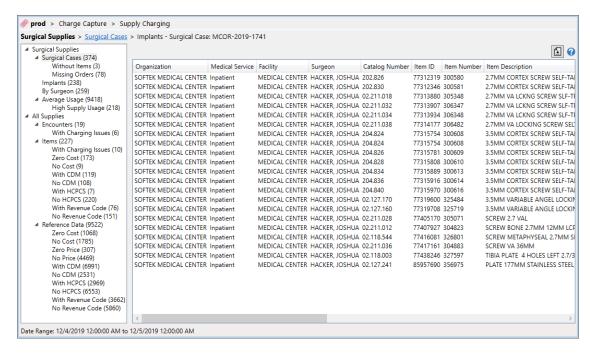


Figure 330: Implants by Case View

Right-clicking the mouse in the Implants by Case grid will open the Context Menu. See Figure 331.

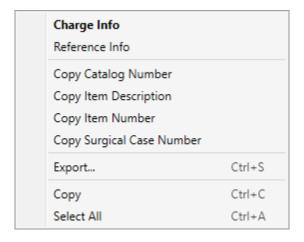


Figure 331: Implants by Case Context Menu

Implant Charge Details

The Implant Charge Details view displays details for all charges on an implant used for a surgical case.

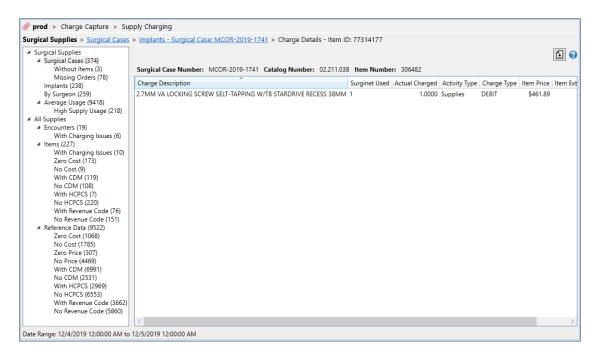


Figure 332: Implant Charge Details View

Right-clicking the mouse in the Implant Charge Details grid will open the Context Menu. See Figure 333.

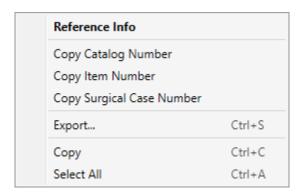


Figure 333: Implant Charge Details Context Menu

9.12.2 Implants

Implants Summary

The Implants Summary view displays an overview of implants used within the selected date range. Doubleclicking an implant will show the charge details view for that implant.

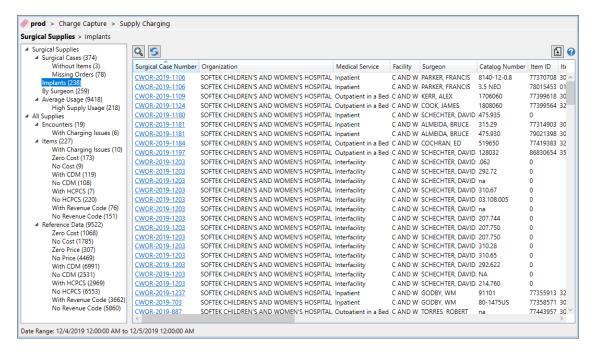


Figure 334: Implants Summary View

Right-clicking the mouse in the encounter summary grid will open the Context Menu. See Figure 335.

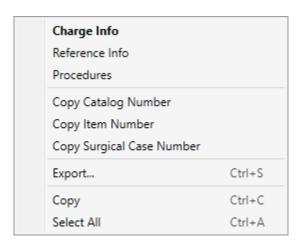


Figure 335: Implants Summary Context Menu

Implant Charge Details

The Implant Charge Details view displays details for all charges on an implant.

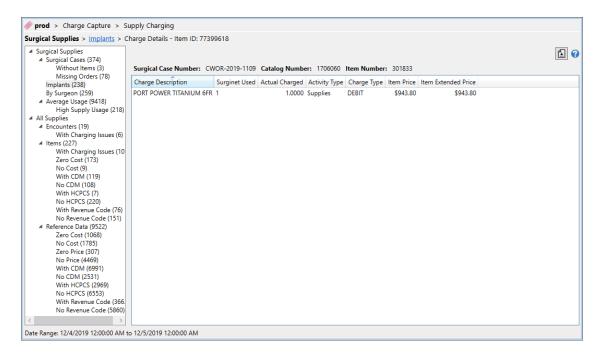


Figure 336: Implant Charge Details View

Right-clicking the mouse in the Implant Charge Details grid will open the Context Menu. See Figure 337.

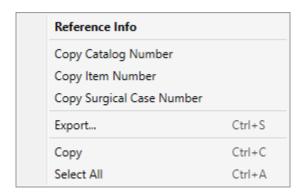


Figure 337: Implant Charge Details Context Menu

9.12.3 By Surgeon

By Surgeon Summary

The By Surgeon Summary view displays an overview of average primary procedure supply costs per surgeon within the selected date range. Clicking a surgeon's name will show show the surgeons average usage for individual supplies for the primary procedure compared to other surgeons. Clicking the surgeon total will show the cases performed by the surgeon the averages were calculated from. Clicking the case total will show the cases from all surgeons used to calculate the averages.

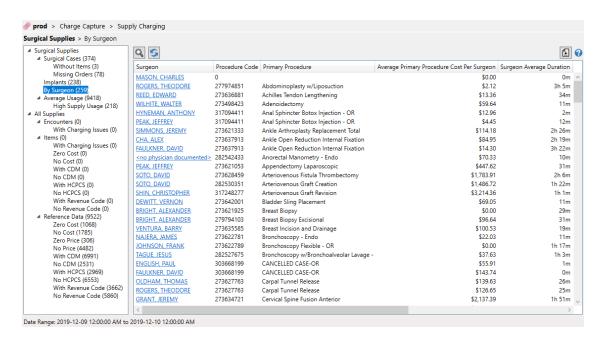


Figure 338: By Surgeon Summary View

Right-clicking the mouse in the by surgeon summary grid will open the Context Menu. See Figure 339.

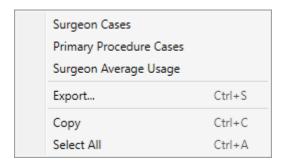


Figure 339: By Surgeon Summary Context Menu

Average Usage by Surgeon

The Average Usage by Surgeon view displays the average usage of supplies by a surgeon for a primary procedure compared to other surgeons that performed that primary procedure.

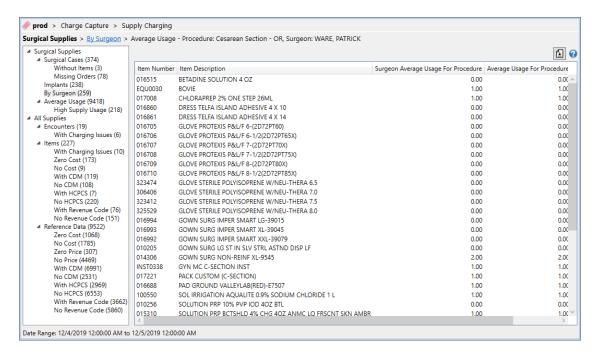


Figure 340: Average Usage by Surgeon

Right-clicking the mouse in the Average Usage by Surgeon grid will open the Context Menu. See Figure 341.

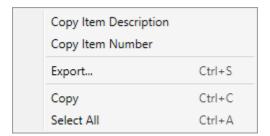


Figure 341: Average Usage by Surgeon Context Menu

9.12.4 Average Usage

Average Usage Summary

The Average Usage Summary view displays an overview of average usage of each supply item, per primary procedures and per surgeon within the selected date range. Clicking a surgeon's name will show show the surgeons average usage for for the primary procedure compared to other surgeons.

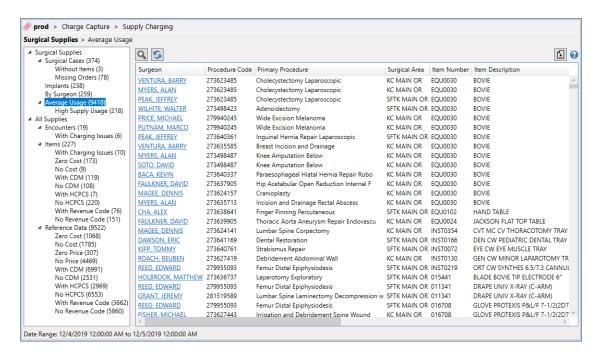


Figure 342: Average Usage Summary View

Right-clicking the mouse in the average usage summary grid will open the Context Menu. See Figure 343.



Figure 343: Average Usage Summary Context Menu

High Supply Usage

The High Supply Usage view displays the same information available in the Average Usage Summary View (Figure 334) but only for surgeons with supply usage of a given item in a primary procedure that exceed that exceeds the average usage by other surgeons for that item and primary procedure by 25%. Clicking a surgeon's name will show the surgeons average usage for the primary procedure compared to other surgeons.

9.12.5 Encounters

Encounters Summary

The Encounters Summary view displays an overview of encounters completed within the selected date range. Double-clicking an encounter will show the details view for that encounter.

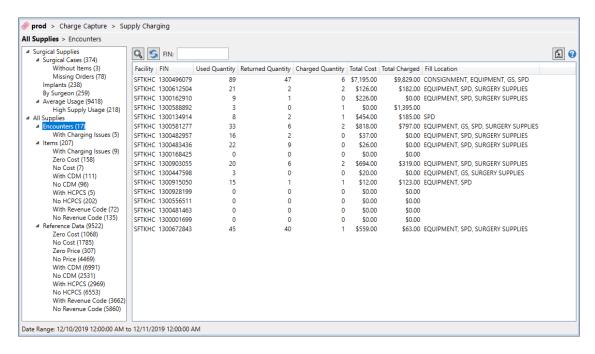


Figure 344: Encounters Summary View

Right-clicking the mouse in the encounter summary grid will open the Context Menu. See Figure 345.



Figure 345: Encounter Summary Context Menu

Encounters With Charging Issues

The With Charging Issues view displays the same information available in the Encounters Summary View (Figure 344) but only for encounters that have charges which are inconsistent with supply usage. Double-clicking an item will show its details.

Encounter Info

The Encounter Info view displays details about supply usage over an encounter. Double-clicking an item row will open the Item Info view for that item's usage within the context of the this encounter.

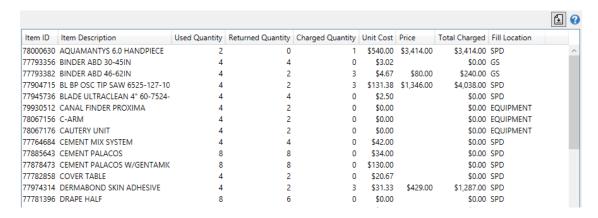


Figure 346: Encounter Info View

Right-clicking the mouse in the encounter info grid will open the Context Menu. See Figure 347.



Figure 347: Encounter Info Context Menu

9.12.6 Items

Items Summary

The Items Summary view displays an overview of items used within the selected date range. Double-clicking an item will show its details.

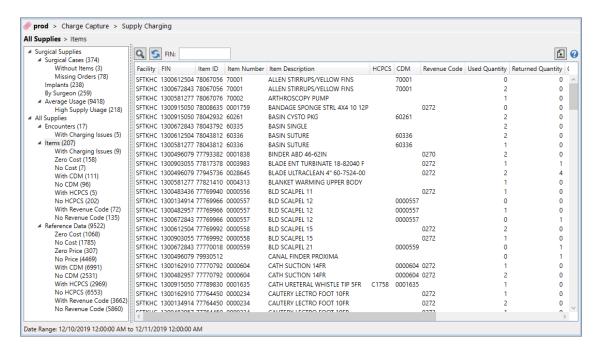


Figure 348: Items Summary View

Right-clicking the mouse in the item summary grid will open the Context Menu. See Figure 349.

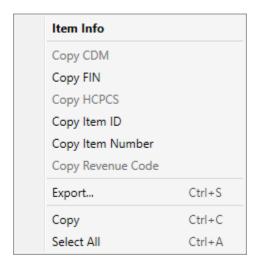


Figure 349: Item Summary Context Menu

Items With Charging Issues

The Items With Charging Issues view displays the same information available in the Items Summary View (Figure 348) but only for items that have charges which are inconsistent with supply usage. Double-clicking an item will show its details.

Items With Zero Cost

The Zero Cost view displays the same information available in the Items Summary View (Figure 348) but only for items that have at least one usage instance where the unit cost is zero. Double-clicking an item will show its details.

Items With No Cost

The No Cost view displays the same information available in the Items Summary View (Figure 348) but only for items that have no costs configured in Millennium for any location. Double-clicking an item will show its details.

Items With CDM

The Items With CDM view displays the same information available in the Items Summary View (Figure 348) but only for items that have an associated CDM code. Double-clicking an item will show its details.

Items With No CDM

The Items With No CDM view displays the same information available in the Items Summary View (Figure 348) but only for items that do not have an associated CDM code. Double-clicking an item will show its details.

Items With HCPCS

The Items With HCPCS view displays the same information available in the Items Summary View (Figure 348) but only for items that have an associated HCPCS code. Double-clicking an item will show its details.

Items With No HCPCS

The Items With No HCPCS view displays the same information available in the Items Summary View (Figure 348) but only for items that do not have an associated HCPCS code. Double-clicking an item will show its details.

Items With Revenue Code

The Items With Revenue Code view displays the same information available in the Items Summary View (Figure 348) but only for items that have an associated Revenue code. Double-clicking an item will show its details.

Items With No Revenue Code

The Items With No Revenue Code view displays the same information available in the Items Summary View (Figure 348) but only for items that do not have an associated Revenue code. Double-clicking an item will show its details.

Item Info

The Item Info view displays details about a single item's usage within the context of a single encounter. Reference Data about the item can be reached through the right-click context menu.

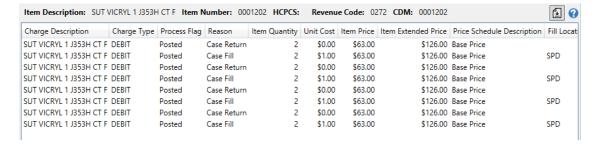


Figure 350: Item Info View

Right-clicking the mouse in the item info grid will open the Context Menu. See Figure 351.



Figure 351: Item Details Context Menu

9.12.7 Reference Data

Reference Data Summary

The Reference Data view displays an overview of all supply items configured in Millennium that match the search criteria. Double-clicking an item will show additional details about the cost and price configuration in Millennium.

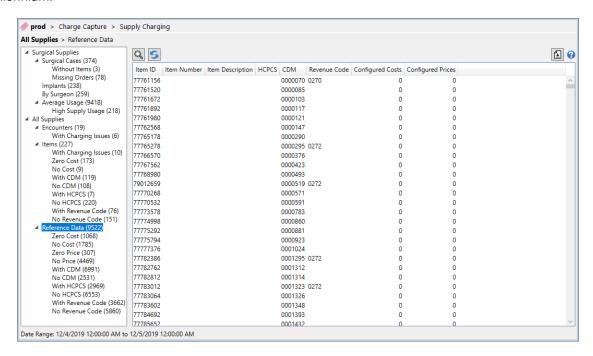


Figure 352: Reference Data Summary View

Right-clicking the mouse in the reference data summary grid will open the Context Menu. See Figure 353.

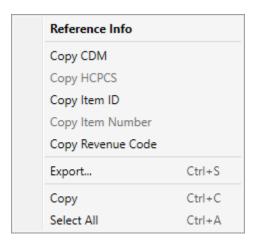


Figure 353: Reference Data Summary Context Menu

Reference Data Zero Cost

The Reference Data Zero Cost view displays the same information available in the Reference Data Summary View (Figure 352) but only for items that have at least one configuration where its cost is zero. Double-clicking an item will show additional details about the cost and price configuration in Millennium.

Reference Data No Cost

The Reference Data No Cost view displays the same information available in the Reference Data Summary View (Figure 352) but only for items that have no cost configurations in Millennium. Double-clicking an item will show additional details about the price configuration in Millennium.

Reference Data Zero Price

The Reference Data Zero Cost view displays the same information available in the Reference Data Summary View (Figure 352) but only for items that have at least one configuration where its price is zero. Double-clicking an item will show additional details about the cost and price configuration in Millennium.

Reference Data No Price

The Reference Data No Price view displays the same information available in the Reference Data Summary View (Figure 352) but only for items that have no price configurations in Millennium. Double-clicking an item will show additional details about the cost configuration in Millennium.

Reference Data With CDM

The Reference Data With CDM view displays the same information available in the Reference Data Summary View (Figure 352) but only for items that have an associated CDM code. Double-clicking an item will show additional details about the cost and price configuration in Millennium.

Reference Data With No CDM

The Reference Data With No CDM view displays the same information available in the Reference Data Summary View (Figure 352) but only for items that do not have an associated CDM code. Double-clicking an item will show additional details about the cost and price configuration in Millennium.

Reference Data With HCPCS

The Reference Data With HCPCS view displays the same information available in the Reference Data Summary View (Figure 352) but only for items that have an associated HCPCS code. Double-clicking an item will show additional details about the cost and price configuration in Millennium.

Reference Data With No HCPCS

The Reference Data With No HCPCS view displays the same information available in the Reference Data Summary View (Figure 352) but only for items that do not have an associated HCPCS code. Double-clicking an item will show additional details about the cost and price configuration in Millennium.

Reference Data With Revenue Code

The Reference Data With Revenue Code view displays the same information available in the Reference Data Summary View (Figure 352) but only for items that have an associated Revenue code. Double-clicking an item will show additional details about the cost and price configuration in Millennium.

Reference Data With No Revenue Code

The Reference Data With No Revenue Code view displays the same information available in the Reference Data Summary View (Figure 352) but only for items that do not have an associated Revenue code. Double-clicking an item will show additional details about the cost and price configuration in Millennium.

Reference Info

The Reference Info view displays details about a single item's configuration in Millennium. Relevant billing codes (CDM, Revenue, HCPCS, etc.) and any cost and price configurations are displayed here.

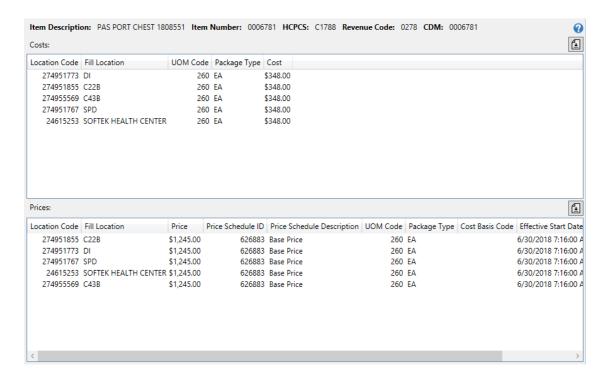


Figure 354: Reference Info View

Right-clicking the mouse in the reference info grid will open the Context Menu. See Figure 355.



Figure 355: Reference Info Context Menu

9.12.8 Searching

The Supply Charging Control provides the ability to search based on selected date range, Facility, Location, Package Type, and Surgical Area. The date range will default to the last seven days. Facility, Location, Package Type, and Surgical Area are unfiltered by default. (Figure 356).

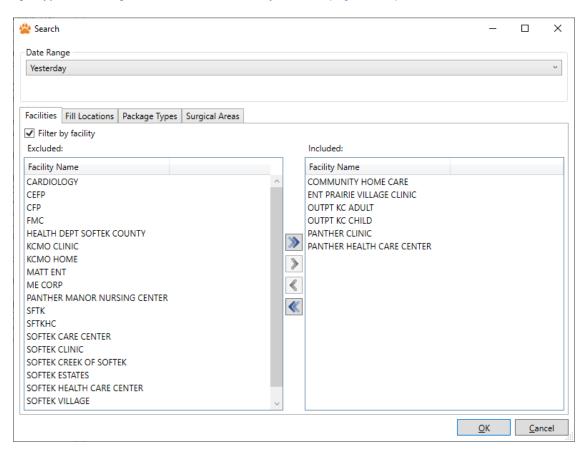


Figure 356: Search Filter Dialog

10 Patient Accounting

Panther patient accounting controls provide Cerner Revenue Cycle clients instant visibility into the status of key financial and billing data. The components listed below represent a growing collection of functionality.

For more detailed information about the Panther Patient Accounting controls, you may visit their respective section(s).

10.1. ATB Control

The ATB control is an interactive tool to view monthly cash flow.

To view the ATB control, select the ATB item in the domain explorer (Figure 357).



Data Is Retrieved Automatically For The Most Recent Search

The ATB control automatically performs a search on load using the most recent criteria defined by the user. If no criteria has been defined, it will use a default set of criteria.

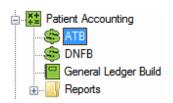


Figure 357: Domain Explorer

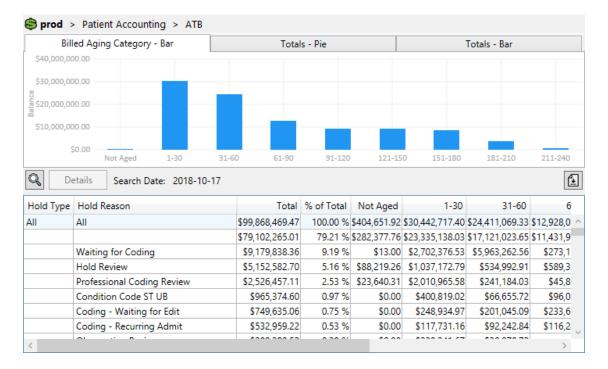


Figure 358: ATB Control

10.1.1 Working With Search Results

Once a search has completed, the data is presented in tabular format as well as several charts.

Billed Aging Category Bar Chart

Initially, a bar chart breaking down totals by aging category index is displayed (Figure 359). This chart displays data for the currently-selected row in the table.

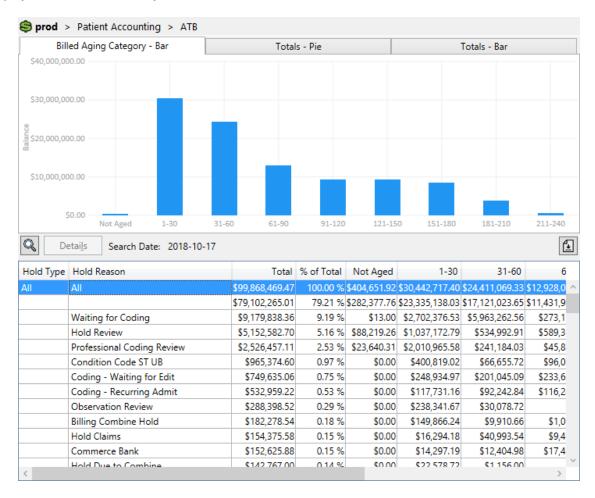


Figure 359: ATB With Data

Totals Pie Charts

There is also a set of pie charts displaying relative totals (Figure 360). The first breaks down totals by the primary identifier while the second breaks them down by the secondary identifier. Within each chart, hovering the mouse over a pie slice will display the identifier, raw total, and percentage of the pie. Additionally, clicking a pie slice will highlight its row in the table below, and double-clicking a slice will load its encounter details.

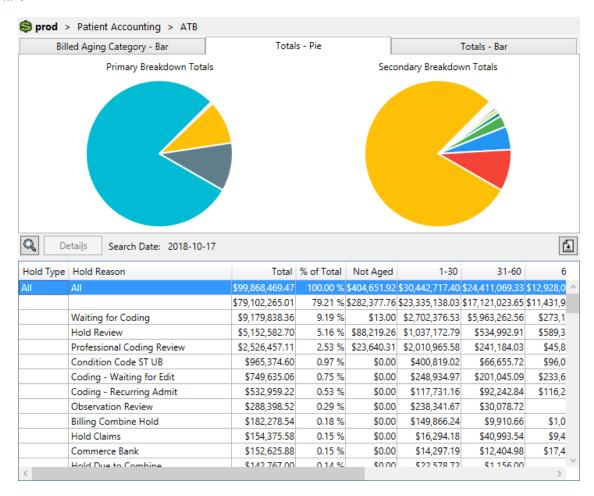


Figure 360: ATB Pie Charts



Pie Slice Percentages May Not Match Table Percentages

The percentages found in the table are calculated by dividing the raw total value for the row by the raw grand total value. When all values are positive or all values are negative, the percentages work as expected. However, pie charts cannot handle negative percentages. As a result, when mixing positive and negative values, the pie charts use absolute values similar to Microsoft Excel[®], but the table will display true percentages.

Totals Bar Charts

Lastly, there is a set of bar charts displaying the raw totals (Figure 361). As with the pie charts, the first breaks down totals by the primary identifier, while the second breaks them down by the secondary identifier. Also like the pie charts, hovering the mouse over a bar will display its identifier and raw total, clicking a bar will highlight its row in the table below, and double-clicking a bar will load its encounter details.

Each bar chart is sorted by total in descending order and paginated, displaying ten values at a time. The up and down buttons provide the ability to navigate through each page of data.

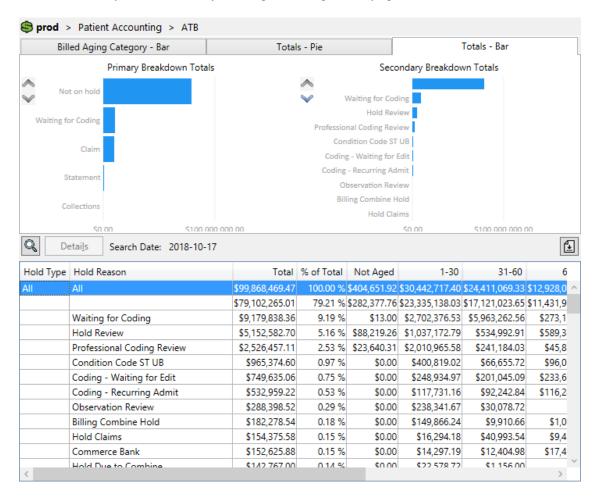


Figure 361: ATB Bar Charts

Exporting Data

The ATB control also allows the export of currently-displayed tabular data. To do so, click the export button. It will then prompt for a file location and save the data in CSV or Excel® format.

Viewing Details

Occasionally, it is useful to pull up encounter details for a summary item. This can be done by selecting a row in the table and clicking the *Details* button, clicking the *Details* context menu item, double-clicking the row, or double-clicking a chart slice/bar. This will bring up the details dialog (Figure 362).

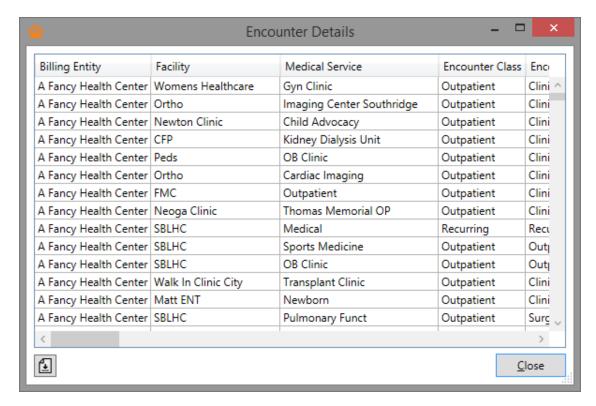


Figure 362: Encounter Details

Like its parent control, this dialog allows for exporting tabular data to CSV or Excel[®] format via the export button.

The FIN can be copied out of the selected row by double-clicking or selecting the *Copy FIN* context menu item. Additionally, the MRN can be copied out of the selected row by selecting the *Copy MRN* context menu item.

10.1.2 Search

Upon clicking the search button, a search dialog presenting basic criteria (Figure 363) opens. The search is triggered once *OK* is clicked and the dialog closes.



Search Displays the Current Criteria

When opened, the search dialog will display the criteria used for the most recent search. This makes it easy to modify existing searches.

If more specific, narrowly-focused criteria are known up front, more criteria is supplied upon expanding Advanced Search.

Search Date: Search Date: Primary Breakdown: Secondary Breakdown: W Advanced Search OK Cancel

Figure 363: Search Dialog

2018-10-17

15

Search Date:

10.1.3 Advanced Search

Upon expanding *Advanced Search*, the search dialog expands to display additional criteria which can be applied (Figure 364). This helps narrow down the search to very specific items when investigating issues.

Certain criteria types are stored as pairs in Millennium (Hold Type with Hold Reason, and Encounter Class with Encounter Type). Panther displays them separately for convenience, but the values selected in one part of the pair can affect which values will be effectively searched on in the other part of the pair.

For instance, there may be a Hold Type of "Waiting for Coding", associated with Hold Reasons of "Coding - Dept Review" and "Coding - Received Coding Query". If "Waiting for Coding" is unchecked, the associated Hold Reasons will not be included in results even if they are checked. To make this more apparent, they will not be saved in the Search Preferences.

Conversely, even if "Waiting for Coding" is checked, if neither "Coding - Dept Review" nor "Coding - Received Coding Query" are checked, that pair is effectively excluded from the search results, and so will not be saved as part of the Search Preferences.



Advanced Search Also Displays the Current Criteria

Like the basic search criteria, all advanced criteria for the most recent search is displayed to aid in modifying existing searches. This is true even if *Advanced Search* has not yet been expanded.

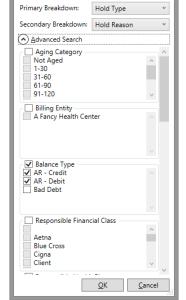


Figure 364: Advanced Search Dialog



Why Do Warning Icons Appear Next To Criteria?

Hold Type and Hold Reason as well as Encounter Class and Encounter Type values are actually stored as pairs in Millennium[®]. Panther provides them as separate criteria for convenience, but it will warn when combinations of values are incapable of returning any results.

10.2. Balance Holds Control

The Balance Holds control is an interactive tool to view held balances.

To view the Balance Holds control, select the *Balance Holds* item in the domain explorer (Figure 365).



Figure 365: Domain Explorer



Data is Retrieved Automatically for the Most Recent Search

The Balance Holds control automatically performs a search on load using the most recent criteria defined by the user. If no criteria has been defined, it will load data for all active holds.

10.2.1 Hold Summary

The Hold Summary view displays the count and value of balances with active holds, grouped by hold type, hold reason, worklist, and age. Total rows are shown for each hold type, reason, and worklist.

The Search button allows options for restricting the search. The "Include Totals" checkbox determines whether total rows are shown. The "Export" button allows for the displayed data to be saved to a .csv or .xlsx file.

Clicking any of the linked counts for an aging category or for a total will bring up the Held Balances dialog.



Show or Hide Total Rows

The 'Include Totals' checkbox controls whether total rows are shown. When total rows are hidden, they are not included when the data is exported to a file. This can be useful for performing analytics on exported data.

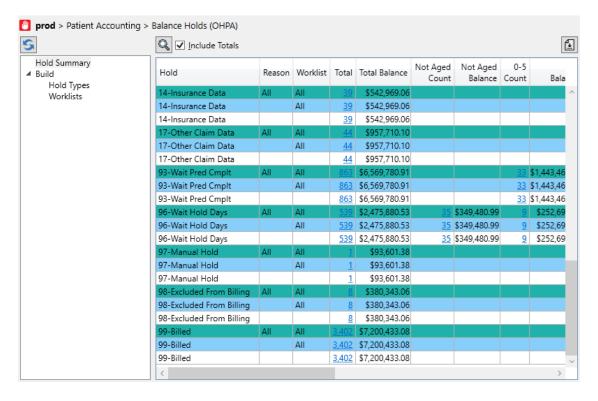


Figure 366: Hold Summary

Held Balances

The Held Balances view displays a list of balances currently subject to the selected hold and aging category Additional details for the encounter associated with a balance can be viewed by double clicking on the row which opens the Encounter Details view.

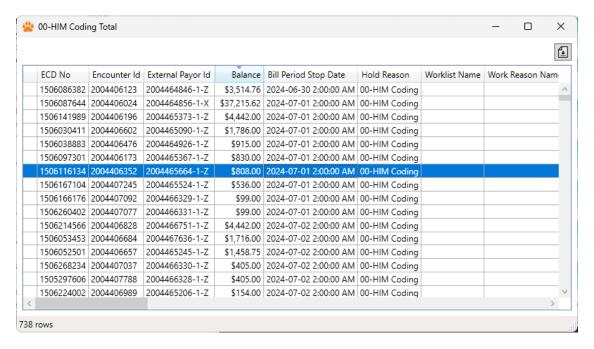


Figure 367: Held Balances

Encounter Details

The Encounter Details view displays information for a given encounter.

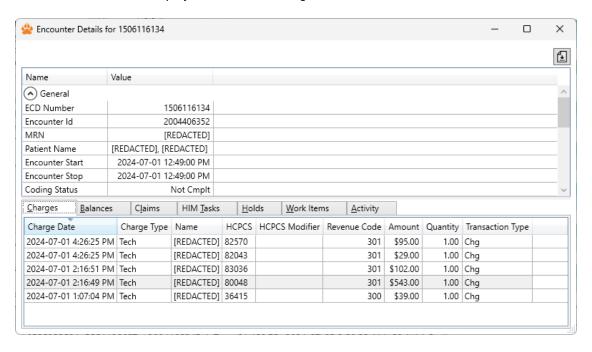


Figure 368: Encounter Details

Searching

Clicking the search button opens a dialog presenting basic criteria (Figure 369). The search is triggered once *OK* is clicked and the dialog closes.

The Filter by Receivable Owner option will limit results to balances associated with the included Receivable Owners.



Search Displays the Current Criteria

When opened, the search dialog will display the criteria used for the most recent search. This makes it easy to modify an existing search.

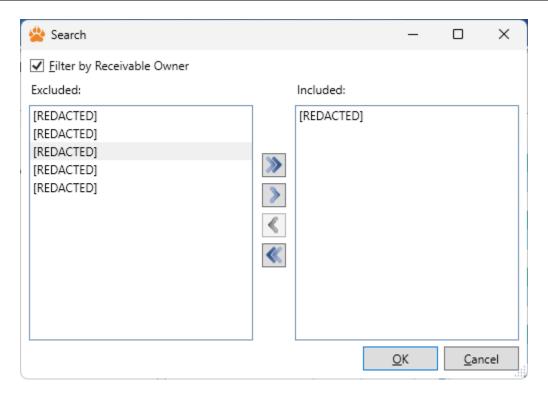


Figure 369: Search Dialog

10.2.2 Hold Types

The Hold Types view displays all of the configured hold types.

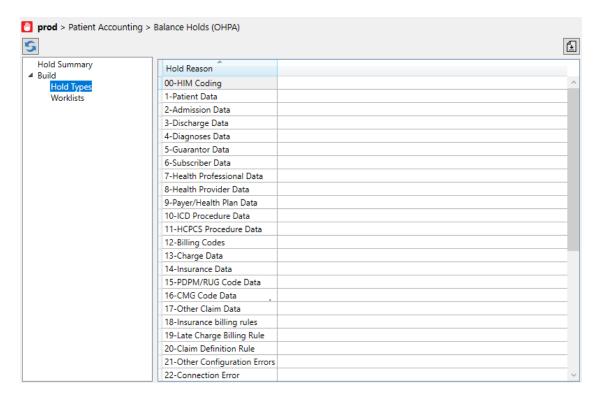


Figure 370: Hold Types

10.2.3 Worklists

The Worklists view displays all defined workilists.

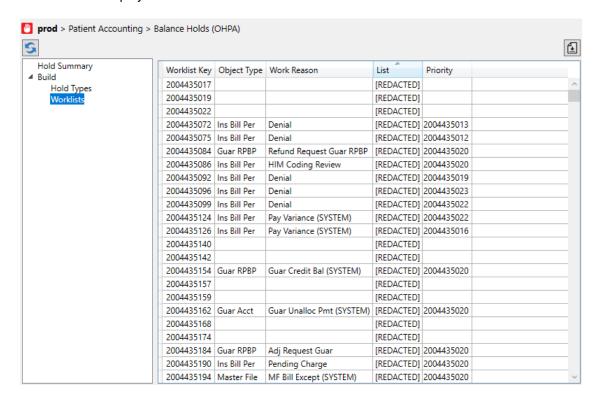


Figure 371: Worklists

10.3. Biller Productivity Control

The Biller Productivity control is an interactive tool to view Biller Productivity data.

To view the Biller Productivity control, select the *Biller Productivity* item in the domain explorer (Figure 372).

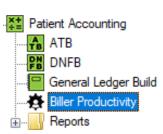


Figure 372: Domain Explorer



Data is Retrieved Automatically for the Most Recent Search

The Biller Productivity control automatically performs a search on load using the most recent criteria defined by the user. If no criteria has been defined, it will wait for the user to initiate a search.

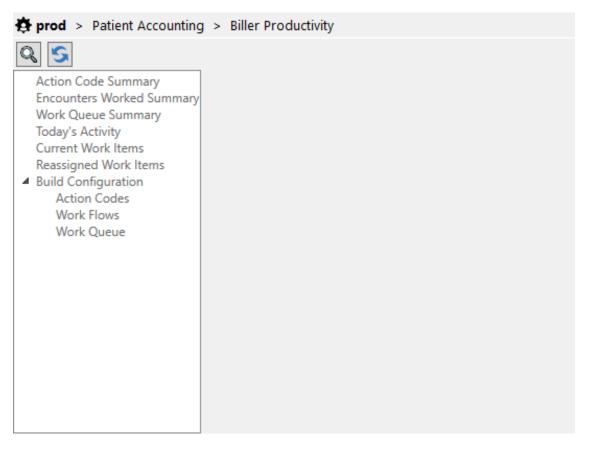


Figure 373: Biller Productivity Control

10.3.1 Searching

Upon clicking the search button, a search dialog presenting basic criteria (Figure 374) opens. The search is triggered once the *OK* button is clicked and the dialog closes.

Your search criteria will be remembered and used the next time you use the Biller Productivity control.



Search Displays the Current Criteria

When opened, the search dialog will display the criteria used for the most recent search. This makes it easy to modify an existing search.

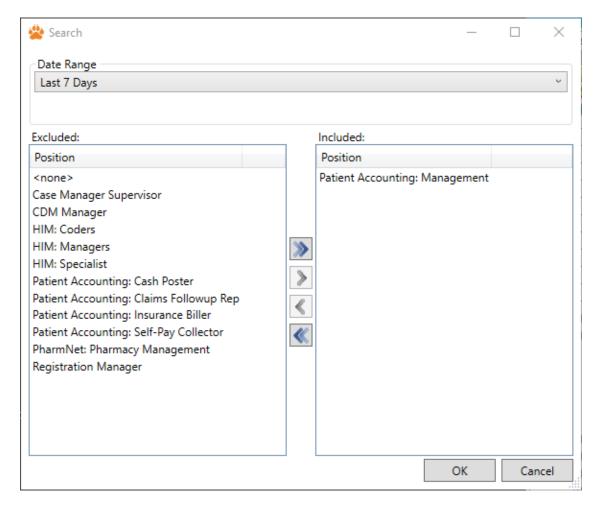


Figure 374: Search Dialog

Once the search criteria is set, the Biller Productivity views are enabled and can be selected. The search criteria can be changed at anytime, this will refresh the displayed data.

10.3.2 Productivity Summary

The Productivity Summary control combines high-level data from the Action Code Summary, Encounters Worked Summary, and Work Queue Summary views, displaying totals for each broken down by user.

Clicking any of the linked numbers within the Encounters Worked or Action Codes Applied columns will bring up the Encounters Worked screen, while clicking any of the linked numbers within the Total Balance column will bring up the Work Queue Details screen.

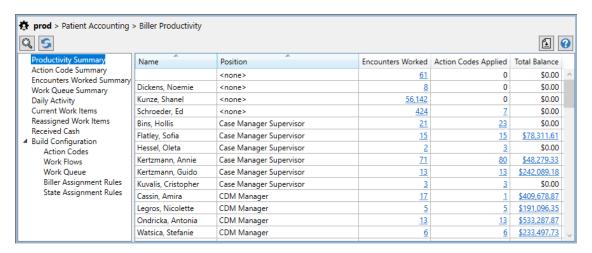


Figure 375: Productivity Summary

10.3.3 Action Code Summary

The Action Code Summary control displays work performed each day split out by what action codes were used. The Action Codes Applied column shows the total number of action codes applied during the search period. This view includes calculations for weighted score, when it is configured for an action code.

Clicking any of the linked numbers for a day or for a total will bring up the Encounters Worked screen.

For more information on the build configuration of action codes and weights, see Action Codes.



Show or Hide Total Rows

The 'Include Totals' checkbox controls whether total rows are shown. When total rows are hidden, they are not included when the data is exported to a file. This can be useful for performing analytics on exported data.

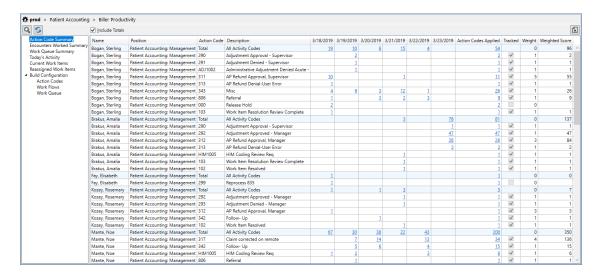


Figure 376: Action Code Summary

10.3.4 Encounters Worked

The Encounters Worked screen displays encounters worked by a user and sorted by recent activity. Each entry includes the elapsed time and the number of actions taken.

Additional details for a FIN can be viewed by clicking on the link in the FIN column which opens Encounter Activity screen.

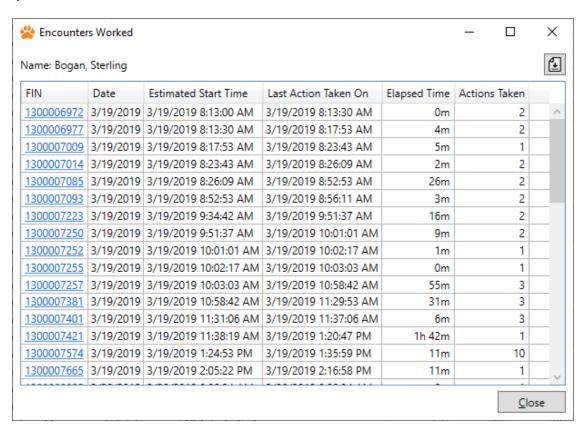


Figure 377: Encounters Worked

10.3.5 Encounter Activity

The Encounter Activity screen displays all the activity for an encounter. Above the grid displays how the details screen was reached. Though the name of the user is listed above the grid, Encounter Activity displays all of a FIN's historical activity.

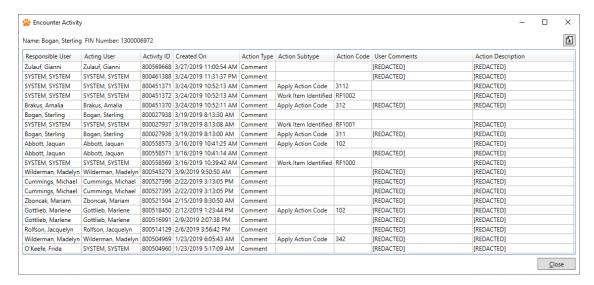


Figure 378: Encounter Activity

10.3.6 Encounters Worked Summary

The Encounters Worked Summary control displays the number of encounters worked per user.

Clicking any of the linked numbers for a day or for a total will bring up the Encounters Worked screen.

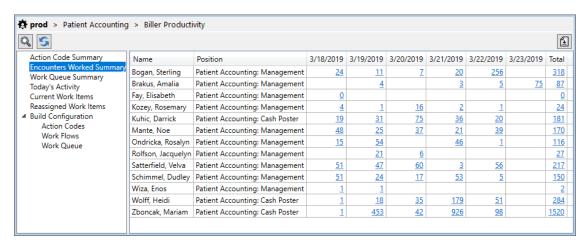


Figure 379: Encounters Worked Summary

10.3.7 Work Queue Summary

The Work Queue Summary control displays the number of worked items and there balance. This is broken down for the user, queue type, and status. Total rows are shown for each user and have a distinguished background color.

Clicking an item link or a balance link brings up the Work Queue Details screen.

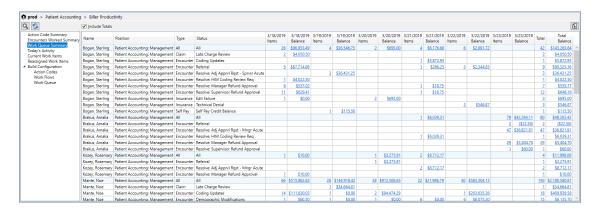


Figure 380: Work Queue Summary

10.3.8 Work Queue Details

The Work Queue Details screen displays individual work items that were acted upon, the time the last change was made, and the balance.

Additional details for a FIN can be viewed by clicking on the link in the FIN column, which opens Encounter Activity screen.

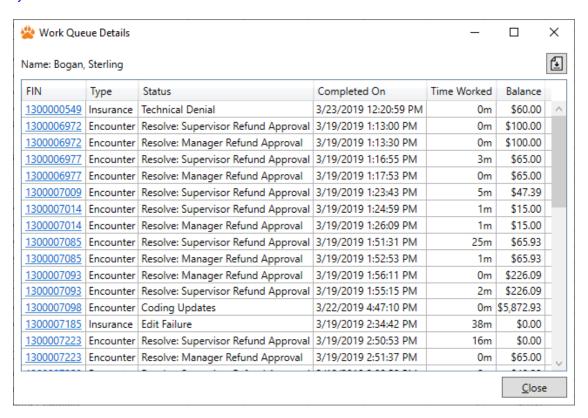


Figure 381: Work Queue Details

10.3.9 Today's Activity

The Today's Activity control displays all of a user's activity for the current day. Above the grid has a dropdown to load data for a specific user.

The dropdown list shows all users based on the selected positions in the search criteria. If a user is not in the dropdown, the search criteria may need to be changed, refer to Search Criteria.

The data is categorized into 'All Activity' on the top grid and 'Workflow Activity' on the bottom grid.

Additional details for a FIN can be viewed by clicking on the link in the FIN column, which opens Encounter Activity screen.

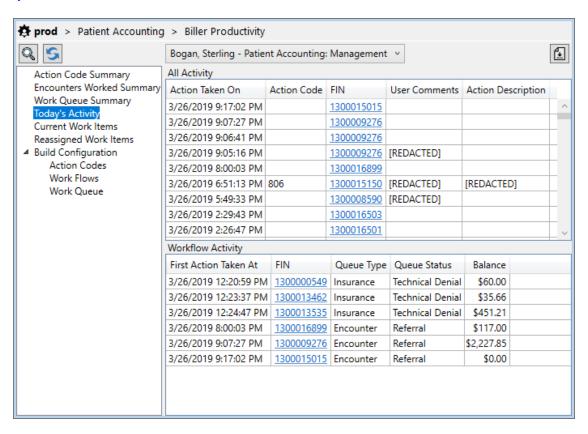


Figure 382: Today's Activity

10.3.10 Current Work Items

The Current Work Items control displays all of the assigned items grouped by follow up time, the type, status, and balance. Total rows are shown for each user and have a distinguished background color.

Clicking on an item or balance link opens the Active Work Items screen.

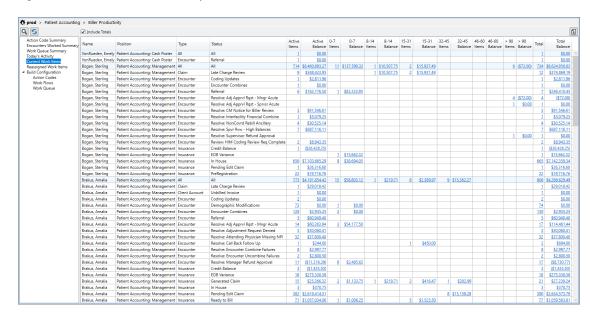


Figure 383: Current Work Items

10.3.11 Active Work Items

The Active Work Items screen displays individual work items assigned to a user, the balance and details about the last action taken.

Additional details for a FIN can be viewed by clicking on the link in the FIN column, which opens Encounter Activity screen.

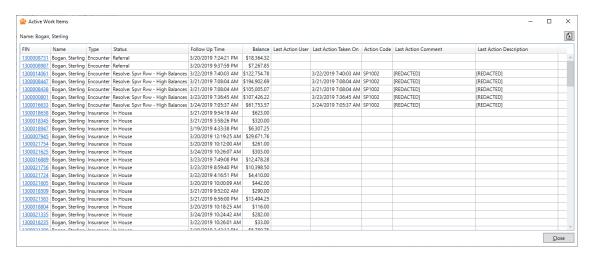


Figure 384: Active Work Items

10.3.12 Reassigned Work Items

The Reassigned Work Items control displays referred work grouped by the person who referred the work. Each group of referrals begins with a colored total row that displays the position of the person who referred the work and the total number of items referred. The rows under each total row indicate the individual referees and how many items were referred to each one.

More information on referrals can be viewed by clicking any of the links in the Items Referred column to open Reassigned Work Item Details screen.

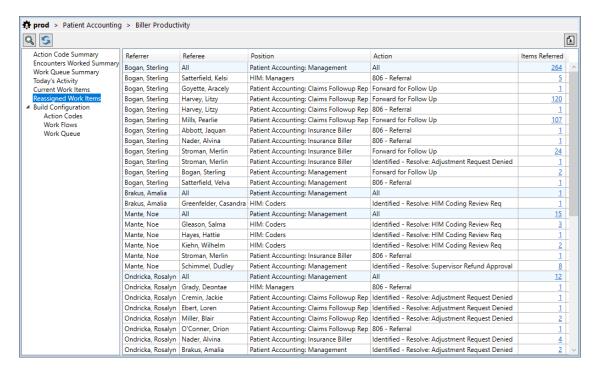


Figure 385: Reassigned Work Items

Reassigned Work Item Details

The Reassigned Work Item Details screen displays work referred for a single referrer. Depending on which link was clicked, this could show all referrals or just referrals to a single referee.

Individual referrals can be viewed by clicking on the link in the FIN column, which opens Encounter Activity screen.

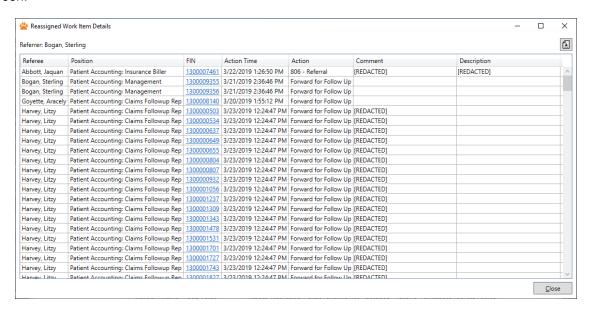


Figure 386: Reassigned Work Item Details

10.3.13 Received Cash

The Received Cash control displays a summary of billers' work items that had payments on them.

Each group of payments begins with a colored total row that displays the biller name, position, entity type, entity status, the total number of items, and the total balance. The rows under each total row indicate the individual entity type and entity status and how many and how much each had in payments.

Double-clicking on an item or balance cell brings up the Received Cash Details dialog, filtered to the responsible biller and, if applicable, the date and entity status. You can also bring up the Received Cash Details dialog by right-clicking on a cell and selecting "Details."

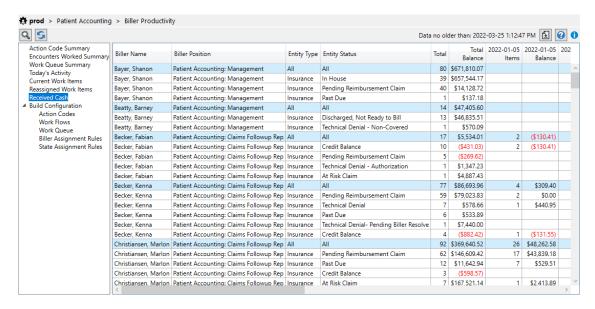


Figure 387: Received Cash

Received Cash Details

The Received Cash Details screen displays payments for a single biller. Depending on which column was clicked, this could show all payments for a specific biller over the whole selected date range or a single day's payments.

The Encounter Details associated with a payment can be viewed by right-clicking a row and selecting "Encounter Details" from the context menu, or by double-clicking on a payment.

Split Payments can be viewed by right-clicking any row with a green checkmark in the Is Split column and selecting Split Payment Details from the context menu.

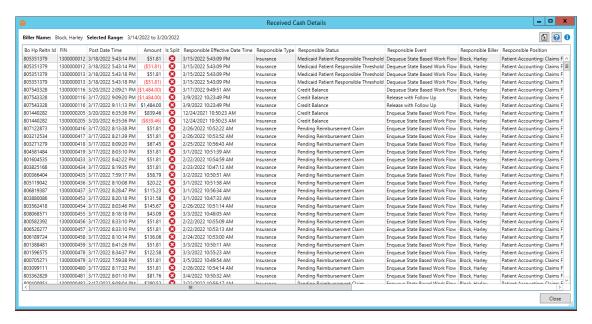


Figure 388: Received Cash Details

Split Payment Details

The Split Payment Details screen displays a payment and its activities that caused it to be considered a split.

The Encounter Details associated with a payment can be viewed by right-clicking a row and selecting "Encounter Details" from the context menu, or by double-clicking on a payment.

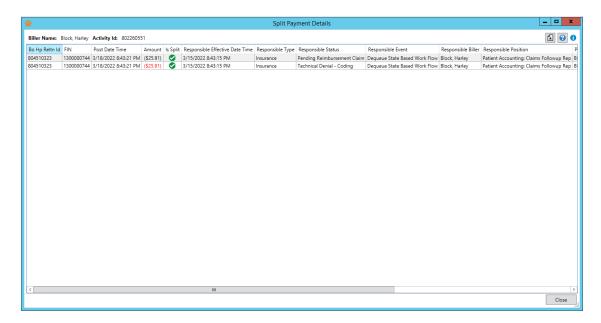


Figure 389: Split Payment Details

10.3.14 Build Configuration

The Build Configuration section displays the reference data of how the system is built.

Action Codes

The Action Codes view displays details for each defined action code, its follow up times and productivity tracking settings.

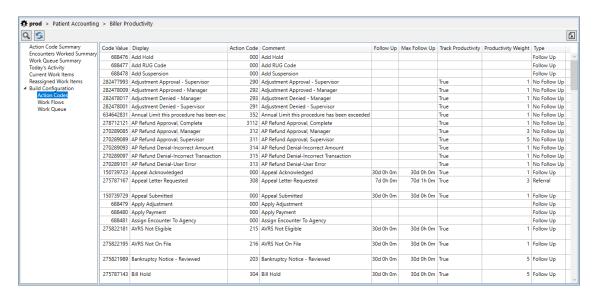


Figure 390: Action Codes

Work Flows

The Work Flows view displays all of the configured work flows.

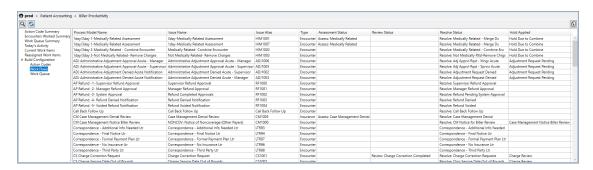


Figure 391: Work Flows

Work Queue

The Work Queue view displays all of the configured types and their possible statuses.

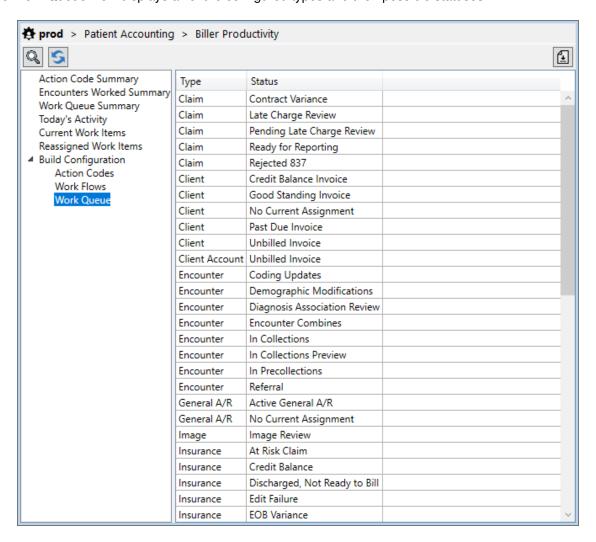


Figure 392: Work Queue

Biller Assignment Rules

The Biller Assignment Rules view displays all the biller in the top grid. After selecting a biller, the bottom grid will populate with all rules that apply to that biller.

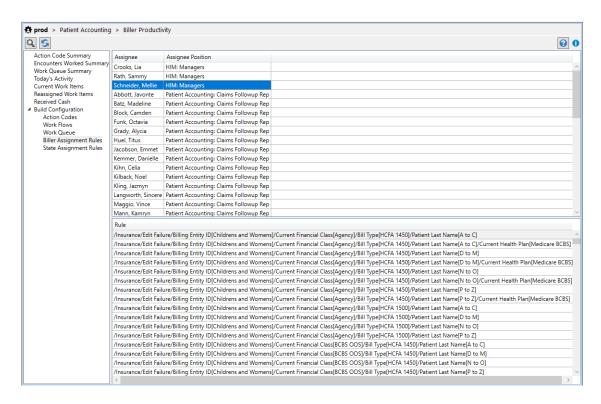


Figure 393: Biller Assignment Rules

State Assignment Rules

The State Assignment Rules view displays all the configured Assignment Rules by State in a tree view. By clicking the arrows on the left side of the screen you can expand out each state to see the rules underneath.

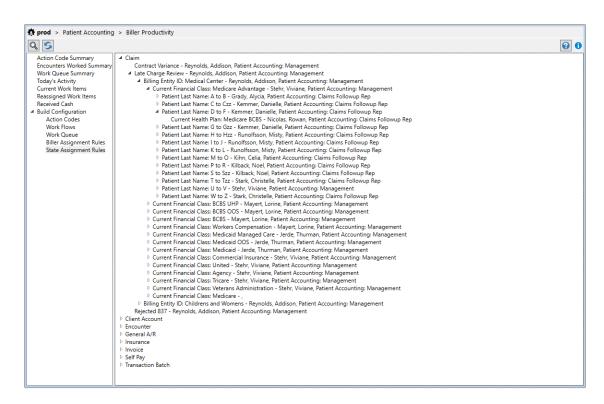


Figure 394: State Assignment Rules

10.3.15 Encounter Details Dialog

The *Encounter Details* dialog is a common dialog displayed by many Panther controls. See Encounter Details Dialog for more information. Within Biller Productivity, Encounter Details can be launched from the Received Cash Details dialog and the Split Payment Details dialog.

10.4. Cash Drawer Control

The Cash Drawer control allows users to track what people, positions, and locations are bringing in the greatest amount of cash. This information can be used to incentivize team members. This control also shows the state of all the batches, helping to identify batches that are "stuck". This control does not make any modifications to the data in Millennium.

To view the Cash Drawer control, select the *Cash Drawer* item, under the *Patient Accounting* item, in the Domain Explorer (Figure 395).

There are two icons that commonly appear in the upper right-hand corner of the Cash Drawer control. These are the Export button, and the Help icon.

The Export button allows users to save the currently displayed data in a CSV or Excel[®] format. When the Export button is clicked, the Windows "Save As" dialog will appear, prompting the user to select a name and location for the file. Data in all grids can also be selected and copied by using keyboard shortcuts or by right-clicking to access the context menu.

prod
Charge Capture
Patient Accounting
ATB
DNFB
General Ledger Build
Siller Productivity
Cash Drawer
Playor Report Card
Encounter Holds
Reports

Figure 395: Domain Explorer

The Help icon provides additional information about the data currently being viewed. Hover the mouse cursor over the question mark icon to see an informational tooltip describing the data displayed.

10.4.1 Cash Drawer Main Control

When the control is loaded, the Posted Payments by Location section will be selected by default. The tree view on the left-hand side of the control can be used to navigate to other sections of the control. Data will not be automatically refreshed on this control.

Searches may take time to load; please note the spinning blue loading icon which will appear in the upper left-hand corner of the control, where the Cash Drawer icon normally is.

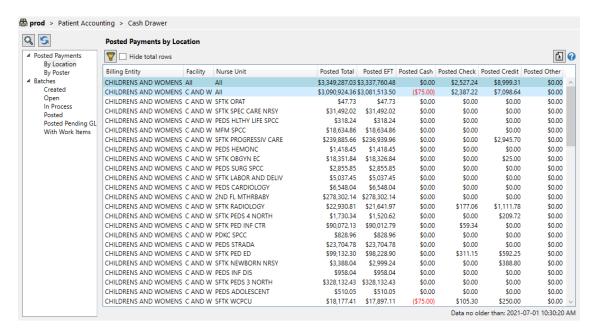


Figure 396: Cash Drawer Control

The Search button in the upper left-hand corner of the control can be used to change the date range and billing entities included in the returned data. By default, the date range for the control is Yesterday and all billing entities are included in the results. The maximum date range a user can search is 31 days.



Search Date Range

Some batch views do not use the date range provided in the search criteria to filter data. See the help text for each view to see if the date range is used.

The *Refresh* icon is located to the right of the Search icon and can be used to refresh the current data displayed reusing the same search criteria.

10.4.2 Posted Payments by Location

The Posted Payments by Location section allows the user to view all payments meeting the specified search criteria, grouped by billing entity, facility, and nurse unit. When this section is selected, data will be automatically searched. Summary rows for each billing entity and facility will be included by default. These rows have a blue background. The *Hide total rows* checkbox above the grid can be used to hide these summary rows. The *Filter* button above the grid allows the user to further filter results by facility. If the *Filter by Facility* checkbox is selected, there must be facilities in the *Included* list.

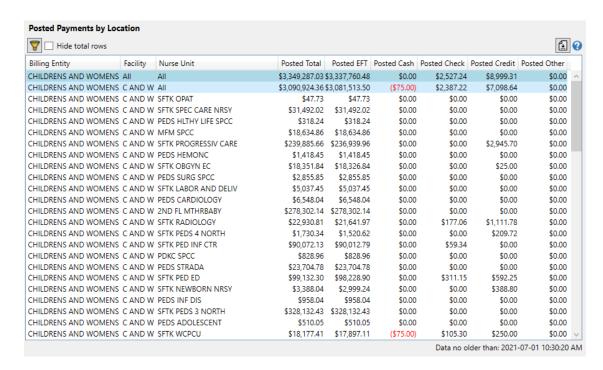


Figure 397: Posted Payments by Location

Payment details for each location can be viewed in the Payment Details Dialog by double-clicking on the row, or using the *Payment Details* option in the Context Menu. See Figure 398.

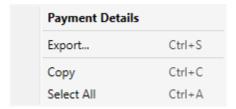


Figure 398: Posted Payments by Location Context Menu

Menu Option	Description
Payment Details	Opens the Payment Details dialog for the selected row.
Export	Exports data to .csv or .xslx file.
Сору	Copies the text of the selected rows to the clipboard.
Select All	Selects all of the currently displayed rows.

Table 100: Posted Payments by Location Context Menu

Payment Details Dialog

The *Payment Details* dialog displays the payment details for the previously selected location or poster. At the top, right-hand corner of the grid there are previous and next navigation buttons located next to the

export button. These buttons allow the user to view details for the next location/poster in the list on the previous screen without closing the dialog.

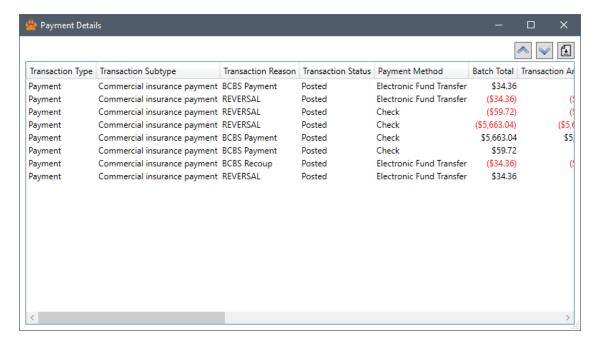


Figure 399: Patient Details Dialog

Encounter details for the FIN of each payment can be viewed in the Encounter Details Dialog by double-clicking on the row, or using the *Encounter Details* option in the Context Menu. See Figure 400.

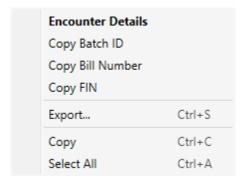


Figure 400: Payment Details Context Menu

Menu Option	Description
Encounter Details	Opens the Encounter Details dialog for the associated FIN.
Copy Batch ID	Copies the Batch ID to the clipboard.
Copy Bill Number	Copies the Bill Number to the clipboard.
Copy Fin	Copies the FIN to the clipboard.
Export	Exports data to .csv or .xslx file.
Сору	Copies the text of the selected rows to the clipboard.
Select All	Selects all of the currently displayed rows.

Table 101: Payment Details Context Menu

Encounter Details Dialog

The *Encounter Details* dialog is a common dialog displayed by many Panther controls. See Encounter Details Dialog for more information.

10.4.3 Posted Payments by Poster

The Posted Payments by Poster section allows the user to view all payments meeting the specified search criteria, grouped by poster. When this section is selected, data will be automatically searched. The *Show Breakdown* selection at the top of the grid determines if the payments for each poster are broken down further. The default is "None". When "Payment Method" or "Transaction Type" are selected, additional rows will be added to the grid. Summary rows for each poster will have a blue background. Under each summary row the breakdown for the selection will be shown. The *Filter* button above the grid allows the user to further filter results by facility, position, payment method, and transaction subtype.

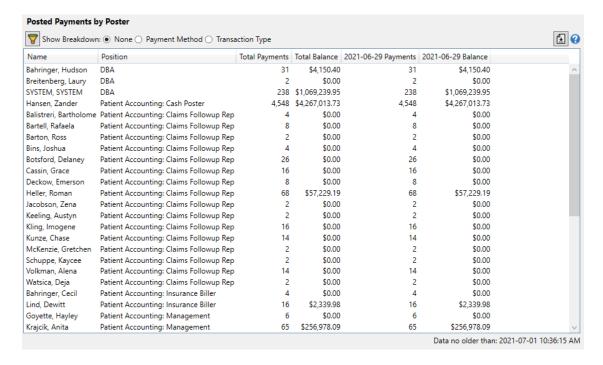


Figure 401: Posted Payments by Poster

Payment details for each poster can be viewed in the Payment Details Dialog by double-clicking on the row, or using the *Payment Details* option in the Context Menu. See Figure 402.



Figure 402: Posted Payments by Poster Context Menu

Menu Option	Description
Payment Details	Opens the Payment Details dialog for the selected row.
Export	Exports data to .csv or .xslx file.
Сору	Copies the text of the selected rows to the clipboard.
Select All	Selects all of the currently displayed rows.

Table 102: Posted Payments by Poster Context Menu

10.4.4 Batch Views

The batch views provided are Created, Open, In Process, Posted, Posted Pending GL, and With Work Items. These views are very similar and show the batches meeting the criteria for each view. The criteria used is displayed in the help text for each view as well as outlined below. The *Filter* button above the grid allows the user to further filter results by position, and batch type. The position filter applies to both the created by position and posted by position. Filter changes are applied to all batch views.

Batch View	Description
Created	Shows batches created within the date range defined by the search criteria.
Open	Shows batches with a batch status indicating the batch is open. The date range defined by the search criteria is not used for this section.
In Process	Shows batches with a batch status indicating the batch is in process. The date range defined by the search criteria is not used by this section.
Posted	Shows batches with a transaction post date within the date range defined by the search criteria.
Posted Pending GL	Shows batches with a transaction post date within the date range defined by the search criteria, and no GL post date defined.
With Work Items	Shows batches with work items. The date range defined by the search criteria is not used for this section. This view also includes three additional columns: Assigned Biller, Unposted Payment, and Unposted Adjustment.

Table 103: Batch Views

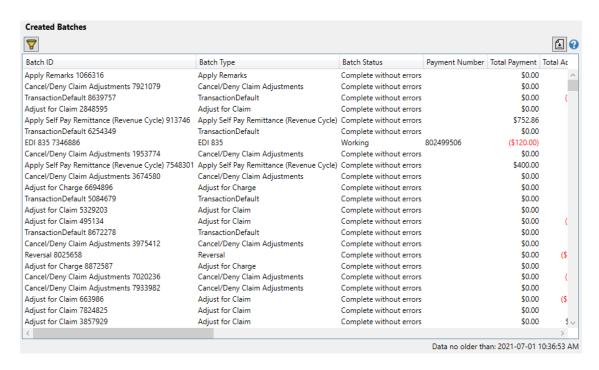


Figure 403: Created Batches

Transaction details for each batch can be viewed in the Batch Details Dialog by double-clicking on the row, or using the *Batch Details* option in the Context Menu. See Figure 404.



Figure 404: Batch Views Context Menu

Menu Option	Description
Batch Details	Opens the Batch Details dialog for the selected row.
Copy Batch ID	Copies the Batch ID for the selected row to the clipboard.
Export	Exports data to .csv or .xslx file.
Сору	Copies the text of the selected rows to the clipboard.
Select All	Selects all of the currently displayed rows.

Table 104: Batch Views Context Menu

The *Batch Details* dialog displays the transaction details for the previously selected batch. At the top, right-hand corner of the grid there are previous and next navigation buttons located next to the export button. These buttons allow the user to view details for the next batch in the list on the previous screen without closing the dialog.

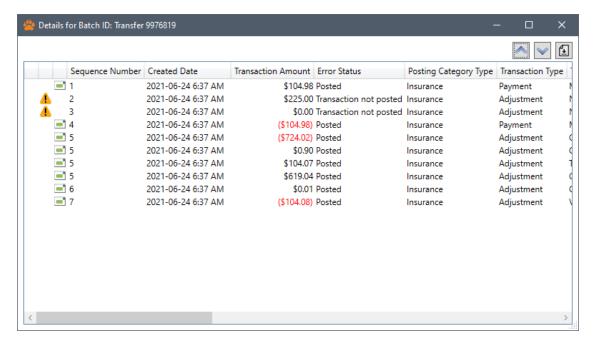


Figure 405: Batch Details Dialog

Encounter details for the FIN of each transaction can be viewed in the Encounter Details Dialog by double-clicking on the row, or using the *Encounter Details* option in the Context Menu. See Figure 406.



Figure 406: Batch Details Context Menu

Menu Option	Description
Encounter Details	Opens the Encounter Details dialog for the associated FIN.
Export	Exports data to .csv or .xslx file.
Сору	Copies the text of the selected rows to the clipboard.
Select All	Selects all of the currently displayed rows.

Table 105: Batch Details Context Menu

10.5. Claim Denials Control

The Claim Denials control shows information regarding denied claims on health plans, giving the user visibility into why claims were denied, and what factors denied claims may have in common. This control does not make any modifications to the data in Millennium and does not interact with the billing system.

To view the Claim Denials control, select the *Claim Denials* item in the Domain Explorer (Figure 407).

In the upper left corner is the Search button, which will launch the Search Dialog. The first time you use the Claim Denials control, you must define the search range and search criteria before it will return any results.

Next to the Search button is the Refresh button. This will cause the control to refetch the data currently displayed, using the current search criteria. For example, if the date range for your search is "Today", and another claim which matches your other search criteria has been denied since you last performed a search, the Refresh button would cause that additional claim to show up.

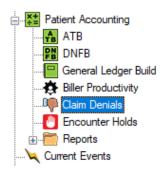


Figure 407: Domain Explorer

Above the Claim Denials Control's various grids is a export icon. This allows you to save the currently displayed data in CSV (comma-separated values) or XLSX (Microsoft Excel® workbook) format.

When the Export button is clicked, the Windows "Save As" dialog will appear, prompting the user to select a name and location for the file. Data in all grids can also be selected and copied by using keyboard shortcuts or by right-clicking to access the context menu.

To the left side of the control, there is a tree containing several different views. Clicking on one of these views will cause the grid(s) in the right half of the screen to change.

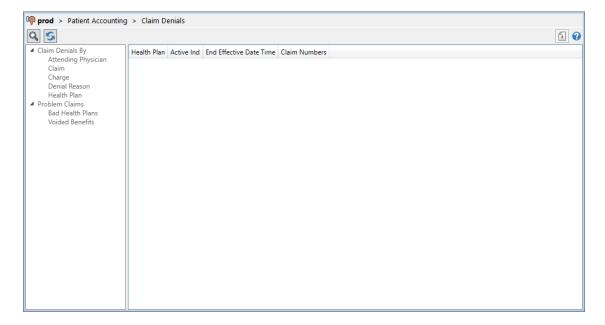


Figure 408: Claim Denials Control

10.5.1 Search Dialog

The Search Dialog allows the user to set several different search criteria to limit the search results.

The Date Range allows you to specify the dates during which claims were denied. There are several pre-defined date ranges, or you may set your own Custom date range.

The Bill Type dropdown lets you select what types of bills you want to see the counts and details for - Pro Fee (HCF 1500), Technical (HCF 1450), or both.

There are tabs listing Billing Entities, Health Plans, and Denial Reasons. Each of these tabs allows you to select which Billing Entities, which Health Plans, and which Denial Reasons should be included in your search. There must be at least one of each selected to perform a search. If the "OK" button is disabled, try checking each tab to make sure you have at least one item selected on each of them.

Search criteria are saved as user preferences. If the Claim Denials control is present in a user-created Desktop, the saved search criteria will only be applied to that specific Claim Denials control in that Desktop cell.

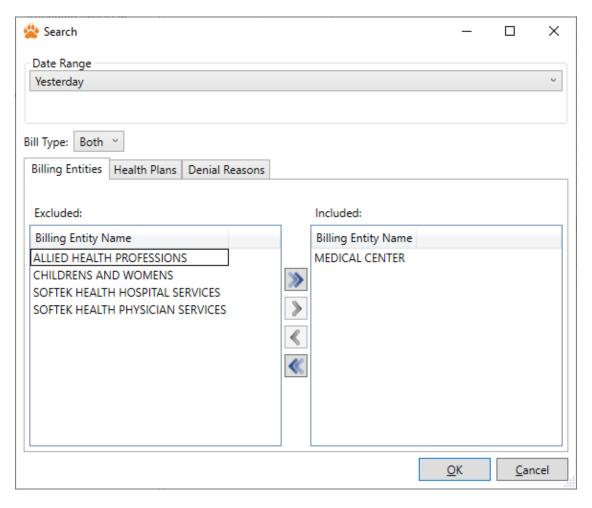


Figure 409: Search Dialog

10.5.2 Claim Denials By Attending Physician

The Claim Denials By Attending Physician view takes the denied claims returned by the search, and sorts them by the Attending Physician involved with the claim.

The grid in the lower half of the screen breaks out the denial reasons for the selected physician.

If you right-click on either the upper or lower grid, the context menu contains an option to launch the Claim Number Lookup dialog. This will provide more information about the specific claims which were denied.

Menu Option	Description
Claim Number Lookup	Launches the Claim Number Lookup dialog.
Export	Saves the data shown in the grid to a user-selected file.
Сору	Copies the text of the selected rows to the clipboard.
Select All	Selects all rows.

Table 106: Claim Denials By Attending Physician Context Menu

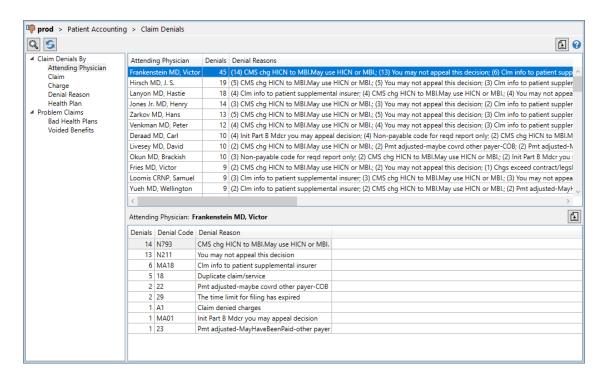


Figure 410: Claim Denials By Attending Physician

10.5.3 Claim Denials By Claim

The Claim Denials By Claim view takes the denied claims returned by the search, and sorts them by the Claim Number.

There are two text boxes above the grid, labeled "Claim Number" and "FIN". If you enter text in one or both of these, it will filter the results displayed in the grid.

The grid in the lower half of the screen breaks out the denial reasons for the selected claim.

If you right-click on either the upper or lower grid, the context menu contains options to launch the Denial Details and Procedure Codes dialogs. These will provide details about the denial, or a list of the procedure codes involved in the denial, respectively.

Menu Option	Description
Denial Details	Launches the Denial Details dialog.
Copy FIN	Copies the selected row's FIN.
Copy Claim Number	Copies the selected row's Claim Number
Procedure Codes	Launches the Procedure Codes dialog.
Export	Saves the data shown in the grid to a user-selected file.
Сору	Copies the text of the selected rows to the clipboard.
Select All	Selects all rows.

Table 107: Claim Denials By Claim Context Menu

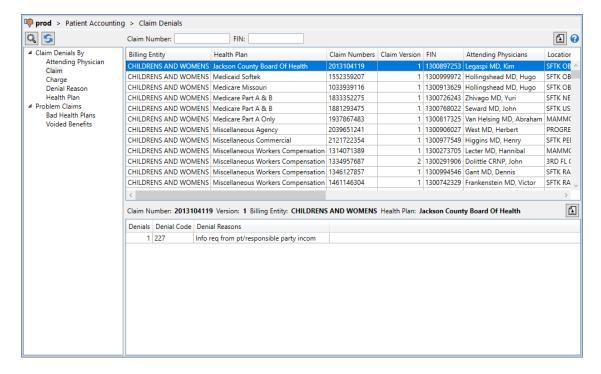


Figure 411: Claim Denials By Attending Physician

10.5.4 Claim Denials By Charge

The Claim Denials By Charge view takes the denied claims returned by the search, and shows total dollar amounts related to the claim for various balances, balances due, amounts denied, patient liability, and payments made.

The grid beneath splits out individual transactions related to the selected claim, and provides more information about them.

If you right-click on either the upper or lower grid, the context menu contains options to launch the Denial Details dialog. It will provide more details about the selected denial.

Menu Option	Description
Denial Details	Launches the Denial Details dialog.
Copy FIN	Copies the selected row's FIN.
Copy Claim Number	Copies the selected row's Claim Number
Export	Saves the data shown in the grid to a user-selected file.
Сору	Copies the text of the selected rows to the clipboard.
Select All	Selects all rows.

Table 108: Claim Denials By Charge Context Menu

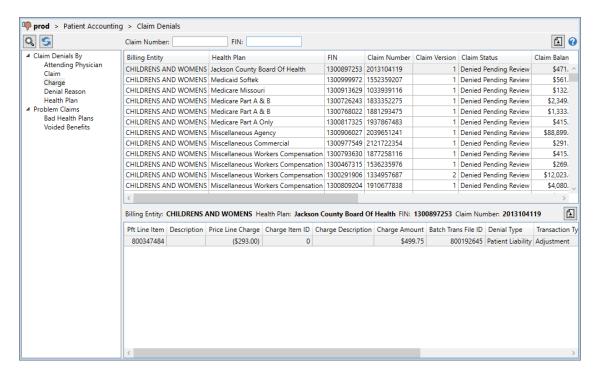


Figure 412: Claim Denials By Charge

10.5.5 Claim Denials By Denial Reason

The Claim Denials By Denial Reason view takes the denied claims returned by the search, and groups them by the denial reason. It lists the health plans involved with each denial season, and how many denials of that reason were associated with that health plan.

In the bottom grid, it shows counts of the selected denial for each health plan.

If you right-click on either the upper or lower grid, the context menu contains an option to launch the Denial Details or Claim Number Lookup dialogs. They will provide more details about the selected denial or the specific claims which were denied.

Menu Option	Description
Denial Details	Launches the Denial Details dialog.
Claim Number Lookup	Launches the Claim Number Lookup dialog.
Export	Saves the data shown in the grid to a user-selected file.
Сору	Copies the text of the selected rows to the clipboard.
Select All	Selects all rows.

Table 109: Claim Denials By Denial Reason Context Menu

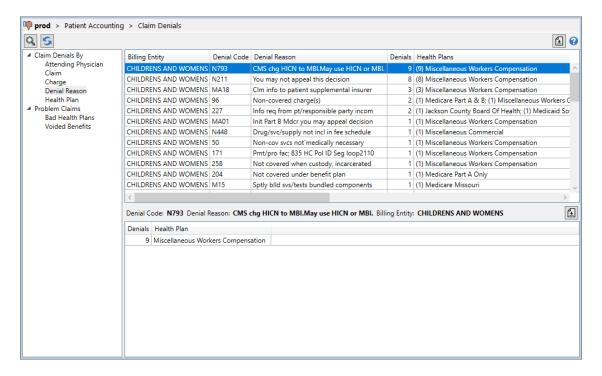


Figure 413: Claim Denials By Denial Reason

10.5.6 Claim Denials By Health Plan

The Claim Denials By Health Plan view takes the denied claims returned by the search, and groups them by the health plan.

In the bottom grid, it breaks out the counts of individual denial reasons for the selected health plan.

If you right-click on either the upper or lower grid, the context menu contains an option to launch the Denial Details or Claim Number Lookup dialogs. They will provide more details about the selected denial or the specific claims which were denied.

Menu Option	Description
Denial Details	Launches the Denial Details dialog.
Claim Number Lookup	Launches the Claim Number Lookup dialog.
Export	Saves the data shown in the grid to a user-selected file.
Сору	Copies the text of the selected rows to the clipboard.
Select All	Selects all rows.

Table 110: Claim Denials By Health Plan Context Menu

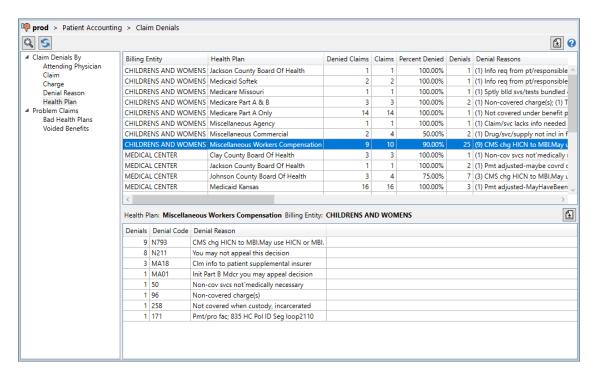


Figure 414: Claim Denials By Health Plan

10.5.7 Bad Health Plans

The Bad Health Plans view list health plans which are inactive, or past the effect end date, and have had claims made against them during the search range.

This view is only impacted by the Date Range in the search critiera; the Billing Entity, Health Plan, and Denial Reason criteria do not impact what is displayed here.

To view the context menu, select an item in the grid and right-click.

Menu Option	Description
Copy Claim Number	Copy's the select rows Claim Number
Export	Saves the data shown in the grid to a user-selected file.
Сору	Copies the text of the selected rows to the clipboard.
Select All	Selects all rows.

Table 111: Claim Denials Bad Health Plans Context Menu

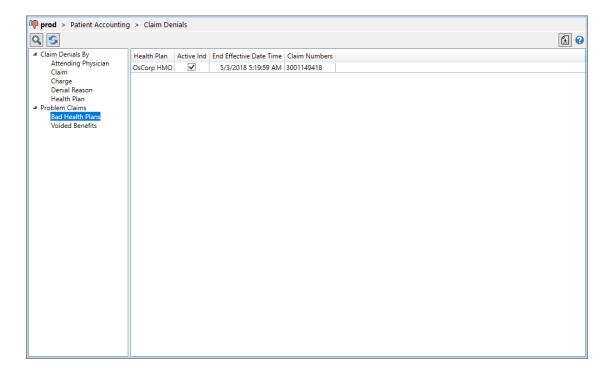


Figure 415: Bad Health Plan

10.5.8 Voided Benefit

The Voided Benefit view lists claims which have had been invalidated. If you right-click on the grid, there is an option to launch the Activity Details dialog, which will provide information about the account activities related to the denial.

Menu Option	Description
Activity Details	Launches the Activity Details dialog.
Copy FIN	Copies the selected row's FIN.
Copy Claim Number	Copies the selected row's Claim Number
Export	Saves the data shown in the grid to a user-selected file.
Сору	Copies the text of the selected rows to the clipboard.
Select All	Selects all rows.

Table 112: Voided Benefit Context Menu

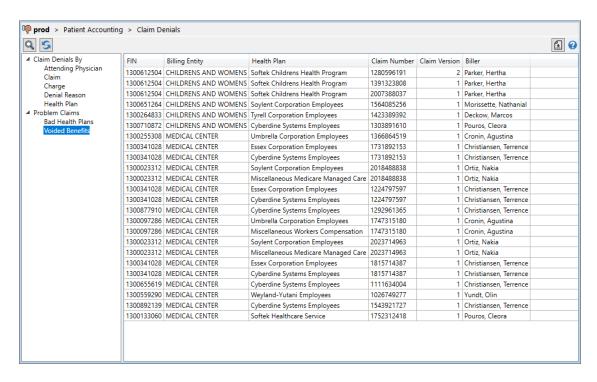


Figure 416: Voided Benefit

10.5.9 Claim Number Lookup

The Claim Number Lookup dialog shows the individual claim numbers for the specific criteria passed to it from elsewhere in Panther. What criteria will depend on where the dialog was launched from. The current search criteria in use will also limit what is shown here.

The top of the dialog will have labels indicating the specific values which were searched for. In this example, the Claim Number Lookup was launched from the Claims by Denial Reason View, and the Denial Reason it is filtering on is shown at the top of the dialog.

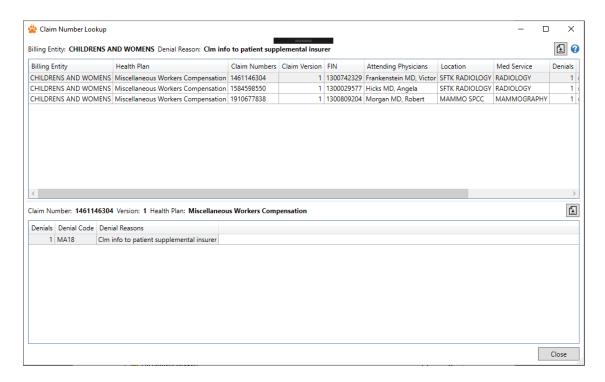


Figure 417: Claim Denials Lookup

If you right-click on either the upper or lower grid, the context menu contains options to launch the Denial Details and Procedure Codes dialogs. These will provide details about the denial, or a list of the procedure codes involved in the denial, respectively.

Menu Option	Description	
Denial Details	enial Details Launches the Denial Details dialog.	
Procedure Codes	Launches the Procedure Codes dialog.	
Copy FIN	Copies the selected row's FIN.	
Copy Claim Number	Copies the selected row's Claim Number	
Export	Saves the data shown in the grid to a user-selected file.	
Сору	Copies the text of the selected rows to the clipboard.	
Select All	Selects all rows.	

Table 113: Number Lookup Context Menu

10.5.10 Denial Details

This dialog shows additional information regarding denial(s) for the item being examined when the dialog was launched. Depending on where this dialog is launched from, the denials may be limited by one or more factors in addition to the current search criteria, such as Billing Entity, Health Plan, Denial Reason, or Claim Number.

Menu Option	Description	
Copy FIN	Copies the selected row's FIN.	
Copy Claim Number	Copies the selected row's Claim Number	
Export	t Saves the data shown in the grid to a user-selected file.	
Copy Copies the text of the selected rows to the clipboard.		
Select All	Selects all rows.	

Table 114: Denial Details Context Menu

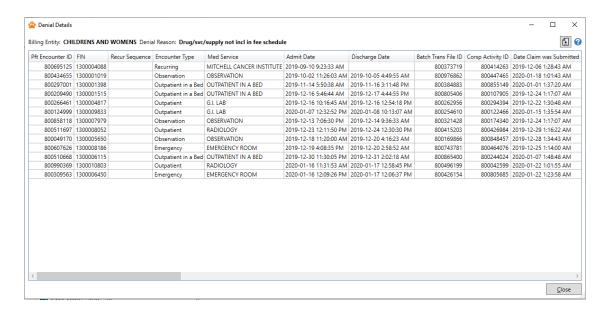


Figure 418: Denial Detail

10.5.11 Procedure Codes

This dialog shows a list of what procedures were associated with a particular claim, and the codes for those procedures.

Menu Option	Description	
Copy FIN	Copies the FIN the dialog was performing a lookup for.	
Copy FIN	Copies the selected row's FIN.	
Export	Saves the data shown in the grid to a user-selected file.	
Сору	Copies the text of the selected rows to the clipboard.	
Select All	Selects all rows.	

Table 115: Procedure Codes Context Menu

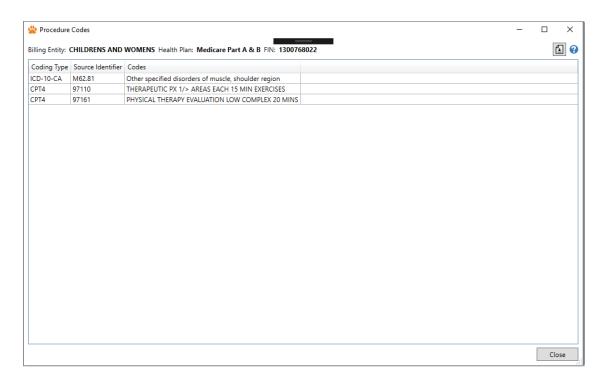


Figure 419: Procedure Codes

10.5.12 Voided Benefit Activity Details

This dialog shows information about the activities taken in regards to a particular claim where the benefit was voided. This includes comments, transactions, etc. There is a check box to hide system activity, which will limit the activity shown to those taken by individuals.

Menu Option	Description	
Export	Saves the data shown in the grid to a user-selected file.	
Сору	Copies the text of the selected rows to the clipboard.	
Select All	Selects all rows.	

Table 116: Voided Benefit Activity Details Context Menu

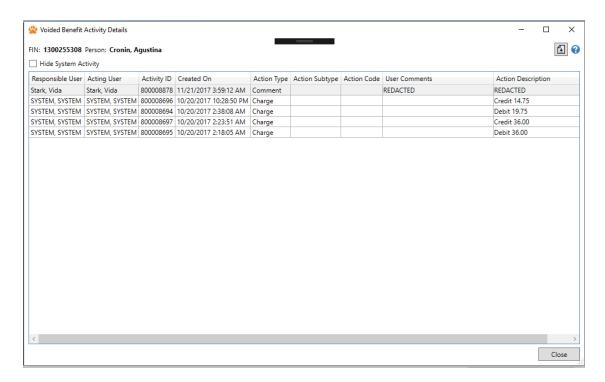


Figure 420: Voided Benefit Activity Details

10.6. DNFB Control

The DNFB control is an interactive tool to view Discharged Not Final Billed (DNFB) data.

To view the DNFB control, select the *DNFB* item in the domain explorer (Figure 421).



Figure 421: Domain Explorer



Data Is Retrieved Automatically For The Most Recent Search

The DNFB control automatically performs a search on load using the most recent criteria defined by the user. If no criteria has been defined, however, it will wait for the user to initiate a search.

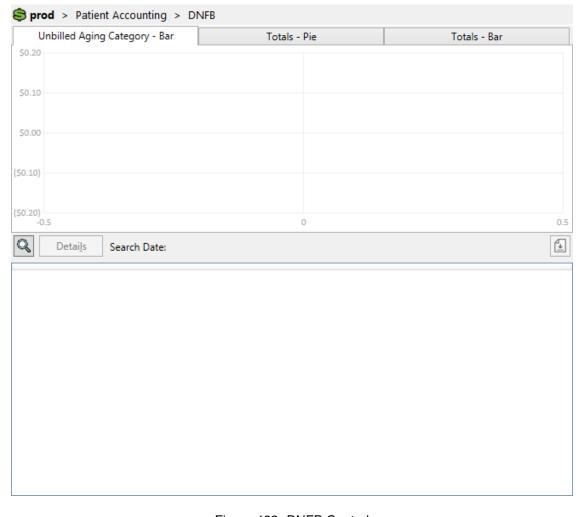


Figure 422: DNFB Control

10.6.1 Searching

Upon clicking the search button, a search dialog presenting basic criteria (Figure 423) opens. The search is triggered once *OK* is clicked and the dialog closes.



Search Displays the Current Criteria

When opened, the search dialog will display the criteria used for the most recent search. This makes it easy to modify existing searches.

If more specific, narrowly-focused criteria are known up front, more criteria is supplied upon expanding Advanced Search.

10.6.2 Advanced Search

Upon expanding *Advanced Search*, the search dialog expands to display additional criteria which can be applied (Figure 424). This helps narrow down the search to very specific items when investigating issues.

Certain criteria types are stored as pairs in Millennium (Hold Type with Hold Reason, and Encounter Class with Encounter Type). Panther displays them separately for convenience, but the values selected in one part of the pair can affect which values will be effectively searched on in the other part of the pair.

For instance, there may be a Hold Type of "Waiting for Coding", associated with Hold Reasons of "Coding - Dept Review" and "Coding - Received Coding Query". If "Waiting for Coding" is unchecked, the associated Hold Reasons will not be included in results even if they are checked. To make this more apparent, they will not be saved in the Search Preferences.

Conversely, even if "Waiting for Coding" is checked, if neither "Coding - Dept Review" nor "Coding - Received Coding Query" are checked, that pair is effectively excluded from the search results, and so will not be saved as part of the Search Preferences.



Advanced Search Also Displays the Current Criteria

Like the basic search criteria, all advanced criteria for the most recent search is displayed to aid in modifying existing searches. This is true even if *Advanced Search* has not yet been expanded.



Why Do Warning Icons Appear Next To Criteria?

Hold Type and Hold Reason as well as Encounter Class and Encounter Type values are actually stored as pairs in Millennium[®]. Panther provides them as separate criteria for convenience, but it will warn when combinations of values are incapable of returning any results.



Figure 423: Search Dialog

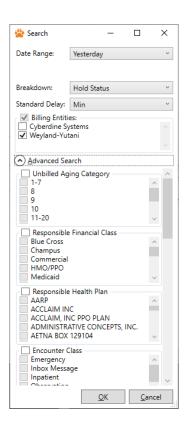


Figure 424: Advanced Search Dialog

10.6.3 Working With Search Results

Once a search has completed, the data is presented in tabular format as well as several charts.



Standard Delay Impacts Results

The DNFB control uses the standard delay that is defined for the selected billing entity to combine data for aging categories that fall within this range. The table and aging category chart reflect this aggregation.

Billed Aging Category Bar Chart

Initially, a bar chart breaking down totals by aging category index is displayed (Figure 425). This chart displays data for the currently-selected row in the table.

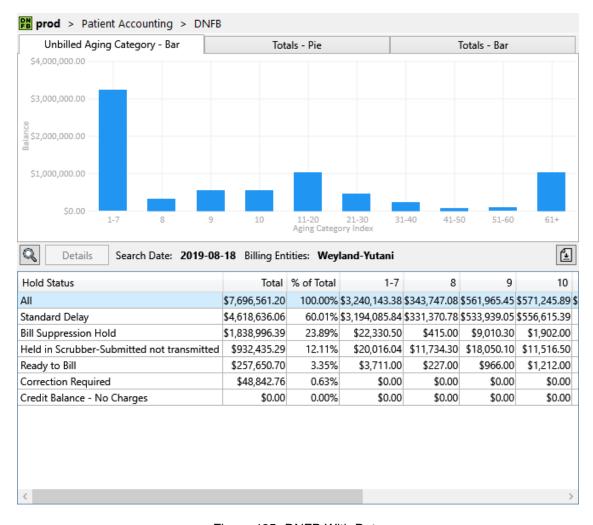


Figure 425: DNFB With Data

Totals Pie Charts

There is also a pie chart displaying relative totals across breakdown identifiers (Figure 426). Within the chart, hovering the mouse over a pie slice will display the identifier, raw total, and percentage of the pie. Additionally, clicking a pie slice will highlight its row in the table below, and double-clicking a slice will load its encounter details.

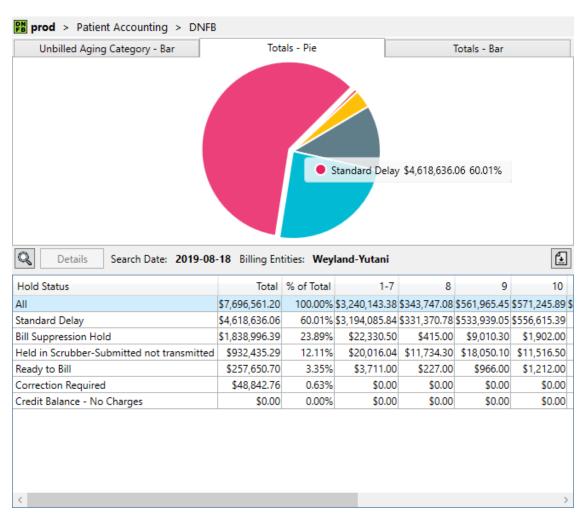


Figure 426: DNFB Pie Chart

Totals Bar Charts

Lastly, there is a bar chart displaying the raw totals (Figure 427). As with the pie chart, it displays relative totals by breakdown identifier. Also like the pie chart, hovering the mouse over a bar will display its identifier and raw total, clicking a bar will highlight its row in the table below, and double-clicking a bar will load its encounter details.

The bar chart is sorted by total in descending order and paginated, displaying ten values at a time. The up and down buttons provide the ability to navigate through each page of data.

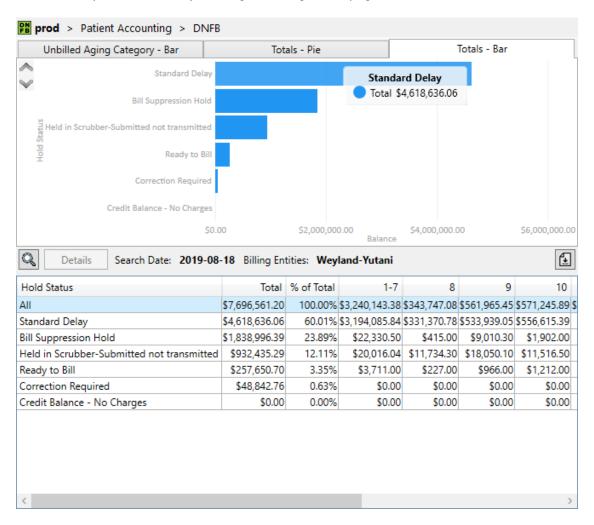


Figure 427: DNFB Bar Chart

Exporting Data

The DNFB control also allows the export of currently-displayed tabular data. To do so, click the export button. It will then prompt for a file location and save the data in CSV or Excel[®] format.

Viewing Details

Occasionally, it is useful to pull up encounter details for a summary item. This can be done by selecting a row in the table and clicking the *Details* button, clicking the *Details* context menu item, double-clicking the row, or double-clicking a chart slice/bar. This will bring up the details dialog (Figure 428).

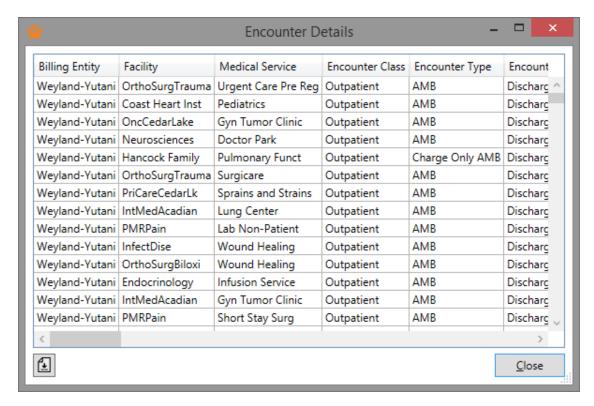


Figure 428: Encounter Details

Like its parent control, this dialog allows for exporting tabular data to CSV or Excel[®] format via the export button.

The FIN can be copied out of the selected row by double-clicking or selecting the *Copy FIN* context menu item. Additionally, the MRN can be copied out of the selected row by selecting the *Copy MRN* context menu item.

10.7. Encounter Holds Control

The Encounter Holds control is an interactive tool to view held encounters.

To view the Encounter Holds control, select the *Encounter Holds* item in the domain explorer (Figure 429).



Figure 429: Domain Explorer



Data is Retrieved Automatically for the Most Recent Search

The Encounter Holds control automatically performs a search on load using the most recent criteria defined by the user. If no criteria has been defined, it will load data for all active holds.

10.7.1 Active Holds

The Active Holds view displays encounters with active holds. The summary screen (Figure 430) shows the count and balance of encounters grouped by hold category, hold reason, and age. The age grouping can be modified when (searching). Total rows are shown for each category and have a distinguished background color.

Clicking any of the linked counts for an aging category or for a total will bring up the Held Encounters view.



Show or Hide Total Rows

The 'Include Totals' checkbox controls whether total rows are shown. When total rows are hidden, they are not included when the data is exported to a file. This can be useful for performing analytics on exported data.

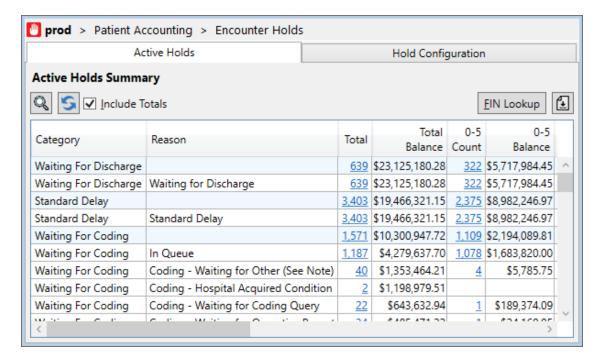


Figure 430: Active Holds Summary

Held Encounters

The Held Encounters view displays a list of encounters currently subject to the selected hold and aging category.

Additional details for a FIN can be viewed by double clicking on the row which opens the Encounter Details view.

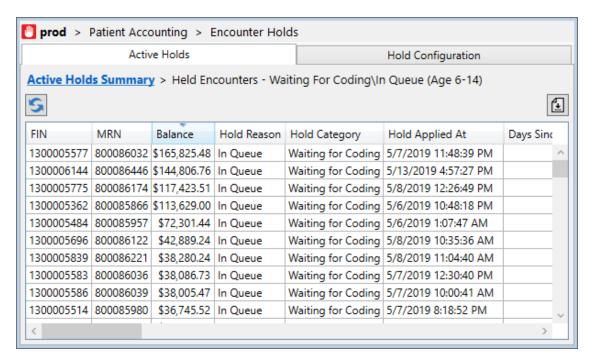


Figure 431: Held Encounters

Encounter Details

The Encounter Details view displays information for a given FIN.

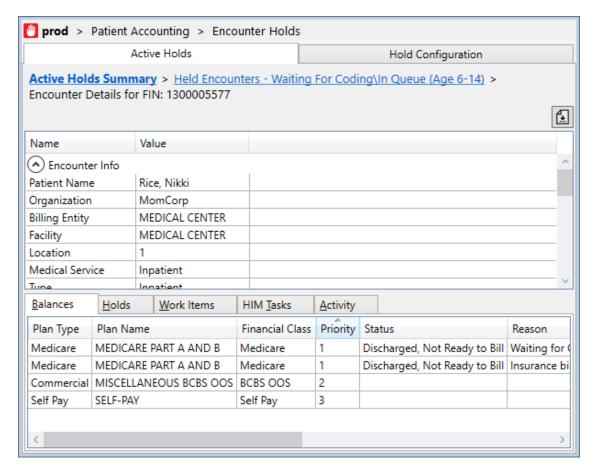


Figure 432: Encounter Details

Searching

Clicking the search button opens a dialog presenting basic criteria (Figure 433). The search is triggered once *OK* is clicked and the dialog closes.

The *Age By* option is used to select which date is used to assign an aging category for the encounter. *Hold* will group encounters by the number of days since the hold was applied. *Discharge* will group encounters by the number of days since their discharge dates.

The *Filter encounters with active charges* option will exclude encounters that have received new charges in the last 24 hours.

The Filter by Billing Entity option will limit results to encounters associated with the selected billing entities.



Search Displays the Current Criteria

When opened, the search dialog will display the criteria used for the most recent search. This makes it easy to modify an existing search.

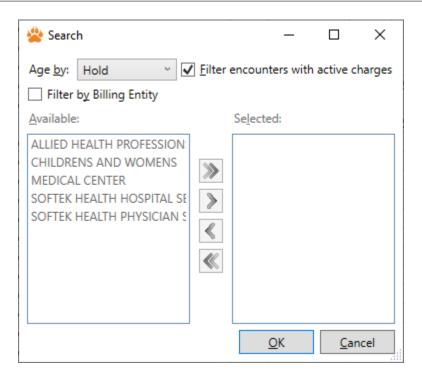


Figure 433: Search Dialog

FIN Lookup

Clicking the FIN Lookup button opens a search dialog requesting a FIN (Figure 434). The search is triggered once *OK* is clicked and the dialog closes.

If the search finds one or more encounters for the FIN, the Encounter Details view will be displayed in a new window.

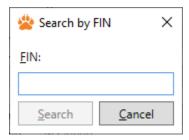


Figure 434: FIN Lookup Dialog

10.7.2 Hold Configuration

The hold configuration control displays all of the configured holds.

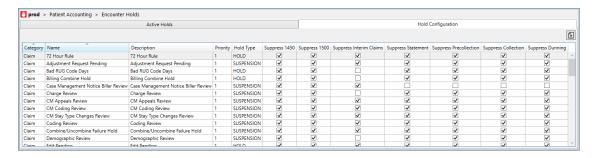


Figure 435: Hold Configuration Control

10.7.3 Waiting for Coding Configuration

The waiting for coding configuration control displays all active HIM Pass names and code values.

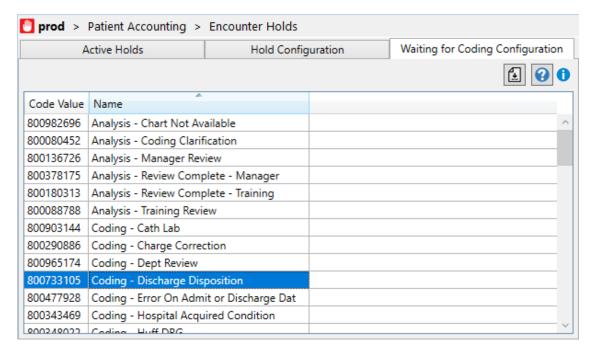


Figure 436: Waiting for Coding Configuration Control

10.8. General Ledger Build Control

The General Ledger Build control is an interactive tool to view General Ledger (GL) Build information and identify potential issues.

To view the control, select the *General Ledger Build* item in the domain explorer (Figure 437).

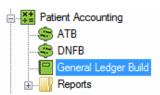


Figure 437: Domain Explorer

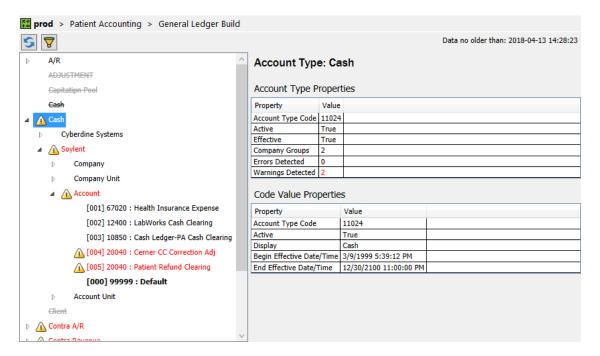


Figure 438: General Ledger Build Control

10.8.1 Tree

The GL Build control (Figure 438) displays the build hierarchy in a tree with the following format:

- Account Type
 - Group
 - Level (i.e., Company, Company Unit, Account, and Account Unit)
 - Alias

The status of any item in the tree is displayed through a combination of icons and text formatting:

•	The item or one or more of its children have errors.
1	The item or one or more of its children have warnings but no errors.

Table 117: Icon Legend

Red	The item or one or more of its children have issues.
Gray	The item is ineffective.
Strikethrough	The item is inactive.
Bold	The item is a default alias.

Table 118: Text Formatting Legend

10.8.2 Details

Upon selecting an item in the tree, the control will display details (Figures 438, 439, 440, 441). Alias detail (Figure 441) also includes detailed information about the issues that were detected.

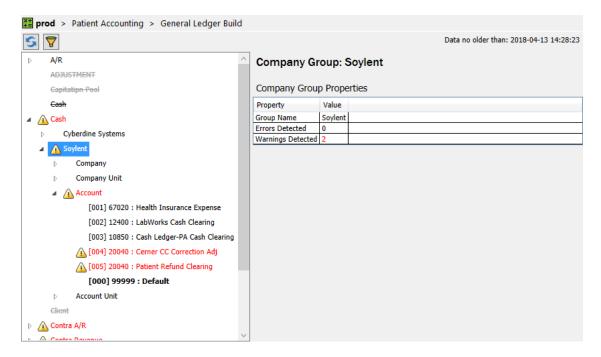


Figure 439: Group Detail

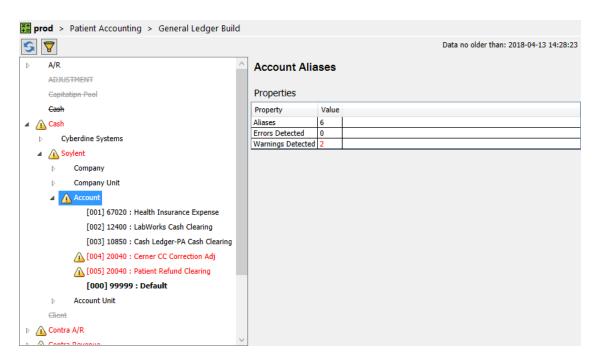


Figure 440: Level Detail

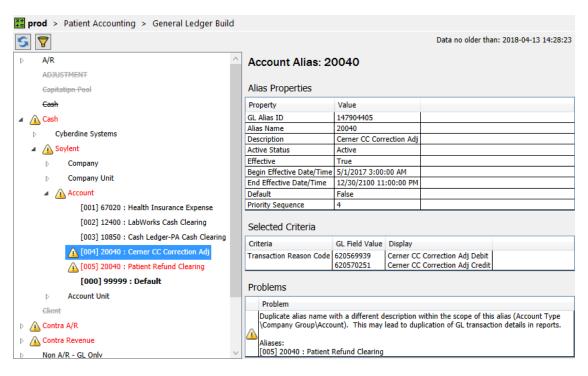


Figure 441: Alias Detail

10.8.3 Filtering

There may be some situations where it is useful to focus on a particular GL build issue. Pursuant to this, Panther provides the ability to filter the tests performed. To do so, click the filter button, and a dialog to control which tests are run will open (Figure 442). Uncheck any tests that should not be run.

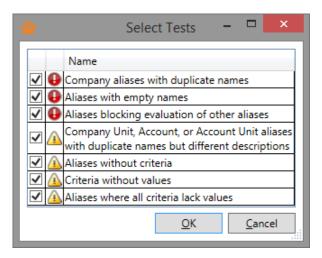


Figure 442: Test Filter

10.9. HIM Productivity

The HIM Productivity control is an interactive tool to help see information regarding HIM tasks, including the actions taken on tasks and who the actions were taken by.

To view the HIM Productivity control, select the *HIM Productivity* item in the domain explorer (Figure 443).

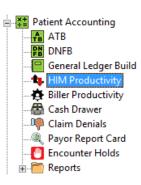


Figure 443: Domain Explorer

In the upper left corner of the control are the Search and Refresh buttons. The first time you load the control, you will need to specify the search criteria before any data will load. On subsequent visits to the control, it will automatically load the data using the saved search criteria. The saved search criteria does not include the date range; that will always default to "Last 7 Days." Click the Search button to load the Search dialog and set the search criteria. The Refresh button will only be enabled after data has been loaded. Clicking on it will cause the a new search to be issued using the current search criteria.

10.9.1 Searching

The HIM Productivity Control provides the ability to search based on selected date range, billing entities, facilities, medical services, task types, and whether encounters with Zero Balances are included in the results. Some of the views may have additional search filters for User and Position, and will present a separate search dialog to re-run the search with those additional filters in place. All of the filters are optional, and are not populated by default.

If there is a warning icon on a tab, that means that criteria needs to be selected or the filter disabled on that tab before the search can be performed. (Figure 444)



Search Displays the Current Criteria

When opened, the Search dialog will display the criteria used for the most recent search. This makes it easy to modify an existing search.

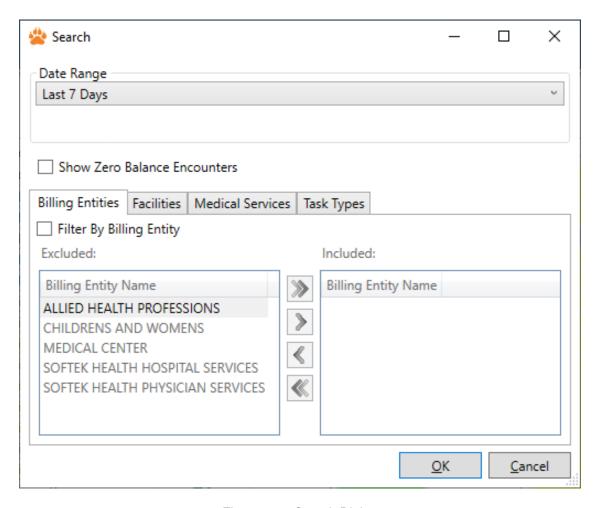


Figure 444: Search Dialog

10.9.2 Task Aging

The Task Aging view (Figure 445) shows the available task types, whether aging is enabled for each of them, and their aging configuration.

To export the data displayed in the grid, click the Export button, or right-click in the grid and select "Export..." from the context menu.

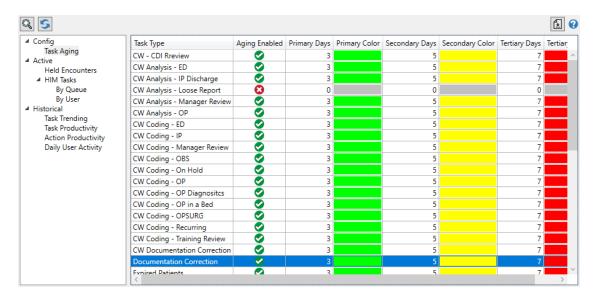


Figure 445: Task Aging

10.9.3 Held Encounters

The Held Encounters view (Figure 446) shows information about the number of encounters which are currently on hold and their charge balances, grouped by Coding Status. The dropdown menu controls which value is used for a secondary grouping. The "Include Totals" checkbox toggles whether total rows are visible for each Coding Status. Further columns break out the encounters by the number of days since discharge.

To export the data displayed in the grid, click the Export button, or right-click in the grid and select "Export..." from the context menu.

To view the encounters for a particular grouping, double-click on the Count or Balance cell for the desired aging group, coding status, and other grouping elements. (Section 10.9.4) Or, right-click on the desired Count or Balance cell and select "View Held Encounters" from the context menu.

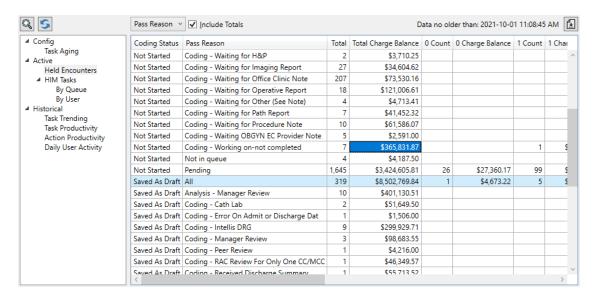


Figure 446: Held Encounters

10.9.4 Held Encounters Dialog

The Held Encounters dialog (Figure 447) shows details for held encounters. The text along the top of the dialog indicates which grouping these encounters belong to.

To export the data displayed in the grid, click the Export button, or right-click in the grid and select "Export..." from the context menu.

To view details for a specific encounter, double-click on a row, or right-click and select "Encounter Details" from the context menu to bring up the Encounter Details dialog (Section 10.9.22).

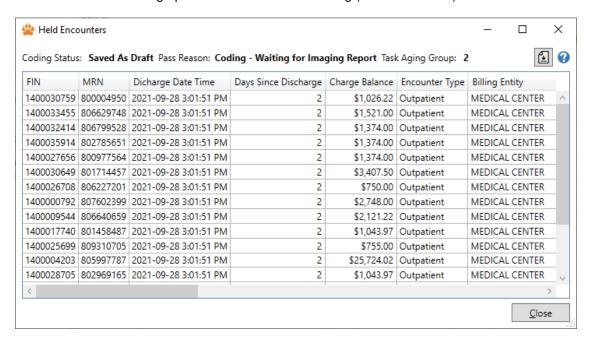


Figure 447: Held Encounters Dialog

10.9.5 Active HIM Tasks By Queue

The By Queue view (Figure 448) shows counts and balances for active tasks, grouped by the Task Queue they belong to, their status, and their Pass Reason. The "Include Totals" checkbox toggles whether total rows are visible for each Task Queue. Further columns break out the tasks by aging category.

To export the data displayed in the grid, click the Export button, or right-click in the grid and select "Export..." from the context menu.

To view the tasks for a particular grouping, double-click on the Count or Balance cell for the desired grouping. (Section 10.9.12) Or, right-click on the desired Count or Balance cell and select "HIM Tasks" from the context menu.

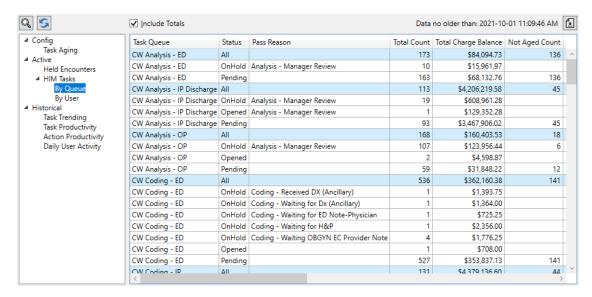


Figure 448: By Queue

10.9.6 Active HIM Tasks By User

The By User view (Figure 449) shows counts and balances for active tasks, grouped by the Acting User, the Task Queue, the Status, and the Pass Reason. The "Include Totals" checkbox toggles whether total rows are visible for each Acting User. Further columns break out the tasks by aging category.

To export the data displayed in the grid, click the Export button, or right-click in the grid and select "Export..." from the context menu.

To view the tasks for a particular grouping, double-click on the Count or Balance cell for the desired grouping. (Section 10.9.12) Or, right-click on the desired Count or Balance cell and select "HIM Tasks" from the context menu.

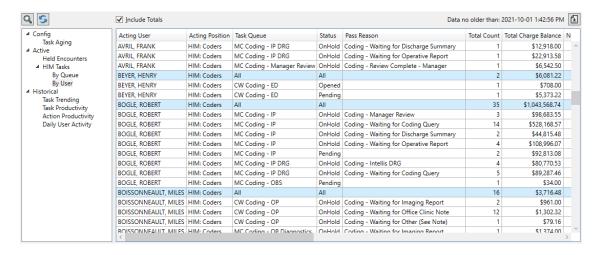


Figure 449: By User

10.9.7 Task Trending

The Task Trending view (Figure 450) shows the counts and balances for tasks for each day of the search period, and the changes day over day. The Task Queue Depth chart shows the count of queues tasks, coded by the most commonly configured colors for each of the Task Aging categories. The Daily Task Activity chart shows the number of tasks created, dropped, and completed each day of the search period.

To export the data displayed in the grid, click the Export button, or right-click in the grid and select "Export..." from the context menu.

To view the tasks for a particular day and age, double-click on the Count or Balance cell for the desired grouping. (Section 10.9.12) Or, right-click on the desired Count or Balance cell and select "HIM Tasks" from the context menu.

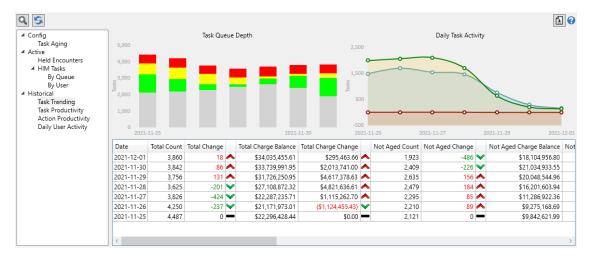


Figure 450: Task Trending

10.9.8 Task Productivity

The Task Productivity view (Figure 451) shows the counts and balances for tasks grouped by user, action, and task type per day. The "Filter" button will bring up a Search dialog for limiting the Positions and Users included in the search. If the Search dialog is launched and "OK" is clicked, it will re-issue the search with any changes to the Position and User filters.

The "Include Totals" checkbox toggles whether total rows are visible for each User.

To export the data displayed in the grid, click the Export button, or right-click in the grid and select "Export..." from the context menu.

To view the actions taken on a task for a particular task type and day, double-click on the Count or Balance cell for the desired grouping. (Section 10.9.13) Or, right-click on the desired Count or Balance cell and select "Details" from the context menu.

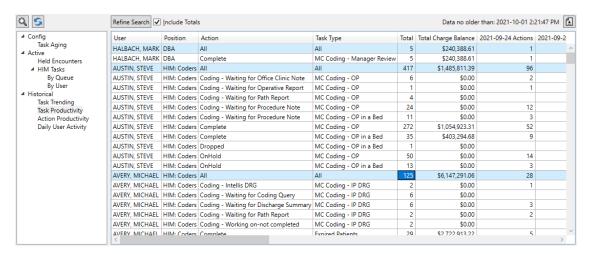


Figure 451: Task Productivity

10.9.9 Action Productivity

The Action Productivity view (Figure 452) shows the counts and balances for tasks grouped by user and the type of action.

The "Filter" button will bring up a Search dialog for limiting the Positions and Users included in the search. If the Search dialog is launched and "OK" is clicked, it will re-issue the search with any changes to the Position and User filters.

A single task may be represented multiple times in this grid, as a user may both worked a charge and added a diagnosis to the same task, and it would be reflected in the counts for both that user's "Charges Worked" and "Diagnoses Added." It is for this reason that there are no Total Rows available for this view, as they would potentially count a single task multiple times.

To export the data displayed in the grid, click the Export button, or right-click in the grid and select "Export..." from the context menu.

To view the actions taken on a task for a particular action type and day, double-click on the Count or Balance cell for the desired grouping. The dialog launched will depend on the type of action. For "Primary Coder" or "Contributing Coder", a Coding Actions dialog will be launched with details. For "DRGs Added", a DRG Actions dialog will be launched with details. For "Diagnoses Added", a Diagnosis Actions dialog will be

launched with details. For "Procedures Added", a Procedure Actions dialog will be launched with details. For "Charges Worked", a Charge Actions dialog will be launched with details.

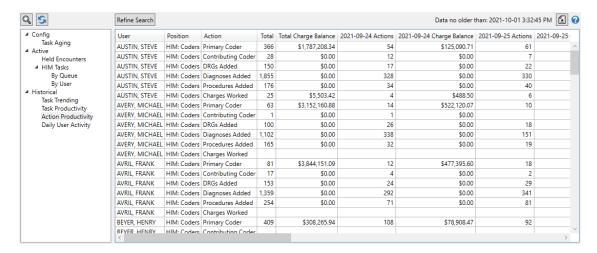


Figure 452: Action Productivity

10.9.10 Daily User Activity

The Daily User Activity view (Figure 454) shows a user's activity on the selected day.

When the dialog is loaded, it will bring up a User Selector dialog. To more easily find a specific user, start typing the user's name or position into the User/Position Filter textbox, and it will hide non-matching users from the grid.

Double-click on a user, or highlight a user and click the "Select" button to select a user and proceed to the main view.

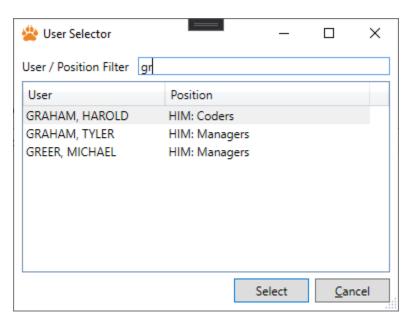


Figure 453: User Selector Dialog

The view will load data for the selected user and the current day. Use the date-picker labeled "Day:" to change what day's data is displayed.

To change the user, click the "Filter" button, and it will bring back up the User Selector dialog.

Toggling any of the checkboxes will impact the data displayed in both the grid and the chart, though it will not impact the totals listed beneath the day.

To export the data displayed in the grid, click the Export button, or right-click in the grid and select "Export..." from the context menu.

If you right-click on a row, the context menu presents several options for more information about the associated task or encounter: Coding Summary, HIM Task Details (if the selected row's category is Task), and Encounter Details. If you double-click a row, it will launch the Coding Summary dialog.

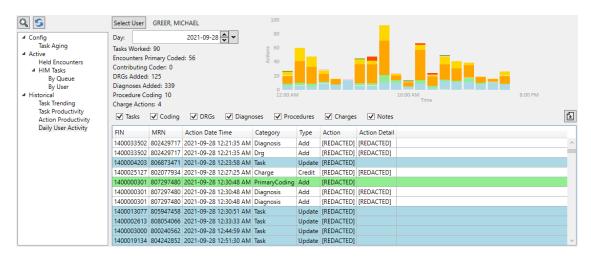


Figure 454: Daily User Activity

10.9.11 Position/User Search

The Search dialog (Figure 455) allows further filtering of the Task Productivity and Action Productivity views. Any changes made to the search criteria will apply to both views. A filter can contain one or more Positions, and one or more Users. Both filters are optional. If both filters are enabled, the dialog will check that there is an intersection between the selected Positions and Users. If none of the selected Users hold any of the selected Positions, the dialog will show a warning and will not allow the search to proceed with that criteria. To proceed, select more Users or Positions until there is an intersection, or disable one of the filters.

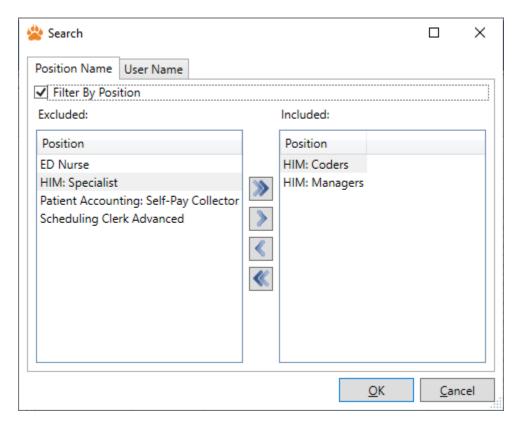


Figure 455: Position/User Search

10.9.12 HIM Tasks Dialog

The HIM Tasks dialog (Figure 456) shows a list of HIM Tasks and some basic information about the task and its associated encounter. HIM Productivity contains multiple views which show grouped information about HIM Tasks; those views have the option to launch this dialog to see the individual tasks.

To export the data displayed in the grid, click the Export button, or right-click in the grid and select "Export..." from the context menu.

If you right-click on a row, the context menu presents several options for more information about the associated task or encounter: Coding Summary, HIM Task Details, and Encounter Details. If you double-click a row, it will launch the HIM Task Details dialog.

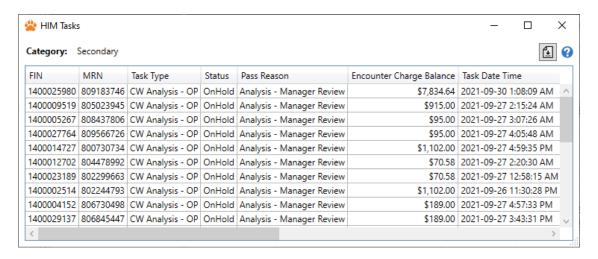


Figure 456: HIM Tasks Dialog

10.9.13 HIM Task Actions Dialog

The HIM Task Actions dialog (Figure 457) shows a list of actions taken on HIM Tasks.

To export the data displayed in the grid, click the Export button, or right-click in the grid and select "Export..." from the context menu.

If you right-click on a row, the context menu presents several options for more information about the associated task or encounter: Coding Summary, HIM Task Details, and Encounter Details. If you double-click a row, it will launch the HIM Task Details dialog.

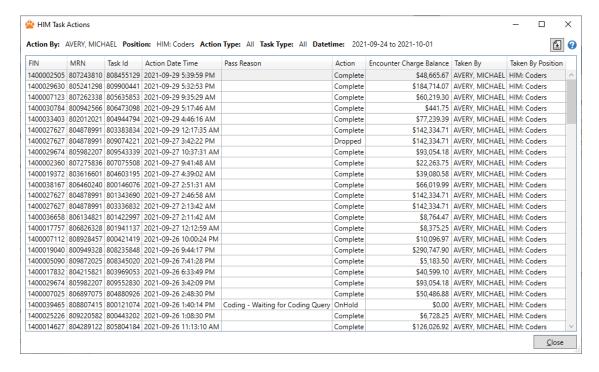


Figure 457: HIM Task Actions Dialog

10.9.14 Coding Actions Dialog

The Coding Actions dialog (Figure 458) shows a list of coding actions taken by the selected user on HIM Tasks during the selected time range, whether the user is the primary coder on the task, and whether the task is final coded.

To export the data displayed in the grid, click the Export button, or right-click in the grid and select "Export..." from the context menu.

If you right-click on a row, the context menu presents several options for more information about the associated encounter: Coding Summary, and Encounter Details.

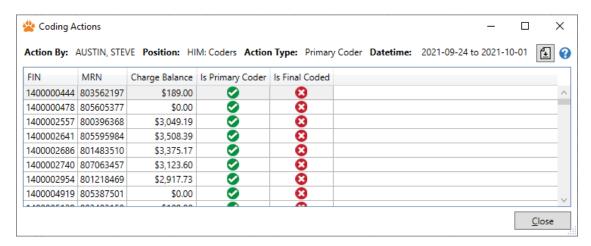


Figure 458: Coding Actions Dialog

10.9.15 DRG Actions Dialog

The DRG Actions dialog (Figure 459) shows a list of DRG actions taken by the selected user on HIM Tasks during the selected time range, and information about the assigned DRGs.

To export the data displayed in the grid, click the Export button, or right-click in the grid and select "Export..." from the context menu.

If you right-click on a row, the context menu presents several options for more information about the associated encounter: Coding Summary, and Encounter Details.

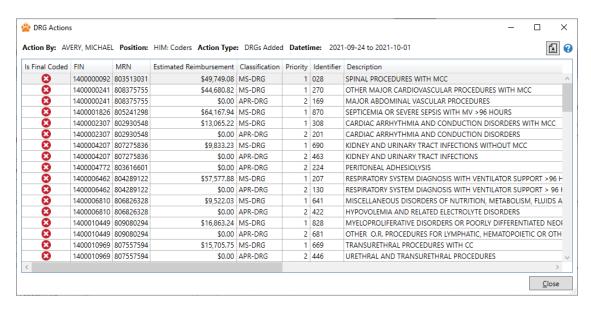


Figure 459: DRG Actions Dialog

10.9.16 Diagnosis Actions Dialog

The Diagnosis Actions dialog (Figure 460) shows a list of diagnosis actions taken by the selected user on HIM Tasks during the selected time range, and information about the assigned diagnoses.

To export the data displayed in the grid, click the Export button, or right-click in the grid and select "Export..." from the context menu.

If you right-click on a row, the context menu presents several options for more information about the associated encounter: Coding Summary, and Encounter Details.

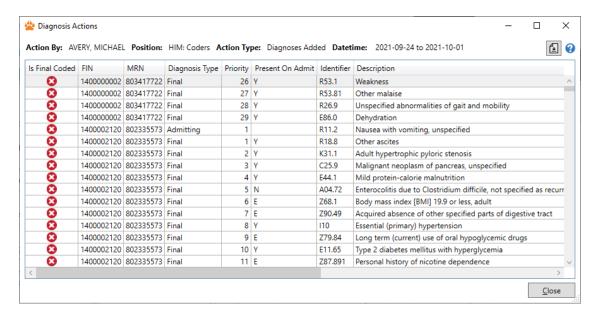


Figure 460: Diagnosis Actions Dialog

10.9.17 Procedure Actions Dialog

The Procedure Actions dialog (Figure 461) shows a list of procedure actions taken by the selected user on HIM Tasks during the selected time range, and information about the coded procedures.

To export the data displayed in the grid, click the Export button, or right-click in the grid and select "Export..." from the context menu.

If you right-click on a row, the context menu presents several options for more information about the associated encounter: Coding Summary, and Encounter Details.

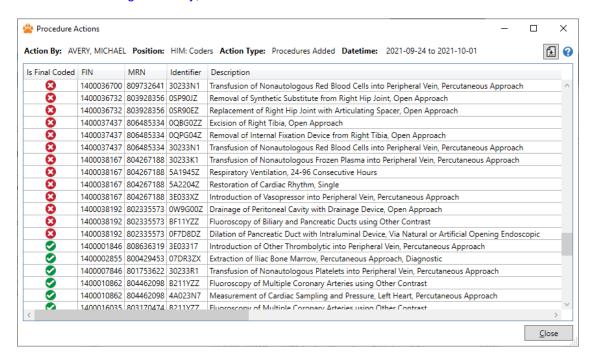


Figure 461: Procedure Actions Dialog

10.9.18 Charge Actions Dialog

The Charge Actions dialog (Figure 462) shows a list of charge actions taken by the selected user on HIM Tasks during the selected time range, and information about the charges.

To export the data displayed in the grid, click the Export button, or right-click in the grid and select "Export..." from the context menu.

If you right-click on a row, the context menu presents several options for more information about the associated encounter: Coding Summary, and Encounter Details.

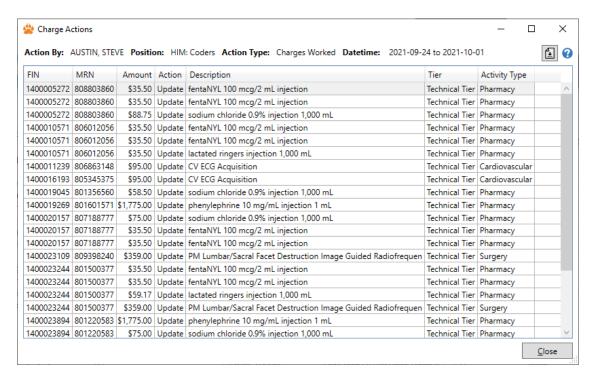


Figure 462: Charge Actions Dialog

10.9.19 Coding Summary Dialog

The Coding Summary dialog provides detailed information regarding coding of the selected task.

To export the data displayed any of the grids, click the Export button to the upper right of the grid, or right-click in the grid and select "Export..." from the context menu.

The *Coding History* tab provides information about coding actions taken on the encounter. When one of the rows is selected and there is a clinical document associated with the record, it will be displayed if possible. Even if the file is unsupported, it can still be exported to be viewed with an appropriate program.

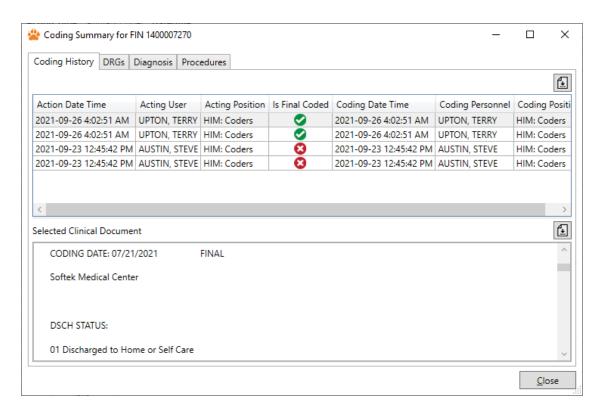


Figure 463: Coding History tab

The *DRGs* tab provides information about the diagnosis related groups added to the encounter. When one of the rows is selected and there is any history associated with that DRG it will be shown in the lower grid.

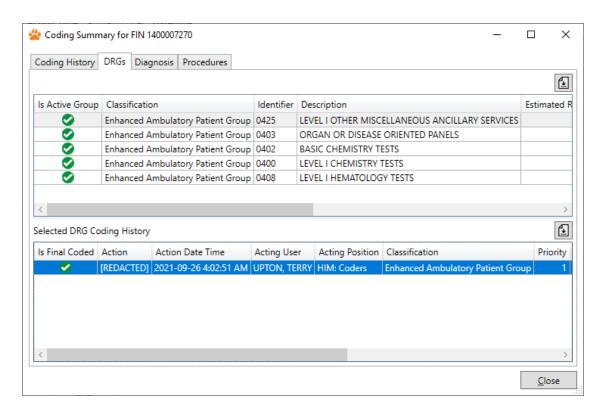


Figure 464: DRG tab

The *Diagnosis* tab provides information about the diagnoses added to the encounter. When one of the rows is selected and there is any history associated with that Diagnosis it will be shown in the lower grid.

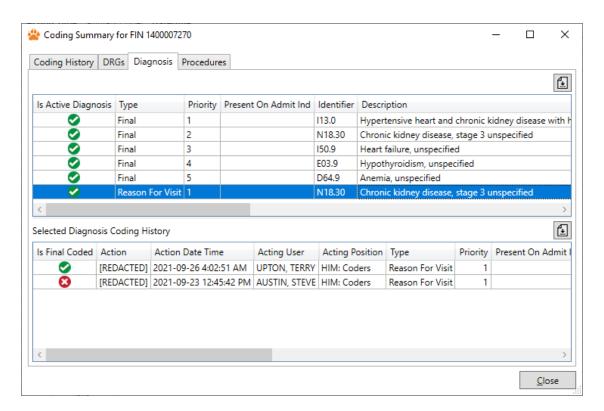


Figure 465: Diagnosis tab

The *Procedures* tab provides information about the procedures and procedure modifiers added to the encounter. When one of the rows is selected and there is any history associated with that Procedure or Procedure Modifier it will be shown in the lower grid.

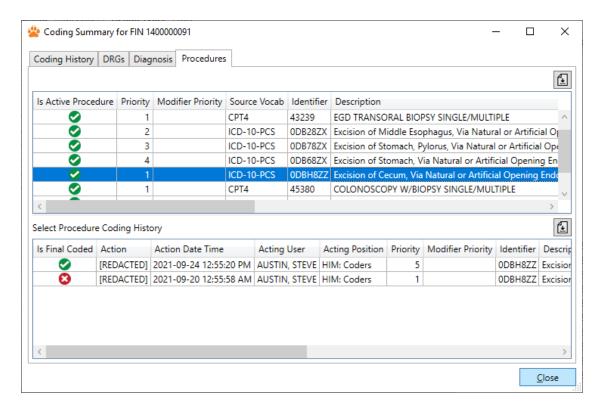


Figure 466: Diagnosis tab

10.9.20 HIM Task Details Dialog

The HIM Task Details dialog provides detailed information for the selected task.

To export the data, click the Export button to the upper right of the grid, or right-click in the grid and select "Export..." from the context menu. The data for all of the tabs will be added as separate sheets if exporting to Excel® format, or will all be contained in one file if exporting to CSV.

The upper grid contains general information about the encounter and the task.

The Action History tab contains information about who took actions on the task, and when.

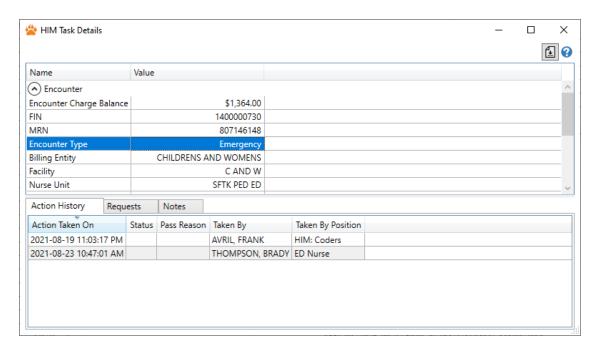


Figure 467: Action History tab

The *Requests* tab contains information about what requests were made on the encounter. If you double-click on a Request, it will launch the Clinical Documents dialog, showing any Clinical Documents associated with that request.

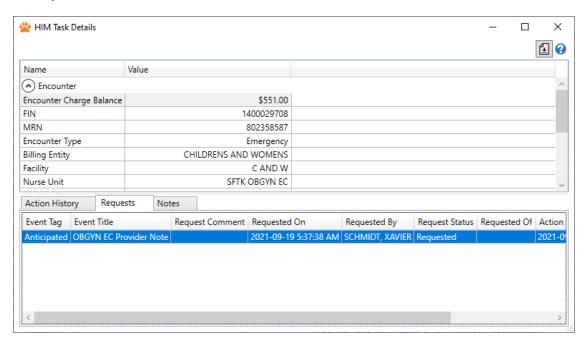


Figure 468: Requests tab

The Notes tab contains information about notes made on the encounter or task.

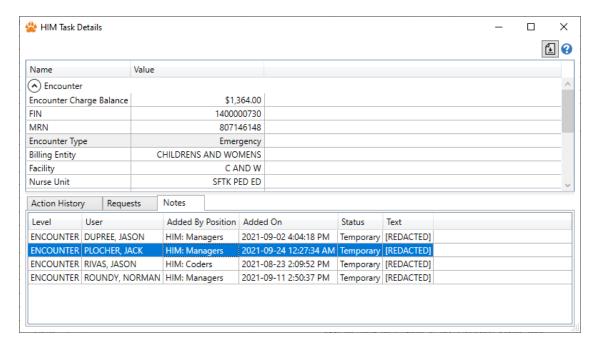


Figure 469: Notes tab

10.9.21 Clinical Documents Dialog

The Clinical Documents dialog provides the ability to view Clinical Documents of supported file types. If there are multiple associated documents, there will be a list of the documents along the left side of the dialog with an icon indicating the file type, and the document's title. If there is only one associated document, the list will be hidden to allow for more room to view the document.

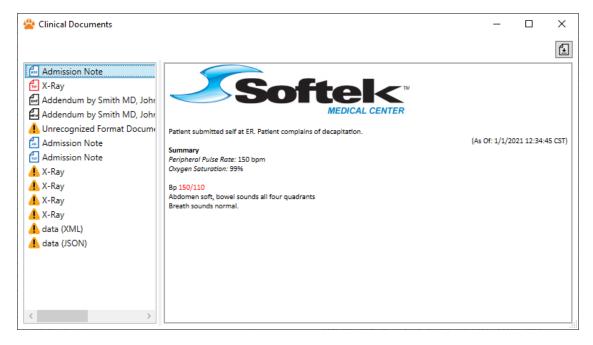


Figure 470: Clinical Documents Dialog

10.9.22 Encounter Details Dialog

The *Encounter Details* dialog is a common dialog displayed by many Panther controls. See Encounter Details Dialog for more information.

10.10. Payor Report Card Control

The Payor Report Card control is an interactive tool to help identify which payors respond to bills in a timely fashion.

To view the Payor Report Card control, select the *Payor Report Card* item in the domain explorer (Figure 471).

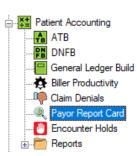


Figure 471: Domain Explorer

To the upper left of the control is the Search button, and the Refresh button. The first time you load the control, it will load all available data for the last 120 days. On subsequent visits to the control, it will automatically load the data using the saved search criteria. Click the Search button to load the Search dialog and set the search criteria. The Refresh button will only be enabled after data has been loaded. Clicking on it will cause a new search to be issued using the current search criteria.

The Export button allows you to save the currently displayed data in a CSV or Excel® format. When the Export button is clicked, the Windows "Save As" dialog will appear, prompting the you to select a name and location for the file. Data in all grids can also be selected and copied by using keyboard shortcuts or by right-clicking to access the context menu.

The Help icon provides additional information about the data currently being viewed. Hover the mouse cursor over the question mark icon to see an informational tooltip describing the data displayed.

10.10.1 Health Plan Summary

The Health Plan Summary view (Figure 472) displays statistics by health plan regarding payment responses. To launch the Responses dialog and view the a list of responses for a health plan you can either double-click on a row, or right-click and select "Details..." from the context menu.

The graphs at the top display data for the currently selected row. The graph on the left displays the amount of money payed or adjusted by encounter type. The graph on the right displays the response time for bill payments. The graphs can be hidden by unchecking the Show Graph checkbox.



Figure 472: Health Plan Summary

10.10.2 Health Plan Details

The Health Plan Details view (Figure 473) displays a summary of responses grouped by a user configurable set of fields.

To launch the Responses dialog and view the a list of responses for each row you can either double-click on a row, or right-click and select "Details..." from the context menu.

The graphs at the top display data for the currently selected row. The graph on the left displays the amount of money payed or adjusted by encounter type. The graph on the right displays the response time for bill payments. The graphs can be hidden by unchecking the Show Graph checkbox.

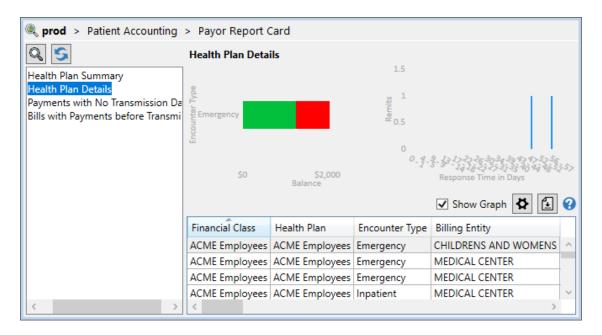


Figure 473: Health Plan Details

The settings icon on the right will open the Group By Settings dialog (Figure 474). Payor responses will be grouped by the included fields.

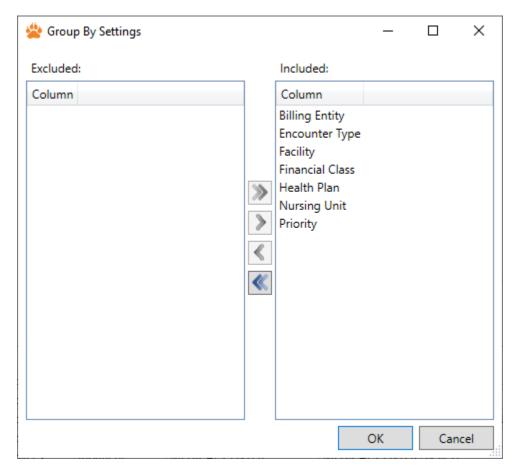


Figure 474: Group By Settings

10.10.3 Payments with No Transmission Date

The Payments with No Transmission Date view (Figure 475) shows a list of payments for bills that were never marked as transmitted. This could indicate a payment was associated with the wrong bill or the bill's transmission was not properly recorded. Double-clicking a row will open the Encounter Details dialog with additional information about the patient encounter. (Section 10.10.7) You can also access the Encounter Details dialog by right-clicking to bring up the context menu, and selecting "Details...".

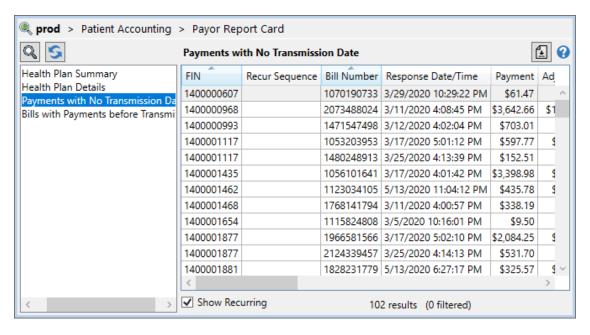


Figure 475: Payments with No Transmission Date

10.10.4 Bills with Payments before Transmit

The Bills with Payments before Transmit view (Figure 476) shows a list of payments with a response date before the transmission date of the bill. This could indicate a payment was associated with the wrong bill or the bill's transmission was not properly recorded. Double-clicking a row will open the Encounter Details dialog with additional information about the patient encounter. (Section 10.10.7) You can also access the Encounter Details dialog by right-clicking to bring up the context menu, and selecting "Details...".

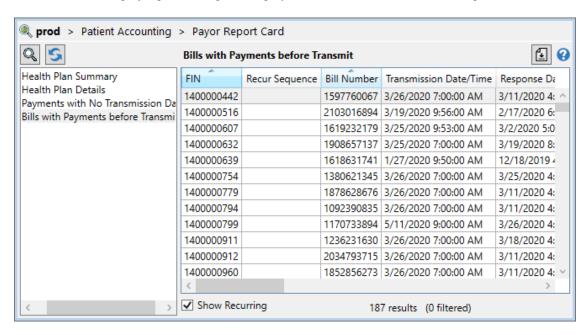


Figure 476: Bills with Paments before Transmit

10.10.5 Responses Details Dialog

The Responses Details dialog (Figure 477) lists the payment responses counted in the summary. Double-clicking a row will open the Encounter Details dialog. (Section 10.10.7) You can also access the Encounter Details dialog by right-clicking to bring up the context menu, and selecting "Details...".

The Responses Details dialog can be reached from the Health Plan Summary and the Health Plan Details.

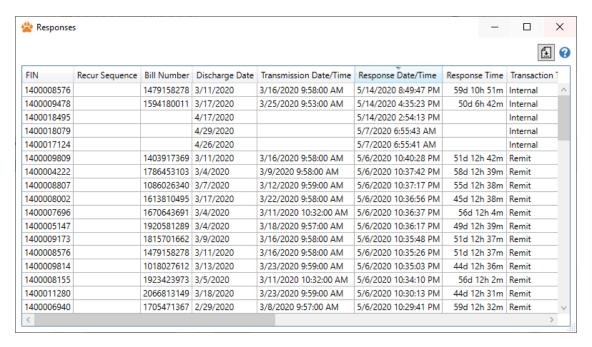


Figure 477: Responses Details Dialog

10.10.6 Searching

The Payor Report Card control provides the ability to search based on selected date range, payor priority, billing entity, facility, financial class, action code, and HCPCS. The lists of selected billing entities, facilities, financial classes, action codes, and HCPCS are empty by default. If there is a warning icon on a tab, that means that criteria needs to be selected on that tab before the search can be performed. (Figure 478)



HCPCS Filter Requires All to Match

Unlike most search criteria in Panther, the HCPCS filter looks for data matching all of the selected items. If the data has additional HCPCS codes which were not selected, that will not disqualify it.



Search Displays the Current Criteria

When opened, the Search dialog will display the criteria used for the most recent search. This makes it easy to modify an existing search.

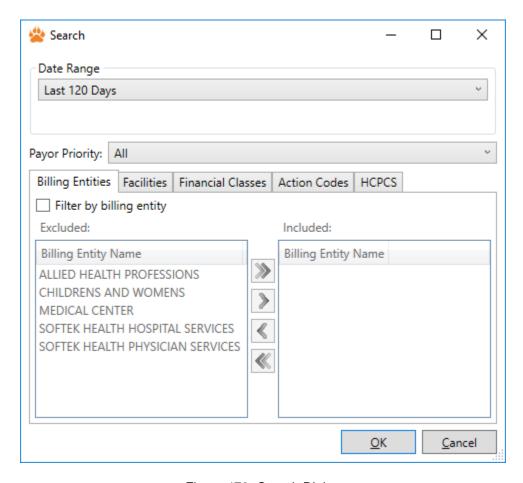


Figure 478: Search Dialog

10.10.7 Encounter Details Dialog

The Encounter Details dialog (Figure 479) provides Summary and Detail data for the encounter selected. The Summary includes basic demographic data, General information about the current balance, financial class, Hold Category, Hold Reason, current Balance, Days since the current hold has been active, and HIM coding status. There are 7 detail tabs that show balances, accounts, claims, Holds and dates the hold was applied and released, any work queue items, HIM tasks, and the Activity Log.

Double clicking a row on the Balances tab will open the Balance Details dialog. (Section 10.10.8) You can also access the Balance Details dialog by right-clicking to bring up the context menu, and selecting "Details...".

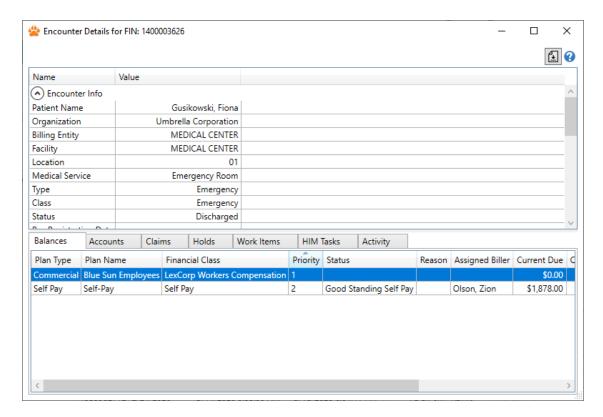


Figure 479: Encounter Details Dialog

10.10.8 Balance Details Dialog

The Balance Details dialog (Figure 480) provides Summary and Detail data for the balance selected. The Summary includes information about the health plan responsible for the balance, status, amount due, amount collected, and amount adjusted. There are 2 detail tabs, which show activity and claims that contribute to the balance.

Double clicking a row on the Activity tab will open the Transaction Details dialog. (Section 10.10.9) You can also access the Transaction Details dialog by right-clicking to bring up the context menu, and selecting "Details...".

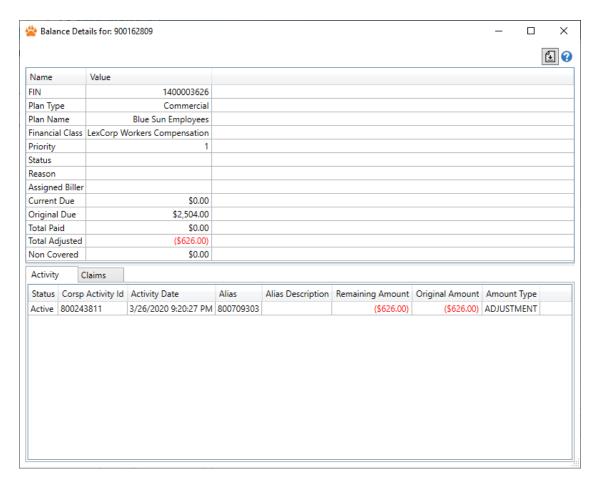


Figure 480: Balance Details Dialog

10.10.9 Transaction Details Dialog

The Transaction Details dialog (Figure 481) provides the transaction tree for a particular action, and shows properties of the selected transaction.

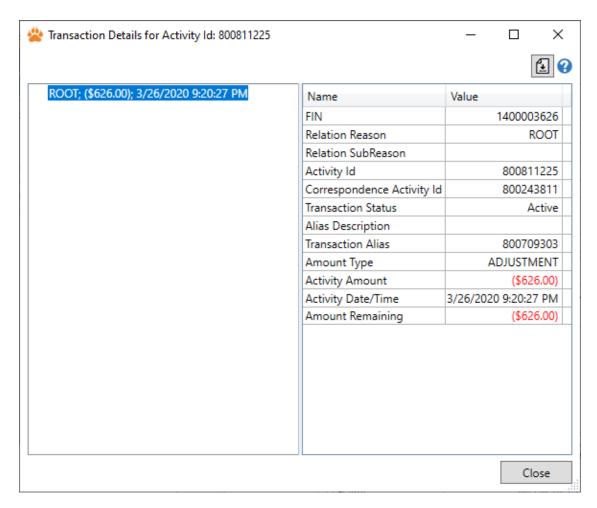


Figure 481: Transaction Details Dialog

10.11. Reports Control

The Patient Accountg Reports component contains several report controls to provide additional visibility into patient accounting data.

For more detailed information about these reports, you may visit their respective section(s).

10.11.1 General Reports

The General Reports control displays a variety of reports that review and analyze the technical aspects of the Millennium system that can impact performance and stability related to charging.

To view the General Reports control, select the *General Reports* item in the domain explorer (Figure 482).

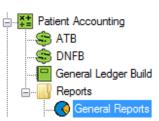


Figure 482: Domain Explorer

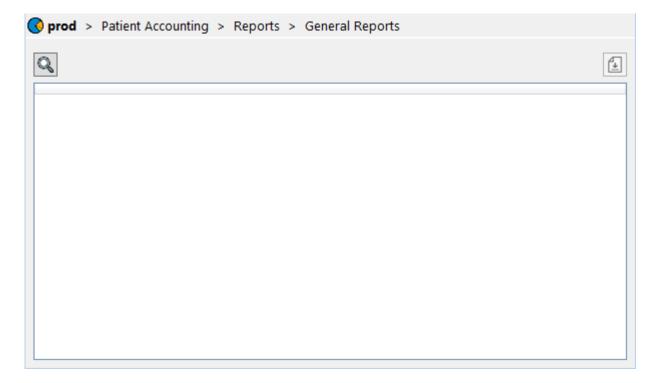


Figure 483: General Reports Control

Executing reports

To select a report for execution, click the search button. This will bring up a dialog that displays the list of available reports (Figure 484). It also includes a date range control which is enabled or disabled based upon whether the currently-selected report supports date range criteria.

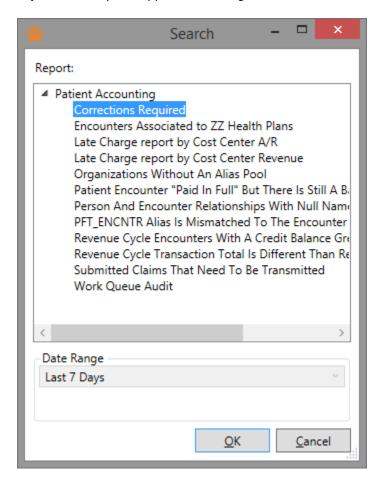


Figure 484: Search Dialog

Upon confirming the search dialog, the control will execute the report and display its results (Figure 485).

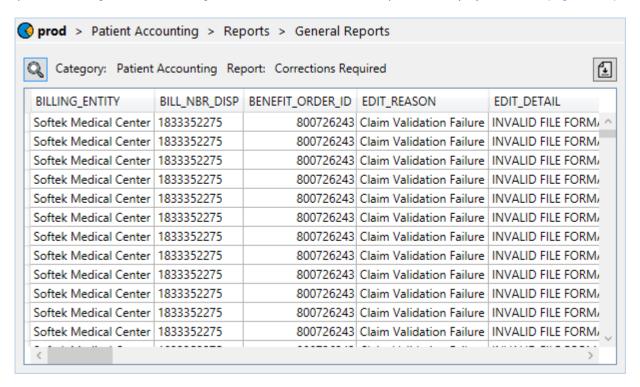


Figure 485: General Reports - With Data

The figure also displays the *No Results* overlay that appears when a query does not return any data Figure 486.



Figure 486: General Reports - No Results

Exporting Data

The General Reports control also allows the export of currently-displayed tabular data. To do so, click the export button. It will then prompt for a file location and save the data in CSV or Excel[®] format.

Scheduled Reports

See Charge Capture Scheduled Reports.

10.11.2 ATB - Trending

The ATB - Trending control displays daily summary data for balances, payments, and charges.

Patient Accounting adjustments, and charges.

To view the ATB - Trending control, select the *ATB - Trending* item in the domain explorer (Figure 487).



Because some queries for ATB trending data can be expensive and/or time-consuming, the ATB - Trending control does not automatically perform a search on load. Instead, a user must initiate the search by clicking the search button.



Figure 487: Domain Explorer

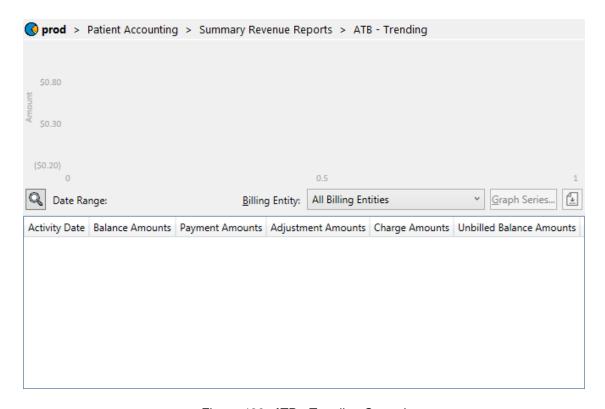
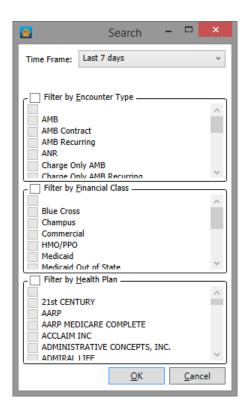


Figure 488: ATB - Trending Control

Searching For Trending Data

The ATB - Trending search provides the ability to select a time range encompassing either the last week or a given calendar month, as well as filter the summary data by encounter type, financial class, and health plan (Figures 489 and 490).





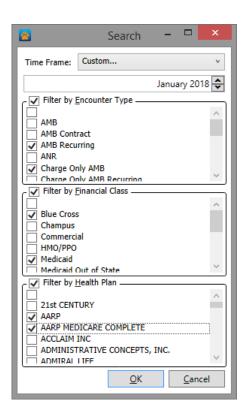


Figure 490: Search With Custom Date And Filters

Once search results have returned, the control will populate display the data both in tabular form and as a line graph of values over time (Figure 491).

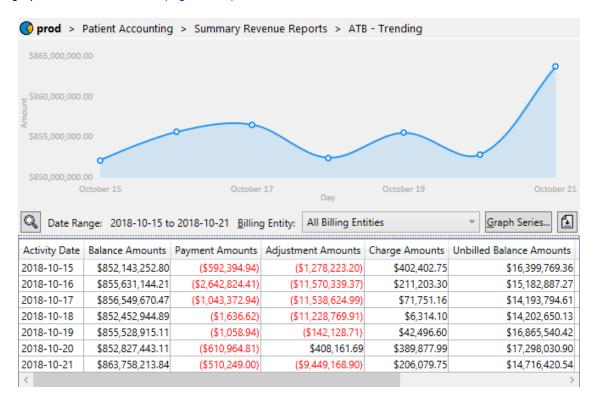


Figure 491: ATB - Trending Control With Data

Configuring the Line Graph

By default, the line graph only shows *Balance Amounts* data. To add/remove values, select the *Graph Series...* button. This will bring up a dialog to select what columns appear in the graph (Figure 492).

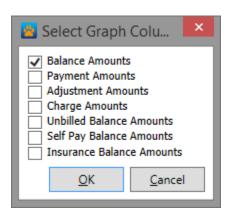


Figure 492: Graph Column Selection Dialog

Filtering by Billing Entity

By default, the tabular and line graph use summary data for all billing entities within the organization. However, data for a specific billing entity can be displayed by selecting it from the *Billing Entity* drop-down (Figure 493).

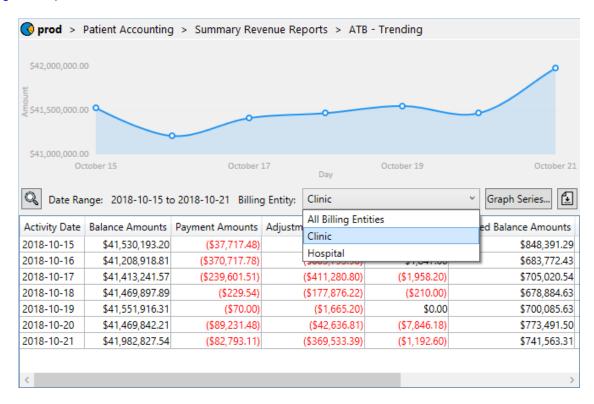


Figure 493: ATB - Trending Control Filtered By Billing Entity

Exporting Data

The ATB - Trending control also allows you to export the currently-displayed tabular data. To do so, click export button. It will then prompt for a file location and save the data in CSV or Excel® format.

10.11.3 DNFB - Trending

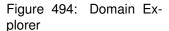
The DNFB - Trending control displays daily summary data for balances, payments, adjustments, and charges.

To view the DNFB - Trending control, select the *DNFB - Trending* item in the domain explorer (Figure 494).





Because some queries for DNFB trending data can be expensive and/or time-consuming, the DNFB - Trending control does not automatically perform a search on load. Instead, a user must initiate the search by clicking the search button.



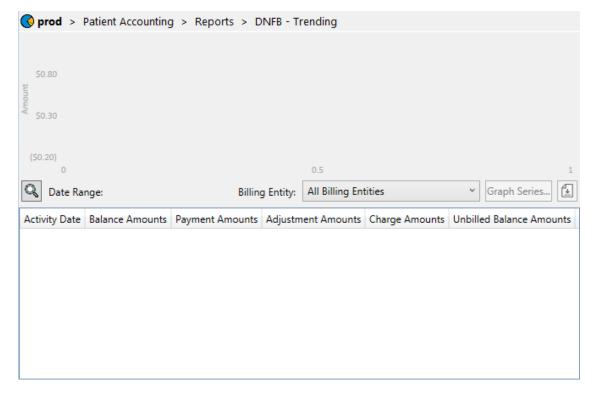


Figure 495: DNFB - Trending Control

Searching For Trending Data

The DNFB - Trending search provides the ability to select a time range encompassing either the last week or a given calendar month, as well as filter the summary data by encounter type, financial class, and health plan (Figures 496 and 497).

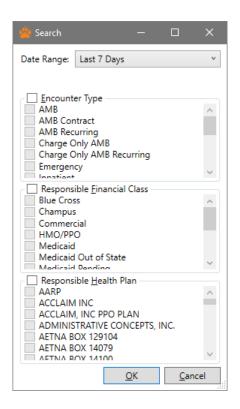


Figure 496: Search Dialog

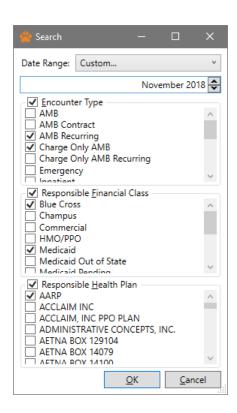


Figure 497: Search With Custom Date And Filters

Once search results have returned, the control will populate display the data both in tabular form and as a line graph of values over time (Figure 498).

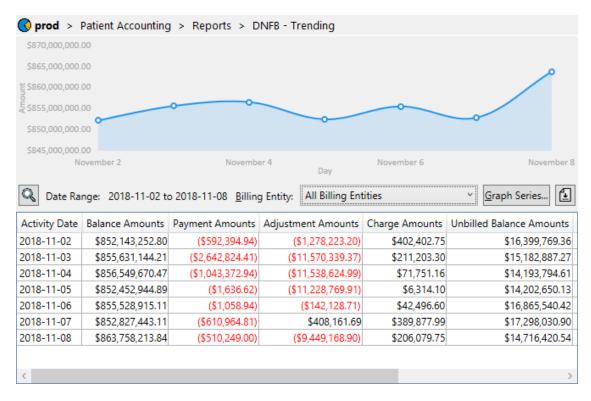


Figure 498: DNFB - Trending Control With Data

Configuring the Line Graph

By default, the line graph only shows *Balance Amounts* data. To add/remove values, select the *Graph Series...* button. This will bring up a dialog to select what columns appear in the graph (Figure 499).

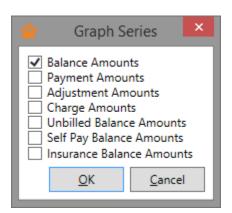


Figure 499: Graph Column Selection Dialog

Filtering by Billing Entity

By default, the tabular and line graph use summary data for all billing entities within the organization. However, data for a specific billing entity can be displayed by selecting it from the *Billing Entity* drop-down (Figure 500).

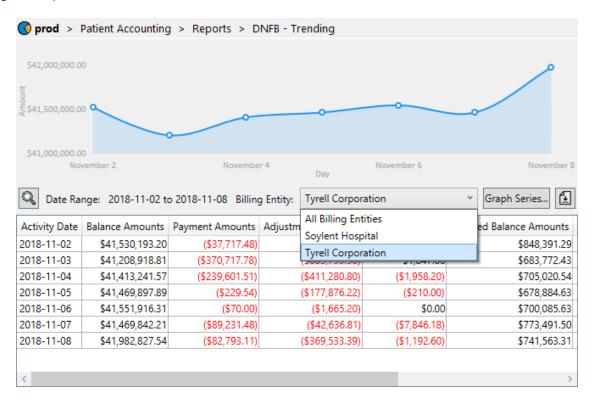


Figure 500: DNFB - Trending Control Filtered By Billing Entity

Exporting Data

The DNFB - Trending control also allows you to export the currently-displayed tabular data. To do so, click the export button. It will then prompt for a file location and save the data in CSV or Excel® format.

10.11.4 7-day Rolling Average

The 7-day Rolling Average control displays daily revenue data for a 7-day period, the average and total revenue for the financial class over that period, and the fraction of the overall revenue for its billing entity.

To view the 7-day Rolling Average control, select the *7-day Rolling Average* item in the domain explorer (Figure 501).

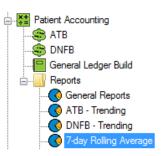


Figure 501: Domain Explorer

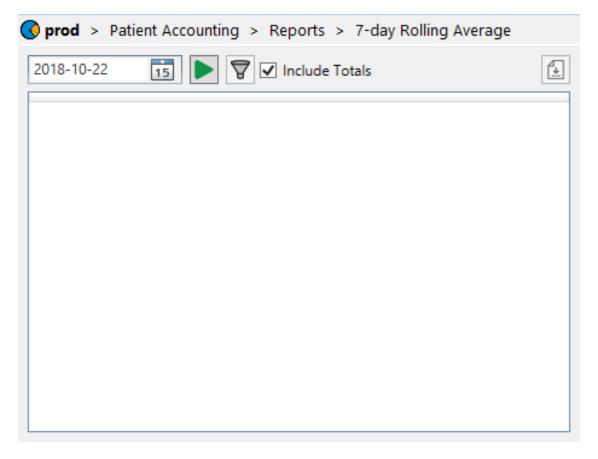


Figure 502: 7-day Rolling Average Control

Executing Reports

To execute a report, select the desired date and click the execute button. When the report has finished, the control will display data in the grid below (Figure 503)

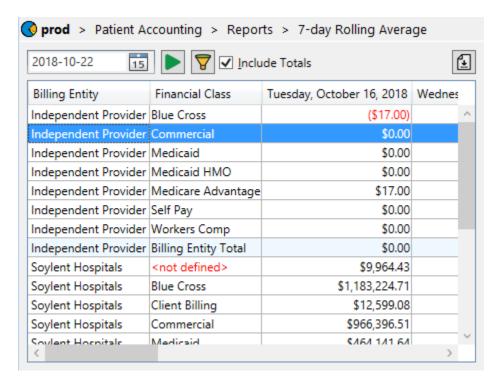


Figure 503: 7-day Rolling Average Data

Once the report data has returned, the control provides the ability to filter by billing entity, show/hide totals, and export the data.

Filtering Billing Entities

Occasionally it may be useful to focus on a particular billing entity. To do so, click the filter button. This will launch a filter dialog (Figure 504) in which you can select which billing entities to display.

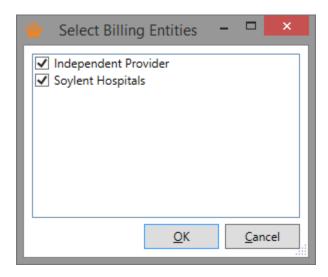


Figure 504: 7-day Rolling Average Filter Dialog

Showing and Hiding Totals

By default, the control displays subtotals for each billing entity as well as a grand total. However, there are some cases (e.g., when exporting data) when it is preferable to hide the total rows. This can be done by un-checking the *Include Totals* check box (Figure 505).

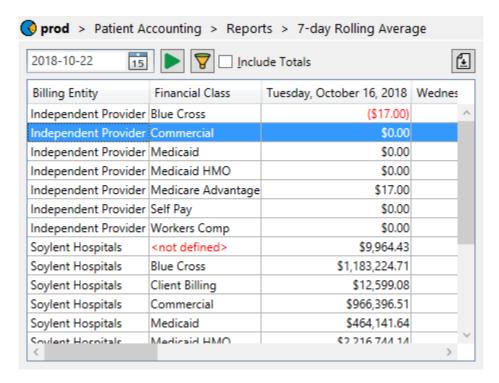


Figure 505: 7-day Rolling Average Without Total Rows

Exporting Data

The 7-day Rolling Average control also allows you to export the currently-displayed tabular data. To do so, click the export button. It will then prompt for a file location and save the data in CSV or Excel® format.

10.11.5 Inpatient/Outpatient

The Inpatient/Outpatient control displays daily revenue data for a user-specified period, including total, inpatient, and outpatient charge units and revenue over that period. Optionally, it can also include 90-day rolling average data for each.

To view the Inpatient/Outpatient control, select the *Inpatient/Outpatient* item in the domain explorer (Figure 506).

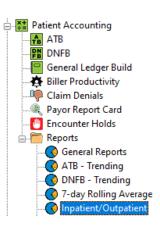


Figure 506: Domain Explorer

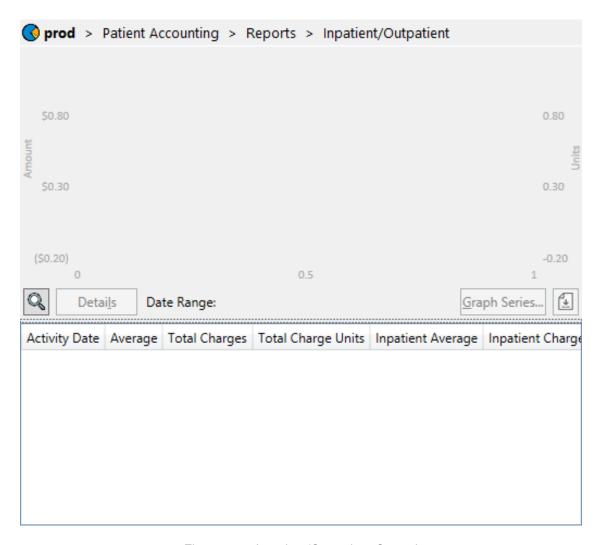


Figure 507: Inpatient/Outpatient Control

Executing Reports

To execute a report, click the search button. This will open a search prompt (Figure 508). The prompt allows users to specify date range, optionally filter by billing entity and/or cost center, and choose whether to include a 90-day average.

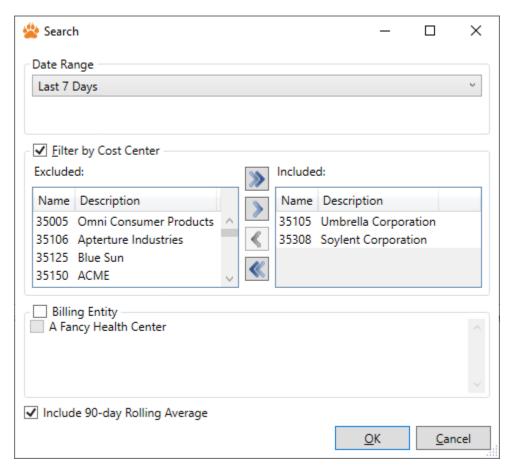


Figure 508: Inpatient/Outpatient Search

Upon confirming the desired criteria, the control will initiate the search. Once the search has completed, the control will display tabular data in the grid below as well as display it as a line graph in the chart above (Figure 509).

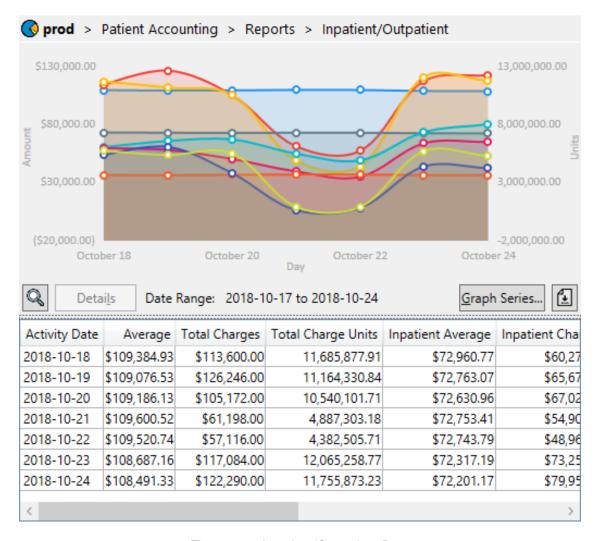


Figure 509: Inpatient/Outpatient Data

Once the data has returned, the control provides the ability to filter which series appear in the graph, export the tabular data, or show detailed information for a particular date.

Graph Filtering

By default, the graph displays a line for each column in the tabular data. However, since some columns contain data with different units than others as well as data in different columns sometimes containing data with different magnitude, it can be useful to show only a few lines at a time.

To change what lines appear, click the *Graph Series...* button. This will open a dialog which allows you to select which lines appear in the graph (Figure 510).

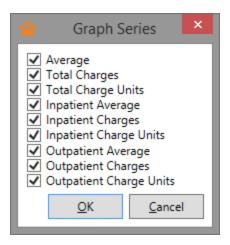


Figure 510: Inpatient/Outpatient Graph Filtering

Exporting Data

The Inpatient/Outpatient control also allows you to export the currently-displayed tabular data. To do so, click the export button. It will then prompt for a file location and save the data in CSV or Excel® format.

Viewing Details

More granular revenue information can be displayed for a specific date by selecting a row and clicking the *Details* button. This opens a dialog that displays charge details (Figure 511).

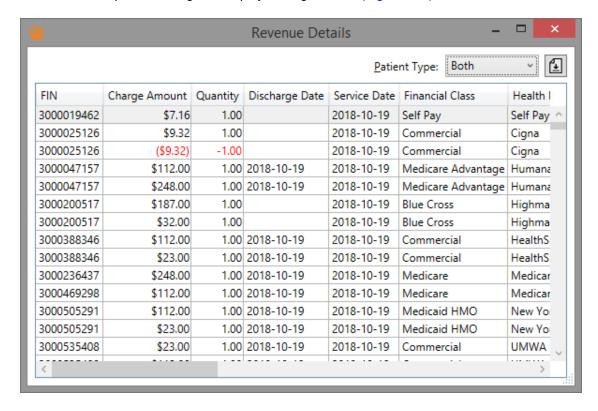


Figure 511: Inpatient/Outpatient Details

Data can be filtered with the drop-down to display Inpatient data, Outpatient data, or Both (default). Similar to the main control, the details window also allows you to export data by clicking the export button.

10.11.6 Revenue By Category

The Revenue By Category control displays revenue data for a user-specified period broken-down by a user-specified category along with a grand total for all displayed items.

To view the Revenue By Category control, select the *Revenue By Category* item in the domain explorer (Figure 512).

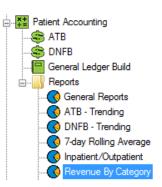


Figure 512: Domain Explorer

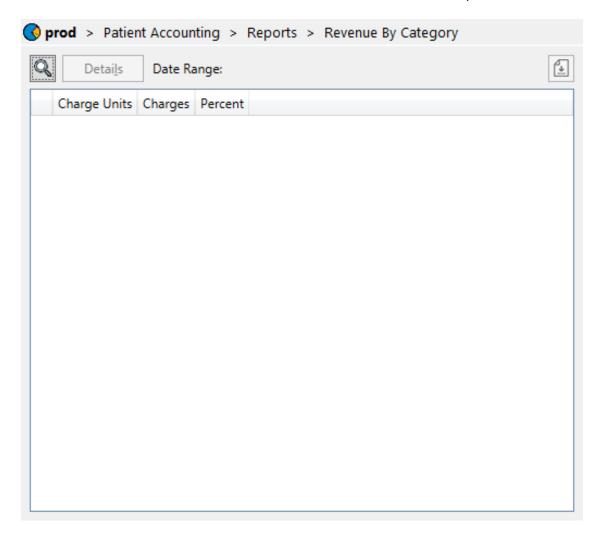


Figure 513: Revenue By Category Control

Executing Reports

To execute a report, click the search button. This will open a search prompt (Figure 514).

Upon confirming the desired date range and report type, the control will initiate the search. Once the search has completed, the control will display tabular data in the grid below (Figure 515).

Available Report Types:

- · Billing Entity
- · Financial Class
- Medical Service

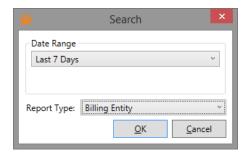


Figure 514: Revenue By Category Search

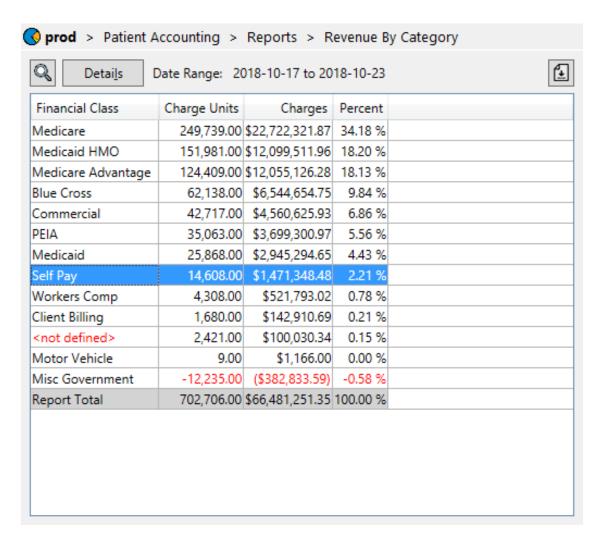


Figure 515: Revenue By Category Data

Once the data has returned, the control provides the ability to show detailed information for a particular row or export the tabular data.

Viewing Details

More granular revenue information can be displayed for a specific row by selecting it and clicking the *Details* button. This opens a dialog that displays charge details (Figure 516).

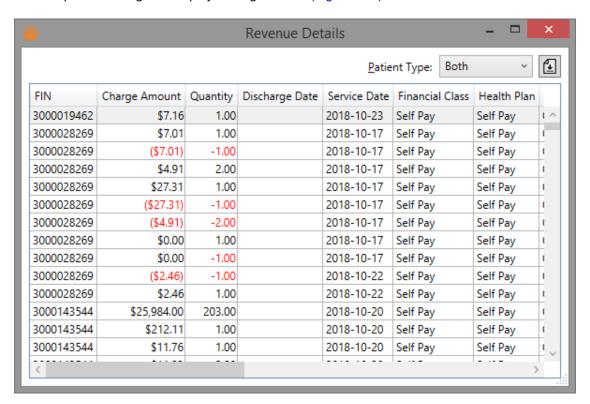


Figure 516: Revenue By Category Details

Data can be filtered with the drop-down to display Inpatient data, Outpatient data, or Both (default).

Similar to the main control, the details window also allows you to export data by clicking the export button.

Exporting Data

The Revenue By Category control also allows you to export the currently-displayed tabular data. To do so, click the export button. It will then prompt for a file location and save the data in CSV or Excel® format.

10.11.7 Revenue By CDM/CPT/HCPCS By Cost Center

The Revenue By CDM/CPT/HCPCS By Cost Center control displays revenue data for a user-specified period broken-down by billing entity, cost center, and CDM, CPT, or HCPCS, along with a grand total.

To view the Revenue By CDM/CPT/HCPCS By Cost Center control, select the *Revenue By CDM/CPT/HCPCS By Cost Center* item in the domain explorer (Figure 517).

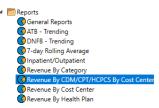


Figure 517: Domain Explorer

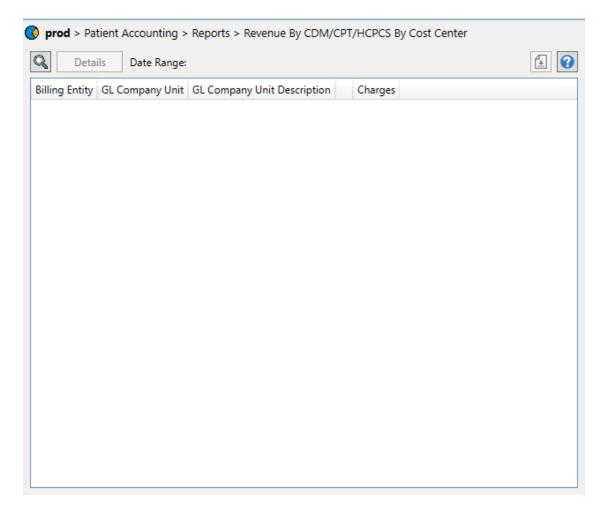


Figure 518: Revenue By CDM/CPT/HCPCS By Cost Center Control

Executing Reports

To execute a report, click the search button. This will open a search prompt (Figure 519).

Upon confirming the desired date range and optional company unit filter, the control will initiate the search. Once the search has completed, the control will display tabular data in the grid below (Figure 520).

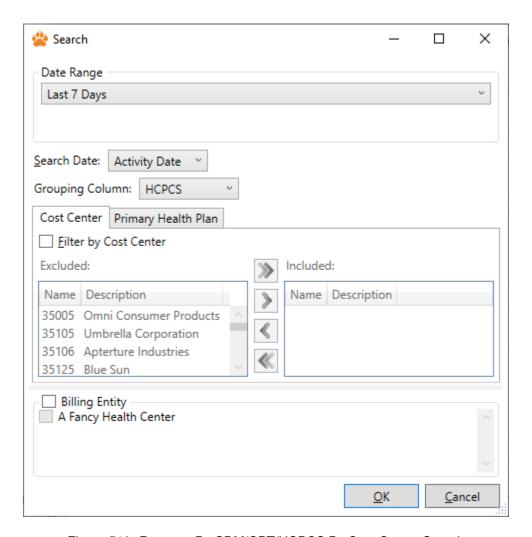


Figure 519: Revenue By CDM/CPT/HCPCS By Cost Center Search

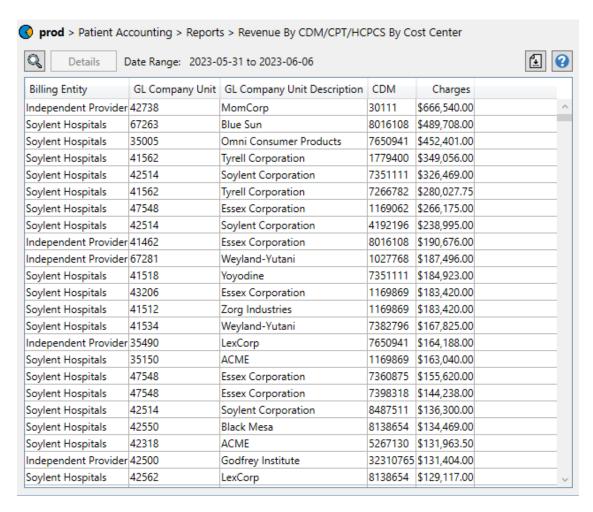


Figure 520: Revenue By CDM/CPT/HCPCS By Cost Center Data

Once the data has returned, the control provides the ability to show detailed information for a particular row or export the tabular data.

Viewing Details

More granular revenue information can be displayed for a specific row by selecting it and clicking the *Details* button. This opens a dialog that displays charge details (Figure 521).

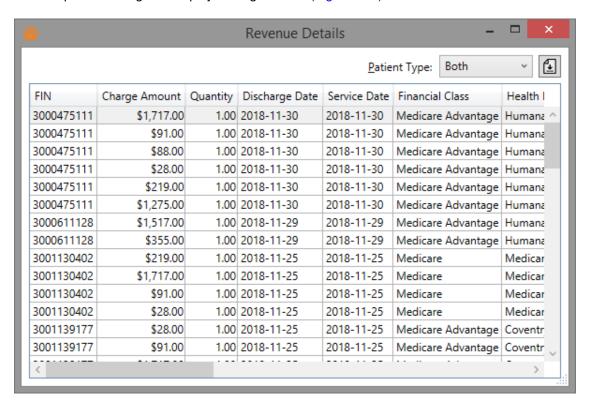


Figure 521: Revenue By CDM/CPT/HCPCS By Cost Center Details

Data can be filtered with the drop-down to display Inpatient data, Outpatient data, or Both (default).

Similar to the main control, the details window also allows you to export data by clicking the export button.

Exporting Data

The Revenue By CDM/CPT/HCPCS By Cost Center control also allows you to export the currently-displayed tabular data. To do so, click the export button. It will then prompt for a file location and save the data in CSV or Excel® format.

10.11.8 Revenue By Cost Center

The Revenue By Cost Center control displays revenue data for a user-specified period broken-down by cost center along with a grand total for all displayed cost centers.

To view the Revenue By Cost Center control, select the *Revenue By Cost Center* item in the domain explorer (Figure 522).



Figure 522: Domain Explorer

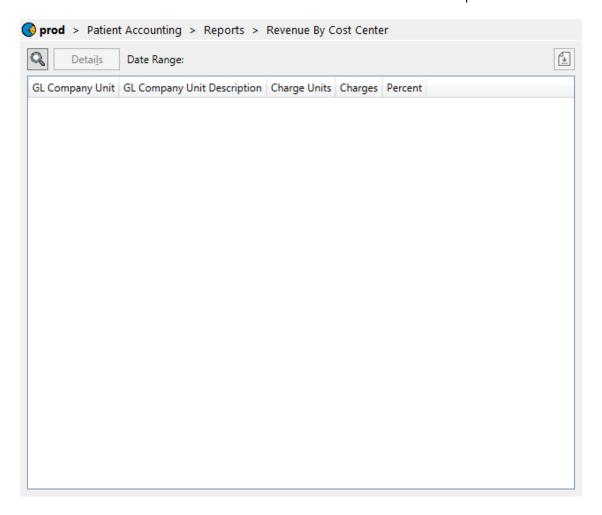


Figure 523: Revenue By Cost Center Control

Executing Reports

To execute a report, click the search button. This will open a search prompt (Figure 524).

Upon confirming the desired date range and optional company unit filter, the control will initiate the search.

Once the search has completed, the control will display tabular data in the grid below (Figure 525).

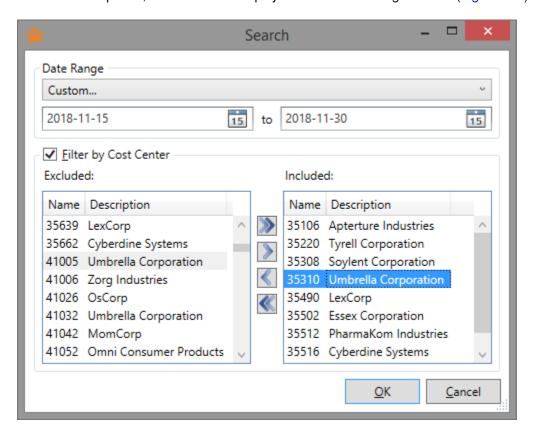


Figure 524: Revenue By Cost Center Search

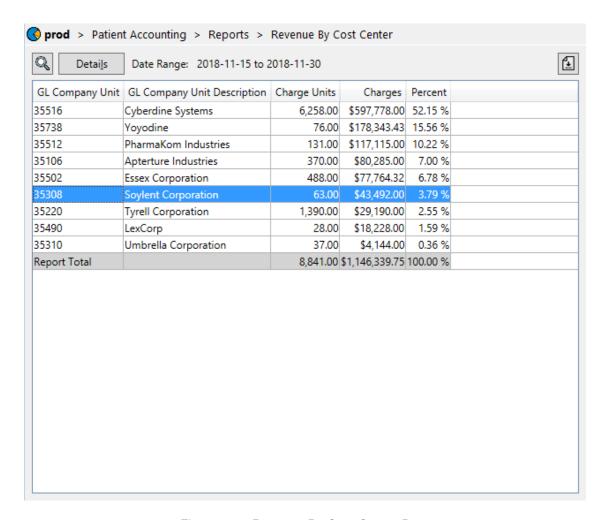


Figure 525: Revenue By Cost Center Data

Once the data has returned, the control provides the ability to show detailed information for a particular row or export the tabular data.

Viewing Details

More granular revenue information can be displayed for a specific row by selecting it and clicking the *Details* button. This opens a dialog that displays charge details (Figure 526).

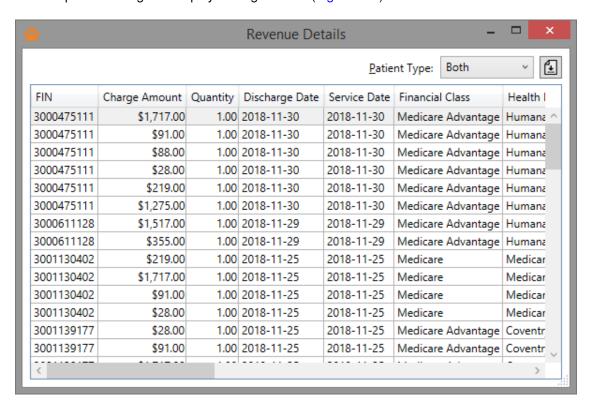


Figure 526: Revenue By Cost Center Details

Data can be filtered with the drop-down to display Inpatient data, Outpatient data, or Both (default).

Similar to the main control, the details window also allows you to export data by clicking the export button.

Exporting Data

The Revenue By Cost Center control also allows you to export the currently-displayed tabular data. To do so, click the export button. It will then prompt for a file location and save the data in CSV or Excel® format.

10.11.9 Revenue By Health Plan

The Revenue By Health Plan control displays revenue data for a user-specified period broken-down by Health Plan, Primary Health Plan, and Responsible Health Plan. It also optionally displays subtotals for each Health Plan.

To view the Revenue By Health Plan control, select the *Revenue By Health Plan* item in the domain explorer (Figure 527).

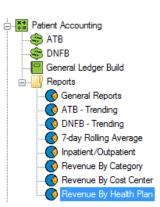


Figure 527: Domain Explorer

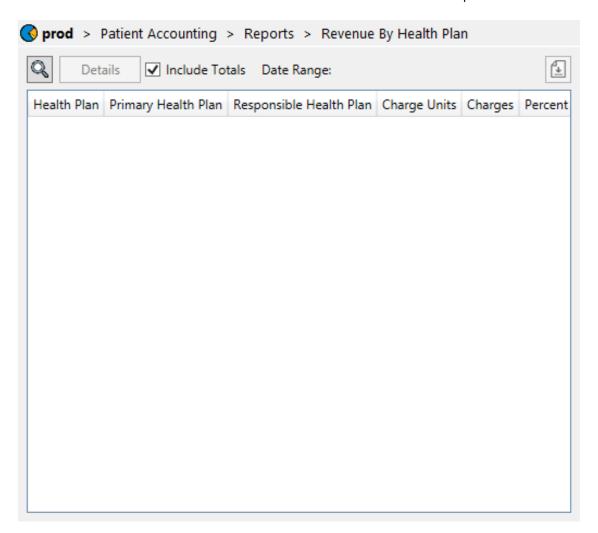


Figure 528: Revenue By Health Plan Control

Executing Reports

To execute a report, click the search button. This will open a search prompt (Figure 529).

Upon confirming the desired date range, the control will initiate the search. Once the search has completed, the control will display tabular data in the grid below (Figure 530).

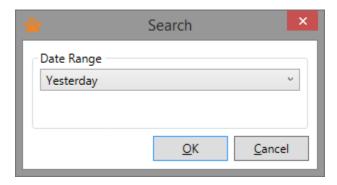


Figure 529: Revenue By Health Plan Search

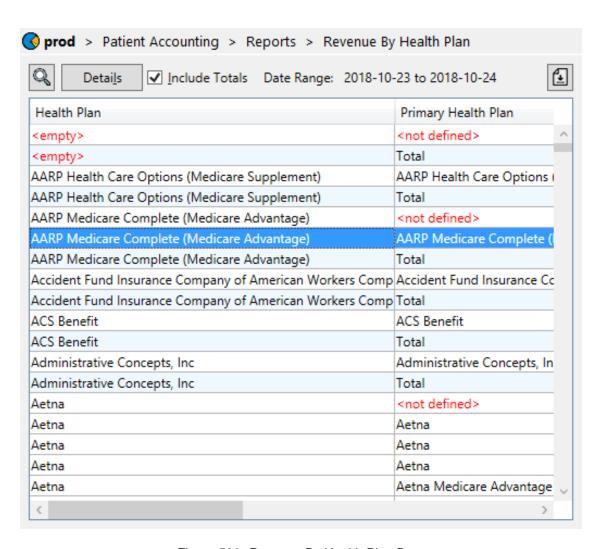


Figure 530: Revenue By Health Plan Data

Once the data has returned, the control provides the ability to export the tabular data, show or hide total rows, or show detailed information for a particular row.

Exporting Data

The Revenue By Health Plan control also allows you to export the currently-displayed tabular data. To do so, click the export button. It will then prompt for a file location and save the data in CSV or Excel® format.

Total Filtering

By default, the grid displays a subtotal row for each Health Plan. However, when exporting, it may be preferable to include only the raw data. As such, total rows can be hidden by unchecking the *Include Totals* check box.

Viewing Details

More granular revenue information can be displayed for a specific row by selecting it and clicking the *Details* button. This opens a dialog that displays charge details (Figure 531).

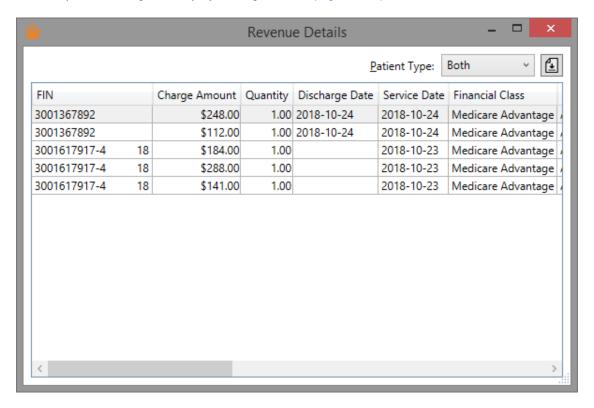


Figure 531: Revenue By Health Plan Details

Data can be filtered with the drop-down to display Inpatient data, Outpatient data, or Both (default).

Similar to the main control, the details window also allows you to export data by clicking the export button.

10.11.10 Adjustments by Reason

The Adjustments by Reason control displays revenue adjustment data for a userspecified period broken-down by reason along with a grand total for all displayed adjustment reasons.

To view the Adjustments by Reason control, select the *Adjustments by Reason* item in the domain explorer (Figure 532).

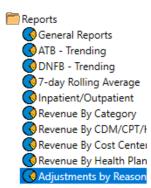


Figure 532: Domain Explorer

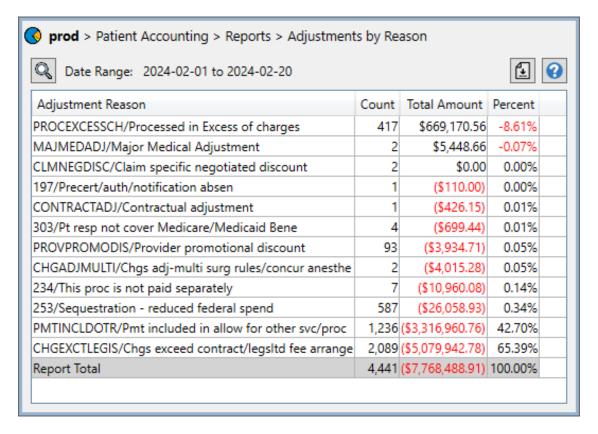


Figure 533: Adjustments by Reason Control

Executing Reports

To execute a report, click the search button. This will open a search prompt (Figure 534).

Upon confirming the desired date range and optional company unit and billing entity filters, the control will initiate the search. Once the search has completed, the control will display tabular data in the grid below. (Figure 533).

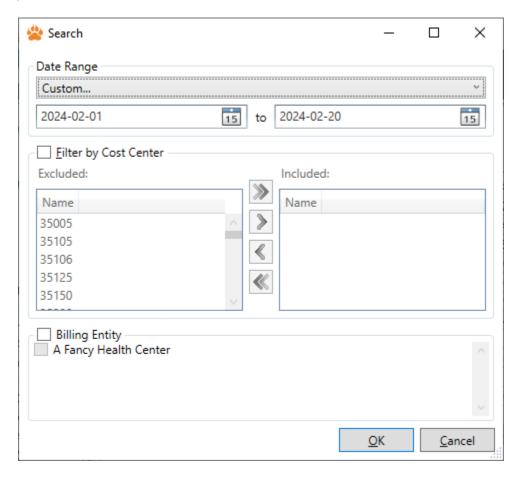


Figure 534: Adjustments by Reason Search

Once the data has returned, the control provides the ability to show detailed information for a particular row or export the tabular data.

Viewing Details

More granular revenue information can be displayed for a specific row by selecting it and clicking the *Details* button. This opens a dialog that displays adjustment details (Figure 535).

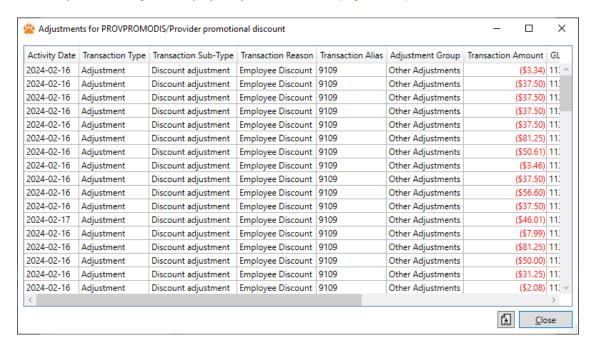


Figure 535: Adjustments by Reason Details

Similar to the main control, the details window also allows you to export data by clicking the export button.

Exporting Data

The Adjustments by Reason control also allows you to export the currently-displayed tabular data. To do so, click the export button. It will then prompt for a file location and save the data in CSV or Excel® format.

10.11.11 Revenue By Service Provider

The Revenue By Service Provider (OHPA) control displays revenue data for a _a _ OHPA Reports user-specified period broken-down by service provider along with a grand total for all displayed service providers.



Figure 536: Domain Ex-To view the Revenue By Service Provider control, select the Revenue By Service plorer Provider item in the domain explorer (Figure 536).

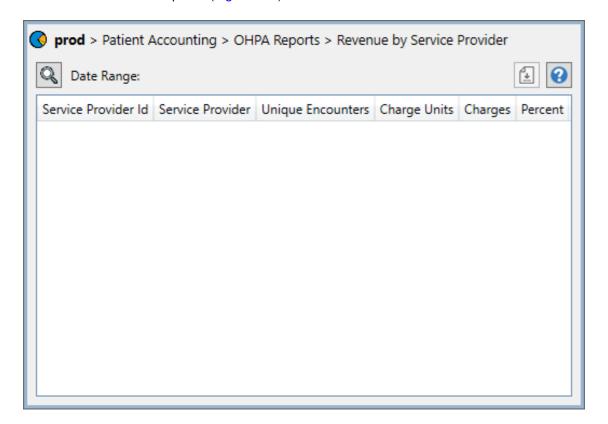


Figure 537: Revenue By Service Provider Control

Executing Reports

To execute a report, click the search button. This will open a search prompt (Figure 538).

Upon confirming the desired date range and optional service provder and billing entity filters, the control will initiate the search. Once the search has completed, the control will display tabular data in the grid below (Figure 539).

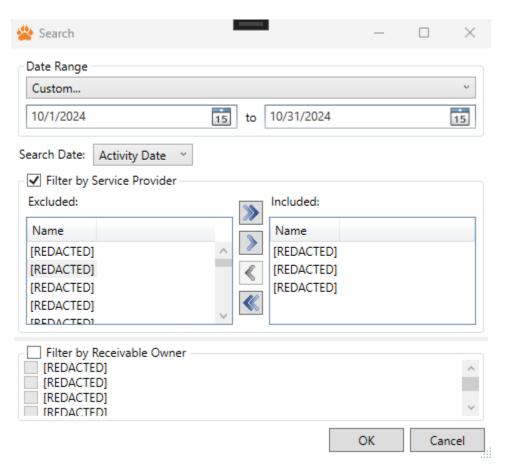


Figure 538: Revenue By Service Provider Search

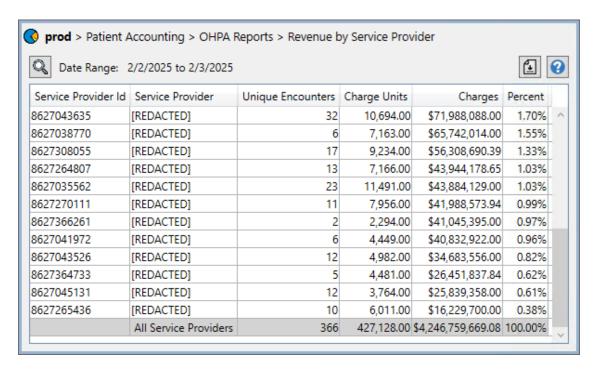


Figure 539: Revenue By Service Provider Data

Working With Search Results

Once the data has returned, the control provides the ability to show detailed information for a particular row or export the tabular data.

Viewing Details

More granular revenue information can be displayed for a specific row by selecting it and clicking the *Details* button. This opens a dialog that displays charge details (Figure 540).

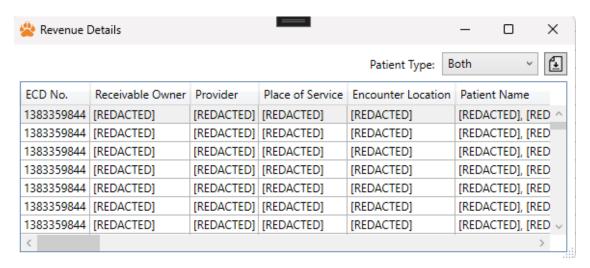


Figure 540: Revenue By Service Provider Details

Data can be filtered with the drop-down to display Inpatient data, Outpatient data, or Both (default).

Similar to the main control, the details window also allows you to export data by clicking the export button.

Exporting Data

The Revenue By Service Provider control also allows you to export the currently-displayed tabular data. To do so, click the export button. It will then prompt for a file location and save the data in CSV or Excel[®] format.

10.12. Work Queue Assignments Control

The Work Queue Assignments control is an interactive tool to view current Alpha Set rules for work queues, see the number of encounters worked based on those rules, create a list of rule changes to make, and simulate what encounters assigned would have looked like based on the planned rule changes.

To view the Work Queue Assignments control, select the *Work Queue Assignments* item in the domain explorer (Figure 541).



Figure 541: Domain Explorer



No Changes Are Made to Your Millennium® System

All edits and reassignments made within the Work Queue Assignment control are saved to the Panther database. They are used to help you make a list of changes to request. The Work Queue Assignment control does not make any changes to the rules stored in Millennium[®].

The current rule values in Millennium[®] and the planned changes in Panther's database are fetched after every save. To force a new data fetch, click the "Refresh" button in the upper left.

To load one of the views, select it in the tree. The Queue Assignment Rule Stats view will need to load additional data regarding historical work items, and may take additional time to load.

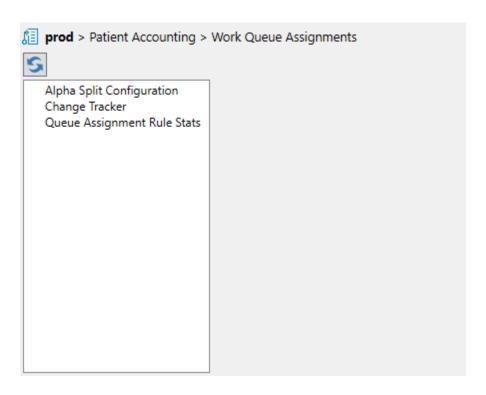


Figure 542: Work Queue Assignments Control

10.12.1 Alpha Split Configuration

Panther reads the assignment rules from the Millennium[®] database, and tries to group them based on the rule conditions. The Alpha Split Configuration screen lets you see all these rules as they have been grouped, what Alpha Sets they have defined, and who they are assigned to. It also allows options for manipulating these groupings within Panther to aid in planning what rule changes to make.

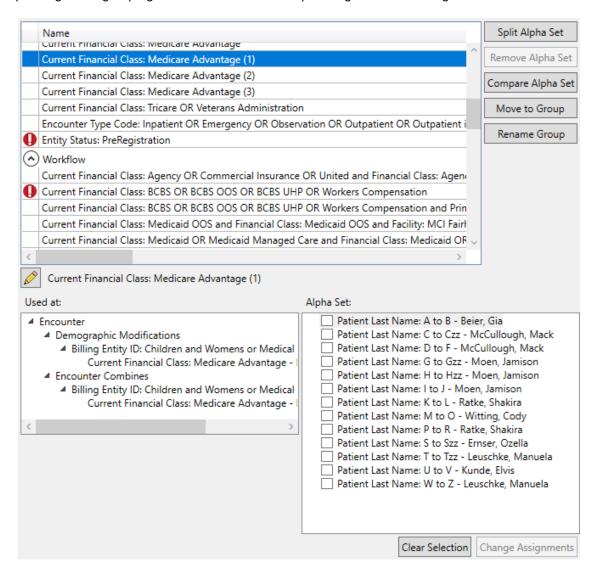


Figure 543: Alpha Split Configuration

The upper grid shows a list of Alpha Sets, named after their conditions. The first column indicates if an Alpha Set has an error, such as its Alpha Split is missing a range of letters. The name just below this grid reflects the currently selected Alpha Set. To rename the Alpha Set, click the pencil button to the left of the name. Details about the currently selected Alpha Set will be displayed beneath that.

To the right, there is a button to Split Alpha Set. The initial Alpha Sets within Panther are determined by grouping rules with matching Alpha Splits. If you would like to reassign an Alpha Split for only some of the rules in an Alpha Set, you will first need to split those rules into a separate Alpha Set.

The "Remove Alpha Set" button will only be enabled for Alpha Sets defined within Panther (for example, an Alpha Set that is split, or renamed) which do not have any planned assignment changes. Removing an Alpha Set from Panther will cause it to show as it is within the Millennium[®] database once more. One example of when you may wish to remove an Alpha Set is if you split it to allow differing assignments, but later wish to recombine it.

The Compare Alpha Set button will launch a dialog allowing you to select one of the other Alpha Sets, then shows a comparison of how the assignments differ between the two Alpha Sets.

The "Move to Group" button allows you to move an Alpha Set into a different grouping within Panther. These are primarily an organizational aid, and will not impact the list of planned changes. Similarly with the "Rename Group" button.

The "Used at:" tree shows the rule path where that alpha set is used. If some of those conditions should have a separate set of assignments, you can click the Split Alpha Set button to split some of those conditions into a separate Alpha Set, where you can change assignments independently.

The Alpha Set tree shows the Alpha Splits, any further conditions beneath them, and who is assigned to them. To change one or more assignments, check one or more boxes and click the Change Assignments button. To alter the range of an Alpha Split, right-click on an Alpha Split, and select "Edit...". This will launch a Change Range dialog where the new start and end of the Alpha Split range can be set. To create a new Alpha Split, right-click an existing Alpha Split, and select "Clone". This will launch the Change Range dialog pre-populated with the same range and assignee as the Alpha Split being cloned. Changes made here will be saved to the Panther database, and show up in the list of planned changes on the Change Tracker control.

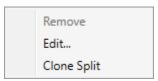


Figure 544: Alpha Set tree Context Menu

Menu Option	Description	
Remove	Remove a planned new Alpha Split.	
Edit	Edit the range of the selected Alpha Split.	
Clone	Create a planned new Alpha Split, based on the selected Alpha Split.	

Table 119: Alpha Set Tree Context Menu

10.12.2 Change Tracker

The Change Tracker screen has two tabs: Planned Changes, and Unexpected Changes. Each tab header will also have a count of how many items are on that tab. All data in the Change Tracker is available for users with the *Access Work Queue Assignments* privilege to view. Some actions require the *Manage Work Queue Assignments* privilege - for example, removing notifications about unexpected changes.

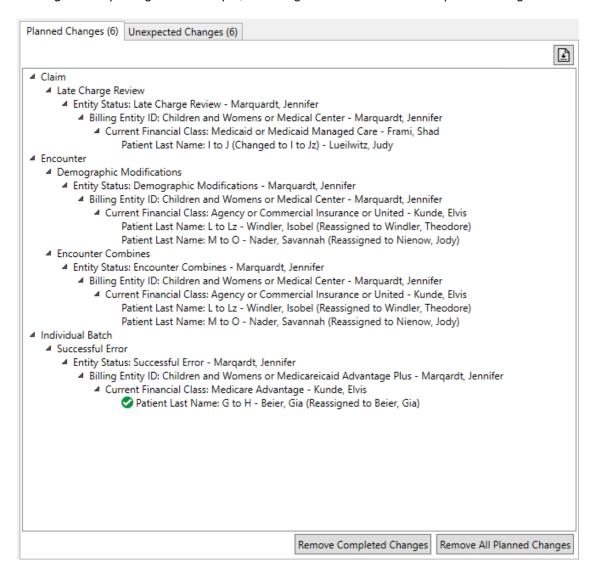


Figure 545: Planned Changes

The Planned Changes tab contains the changes which users have made in the Work Queue Assignment control. The changes are organized as a tree which let you see the Work Queue and all of the conditions leading down to the changed assignments. Each changed assignment will show who is currently assigned in the Millennium[®] database, and who it is planned to reassign to. The Export button in the upper right provides an easy way to get a list of the planned changes to reference when making those changes.

For any planned change in the tree, you can right-click, and choose to remove that individual change from the list of planned changes, or to Reassign it to someone else. You can also alter the range of Alpha Splits

present in the tree by right-clicking on one, and selecting "Edit...". This will launch a Change Range dialog where the new start and end of the Alpha Split range can be set.

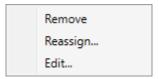


Figure 546: Planned Changes Context Menu

Menu Option	Description
Remove	Remove a planned new Alpha Split.
Reassign	Change who is assigned to the Alpha Split.
Edit	Edit the range of the selected Alpha Split.

Table 120: Planned Changes Context Menu

To clear the list of Planned Changes of those changes which have been successfully completed, click the "Remove Completed Changes" button. To start from scratch, click the "Remove All Planned Changes" button, and that will clear all of the planned reassignments from the Panther database. Both of these actions will impact the lists which all other users of this control in Panther see.

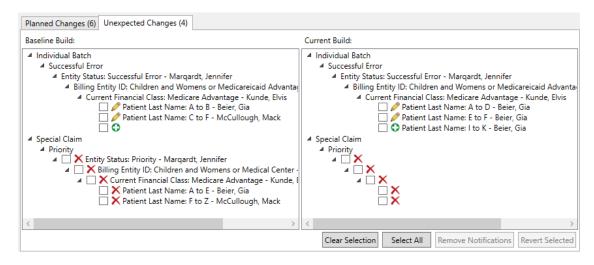


Figure 547: Unexpected Changes

The Unexpected Changes tab compares a snapshot of the previous ruleset as saved by Panther to the current state of the rules in Millennium[®]. If some of these changes were expected or desirable, check the box next to the change, and click "Remove Notifications". Panther will then integrate these into its snapshot, and they will no longer show up under Unexpected Changes unless something about them changes again. If there is an unexpected change which is undesirable or you wish it to be changed back, check the box next to the change, and click "Revert Selected". This will add corresponding items to the Planned Changes tab for changing them back to the person who was assigned as of Panther's snapshot. Removals that go above the Alpha Split level and additions may not be reverted, and if the selected changes include a removal above

the Alpha Split level or an addition, the "Revert Selected" button will not be enabled. If you right click on one of the unexpected changes in the "Current Build" tree, there may be an option to "Reassign". Doing so will bring up the Change Assignments dialog, and any changes made here will impact all rules in the Alpha Set. You can also alter the range of Alpha Splits present in the tree by right-clicking on one, and selecting "Edit...". This will launch a Change Range dialog where the new start and end of the Alpha Split range can be set.



Figure 548: Unexpected Changes Context Menu

Menu Option	Description	
Reassign	Change who is assigned to the Alpha Split.	
Edit	Edit the range of the selected Alpha Split.	

Table 121: Unexpected Changes Context Menu

10.12.3 Queue Assignment Rule Stats

The Queue Assignment Rule Stats screen allows you to see how many encounters each assignee would have been expected to work based off of the current rules in the Millennium[®] database, and how many encounters each assignee would have been expected to work if the rules had been those saved in the Panther database. The ability to simulate changes and see how it would impact workload can simplify the trial and error of finding a balanced rule set.

When first selected, the Queue Assignment Rules will load with default search criteria. When the user changes the search criteria, it will be set as a user preference and used for future loads of the Queue Assignment Rules. To change what filters are used, click the Search button. Changing the search criteria will cause a new search to be run.

Next to the Search button, there is a radio button to select whether the values shown should reflect the current rules or simulate what the numbers would have been if the planned rule changes were made. There is also a drop-down to select what grouping to use on the rules: None, Rule Path, or Alpha Set. This allows you to slice the data in different ways, to more easily identify which rule you might want to reassign. Changing the filter options located outside of the Search dialog works with the already-fetched data, and does not cause a new search to be run.

If you double-click on any of the rows, or right-click and select Assigned Encounters, it will launch a dialog with details about the encounters that would have been assigned. If you launch this dialog from one of the date-specific columns, it will be filtered down to the work items created on that date.

If you right-click on one of the rows, and "Reassign Alpha Split", it will launch the Change Assignments dialog to reassign all alpha splits associated with the selected row.

If you right-click on one of the rows, and select "Reassign Rule", it will launch the Change Assignments dialog to reassign all rules associated with the selected row.

If you right-click on one of the rows, and select "Edit Alpha Split Condition", it will launch a Change Range dialog to alter the start and end of the Alpha Split range.

If you right-click on one of the rows, and select "Edit Rule Condition", it will launch a Change Range dialog to alter the start and end of the Alpha Split range for the entire Rule.

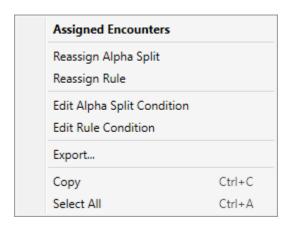


Figure 549: Queue Assignment Rule Stats Context Menu

Menu Option	Description
Assigned Encounters	View the list of encounters assigned because of this rule or alpha split specified in that row.
Reassign Alpha Split	Change who is assigned to the Alpha Split.
Reassign Rule	Change who is assigned to the Rule.
Edit Alpha Split Condition	Edit the range of the selected Alpha Split.
Edit Rule Condition	Edit the range of the selected Alpha Split across the entire Rule.
Export	Export the currently displayed data.
Сору	Copy the selected data to the clipboard.
Select All	Select all cells in the grid

Table 122: Queue Assignment Rule Stats Context Menu

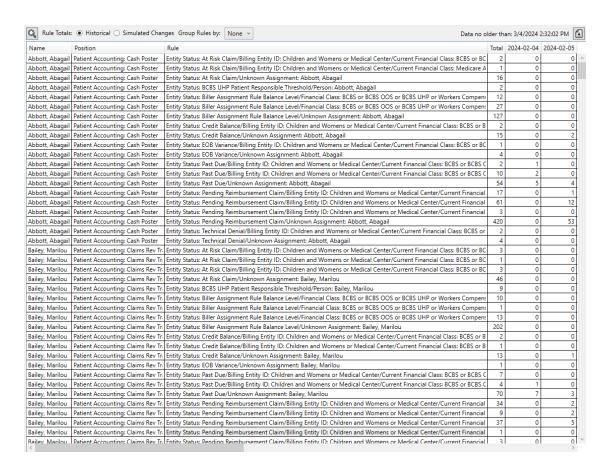


Figure 550: Queue Assignment Rule Stats (No Grouping)



Figure 551: Queue Assignment Rule Stats (Rule Path Grouped)



Figure 552: Queue Assignment Rule Stats (Alpha Set Grouped)

10.12.4 Searching

Upon clicking the search button, a search dialog presenting basic criteria (Figure 553) opens. The search criteria will be applied and saved once the "OK" button is clicked and the dialog closes.

Your search criteria will be remembered and used the next time you use the Work Queue Assignments control.



Search Displays the Current Criteria

When opened, the search dialog will display the criteria used for the most recent search. This makes it easy to modify an existing search.

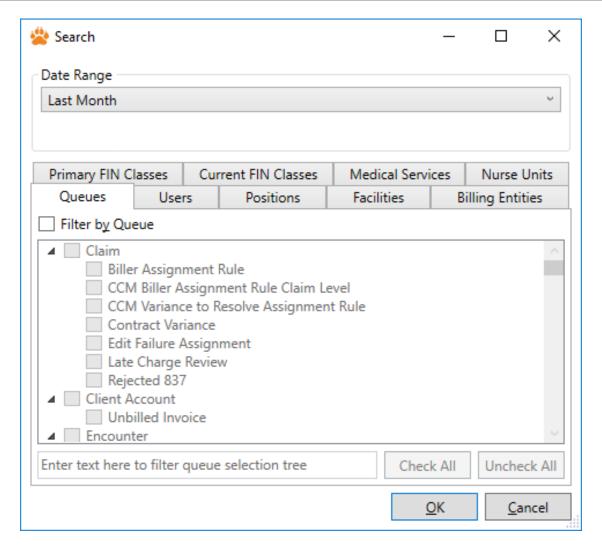


Figure 553: Search Dialog

10.12.5 Split Alpha Set

The Split Alpha Set dialog allows you to select certain rules within an Alpha Set, and split them to a separate one, so that their Alpha Splits can be reassigned independently.

The Alpha Set names in Panther are initially generated based off of the rules. The name of an Alpha Set is an organizational aid within Panther, and does not impact how the rule functions or how it would eventually be added to Millennium[®]. Names are not allowed to duplicate other Alpha Set names, so you will be required to set the name for the new Alpha Set. The "New Alpha Set Name" field is pre-populated with the name of the Alpha Set you are splitting.

While you are splitting the Alpha Set, you may also wish to move it to another Group. You may select an existing Group, or type a name to start a new Group.

You must select one or more rules to move to the new Alpha Set, but not all of them. In either case, the "OK" button will become disabled.

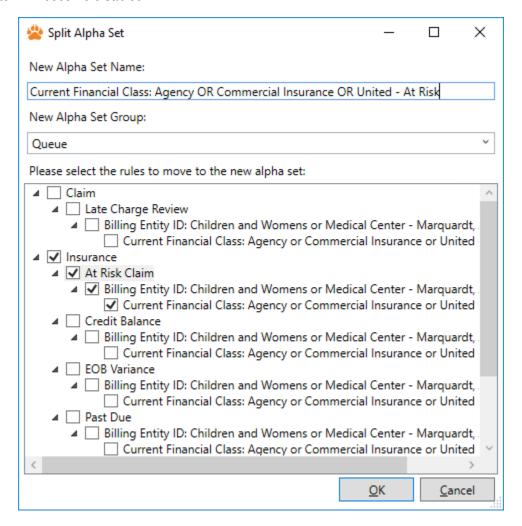


Figure 554: Split Alpha Set

10.12.6 Compare Alpha Set

The Compare Alpha Set dialog allows you to compare assignments and Alpha Splits between two Alpha Sets. This can be useful if you are trying to see why Panther may have grouped the rules into different Alpha Sets in a case where you had been expecting only one.

If you select one or more of the Alpha Splits, you can click the Change Assignments button to record a planned assignment change for those Alpha Splits.

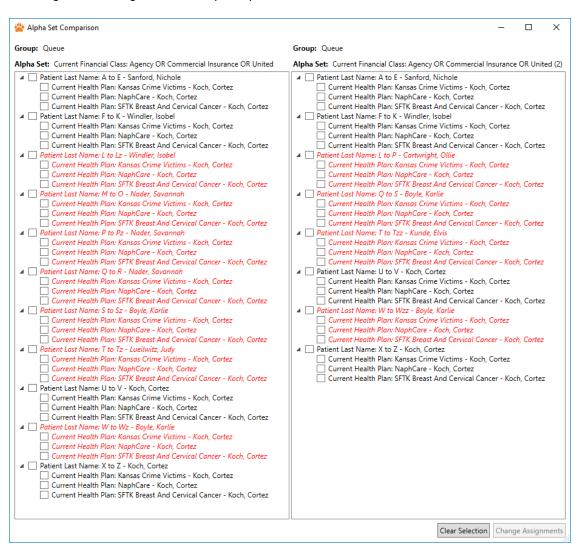


Figure 555: Compare Alpha Set

10.12.7 Change Assignments

The Change Assignments dialog displays information about the rule or Alpha Split to be reassigned, and allows you to select the new assignee.

By default, the New Assignee combo box will contain the name of the current assignee, and when you first click on the button to open the dropdown, it will list all users currently assigned to a rule. If you begin typing in the box, it will jump to the next matching name in the list. If you click the Search button, it will take the text you have currently typed in the New Assignee combo box, and will search for all matching people from the PRSNL table (limited to people which belong to organizations which the user has been granted access to). To see a list of all available people, click the Search button without any value typed in to the New Assignee combo box.

Clicking OK will record a planned changed in the Panther database for the selected person to be the new assignee for the target Alpha Split(s) and/or rule(s).

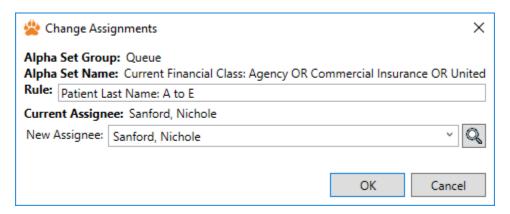


Figure 556: Change Alpha Split Assignments

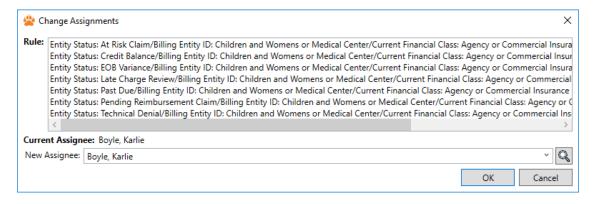


Figure 557: Change Rule Assignments

10.12.8 Change Range

The Change Range dialog displays information about the Alpha Split to be altered or created. If it is a new Alpha Split, it will allow you to select the assignee.

When cloning a rule, by default the New Assignee combo box will contain the name of the current assignee of the Alpha Split being cloned. When you first click on the button to open the dropdown, it will list all users currently assigned to a rule. If you begin typing in the box, it will jump to the next matching name in the list. If you click the Search button, it will take the text you have currently typed in the New Assignee combo box, and will search for all matching people from the PRSNL table (limited to people which belong to organizations which the user has been granted access to). To see a list of all available people, click the Search button without any value typed in to the New Assignee combo box.

Clicking OK will record a planned changed in the Panther database for the selected Alpha Split to be altered or created, with the specified person to be the assignee for the Alpha Split(s) and/or rule(s)

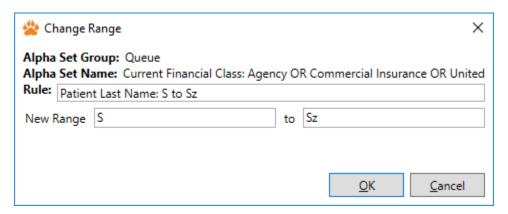


Figure 558: Change Range for Alpha Split

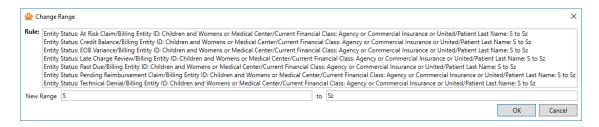


Figure 559: Change Range for Rule

10.12.9 Assigned Encounters

The Assigned Encounters dialog shows details of which encounters were assigned, or would have been assigned with a given rule set.

To view more information about a specific encounter, you can double-click an encounter, or right-click it and select "Encounter Details" from the menu.

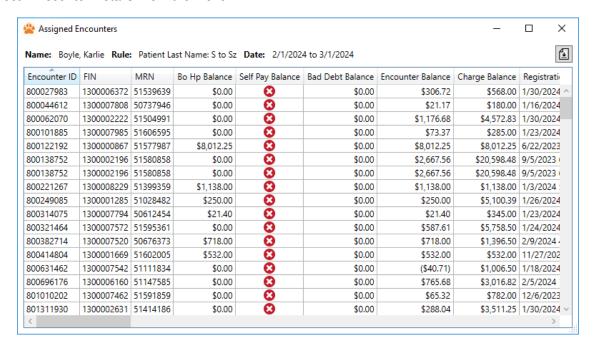


Figure 560: Assigned Encounters

10.12.10 Encounter Details

The *Encounter Details* dialog is a common dialog displayed by many Panther controls. See Encounter Details Dialog for more information.

11 EMR Performance

Panther provides the most comprehensive collection of functionality for effectively managing your Millennium environments. The controls listed below represent a growing collection of functionality. If there is a feature that will help you reduce unplanned downtime or save you hours of tedious work that you do not see in Panther, please let us know. It is our mission to make Panther better for you!

For more detailed information about the EMR Performance controls, you may visit their respective section(s).

11.1. Accounts Control

The Accounts control allows users to manage Millennium accounts. To do so, select the *Accounts* item in the Domain Explorer (Figure 561).

Users can perform the following actions:

- · Show details for one or more accounts
- Search for accounts matching specified criteria
- · View and modify account defaults
- · Add a new account
- · Copy an existing account to a new account
- · Remove an account
- · Modify an existing account
- · Reset an account's password

Attention: Millennium and Panther permissions required to view these controls.

In order to see these controls, a user must have both Millennium's 'Manage Accounts' permission and Panther's 'Access Accounts' permission.

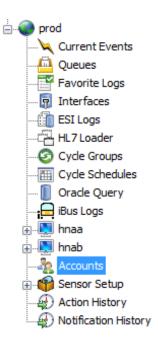


Figure 561: Domain Explorer

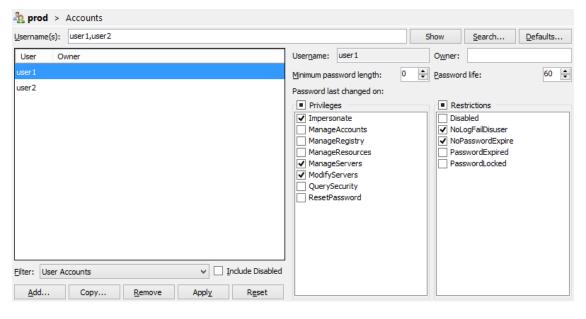


Figure 562: Accounts Control

11.1.1 Showing One or More Accounts



Figure 563: Account Show

When focusing on one or a small handful of accounts, the preferred method of retrieving their information from Millennium is via the show function. To use the show function, simply type enter the account names into the *Username(s)* field and click the *Show* button (Figure 563). Multiple account names must be separated by a space, comma, or semicolon character.

After performing the show command, the accounts that were found will be listed in the Application Workspace (Figure 562).

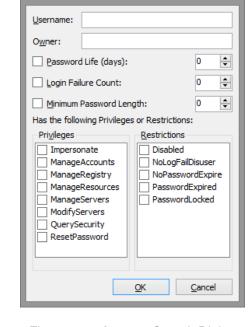
11.1.2 Searching Accounts



Figure 564: Account Search

When working with a larger set of accounts, more advanced search criteria can be used by clicking the *Search...* button (Figure 564).

Criteria	Description
Username	Retrieves accounts with usernames matching the input value. This can be an exact value or include a wildcard (*) at the beginning or end.
Owner	Retrieves accounts with owners matching the input value. This can be an exact value or include a wildcard (*) at the beginning or end.
Password Life	Retrieves accounts with password life values greater than or equal to the input value.
Login Failure Count	Retrieves accounts with login failure counts greater than or equal to the input value.
Minimum Password Length	Retrieves accounts with minimum password length values less than or equal to the input value.
Privileges and Restrictions	Retrieves accounts with all selected privileges and restrictions.



Search

Table 123: User Account Search Criteria

Figure 565: Account Search Dialog

After performing the search, the accounts fitting the criteria provided will be listed in the Application Workspace (Figure 562).



Attention: Search may fail in environments with a large number of accounts.

There is a known issue where the LIST command for AuthView will fail when the number of accounts exceeds approximately 65,000. As the search function in Panther is based off this command, it will fail in these cases as well. If this occurs, it is suggested to use the show function instead.

11.1.3 Account Filtering

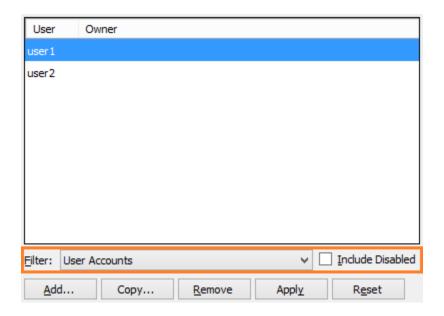


Figure 566: Account Filters

After performing a show or search operation, additional filters are provided in the main control to further narrow the displayed results (Figure 566). The *Filter* drop-down allows users to choose between displaying user accounts, service accounts, or all accounts (default: user accounts), while the *Include Disabled* check box toggles the display of accounts with the *Disabled* restriction (default: unchecked).

11.1.4 Managing Account Defaults



Figure 567: Account Defaults

To view or manage Account Defaults for the current domain, press the *Defaults...* button at the top right corner of the window (Figure 567). This will open the Account Defaults dialog (Figure 568), which displays all current default values.

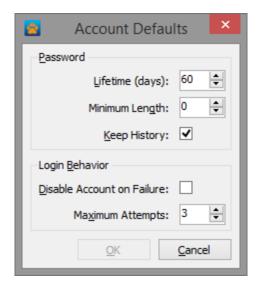
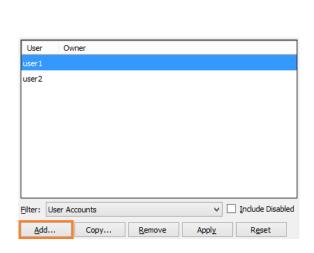


Figure 568: Account Defaults Dialog

Modifications can also be made from this dialog. After making changes, press the OK button to save them.

11.1.5 Creating a New Millennium Account



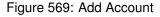




Figure 570: Add Account Dialog

To create a new account, click the button labeled *Add...* in the lower left of the screen (Figure 569). This will open the Add Account dialog (Figure 570). This dialog provides all available options for the new account.

When the new account has a *Username*, the *OK* button is enabled. Clicking the *OK* button will create an account in the current domain matching the criteria provided.

11.1.6 Copying a Millennium Account

Copying an account makes it possible to quickly create a new account with the same properties, privileges, and restrictions as an existing account.

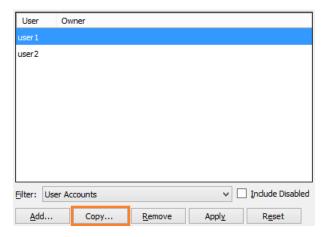


Figure 571: Copy Millennium Account

To copy an account, select it in the list and click *Copy...* (Figure 571). This will open the add account dialog (Figure 570) with owner, password length, privileges, and restrictions pre-populated with the values from the original account. Clicking *OK* will create a new account with the provided name and password in the current domain.

11.1.7 Removing a Millennium Account

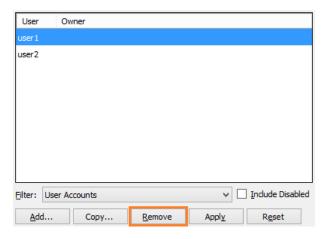


Figure 572: Remove Millennium Account

To remove an account, select it in the list and click *Remove* (Figure 572). A confirmation prompt will appear (Figure 573).

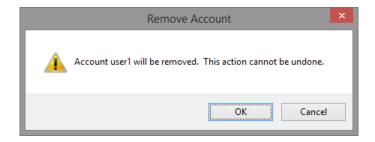


Figure 573: Remove Millennium Account Prompt

Once the OK button is clicked, Panther will remove the account.



Attention: Removal is Permanent

Unlike disabling an account, which simply sets the *Disabled* restriction, removing an account will wipe it from the system. If this is done in error, the account will require re-creation and re-assignment of privileges/restrictions to function again.

11.1.8 Updating a Millennium Account

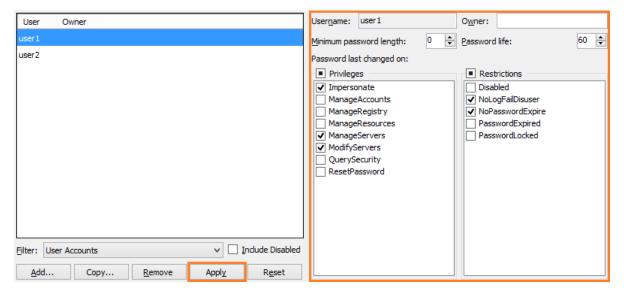


Figure 574: Modify a Millennium Account

Changes can be made to an account in the list by taking the following steps (Figure 574):

- 1. Select the account to change.
- 2. Using the fields to the right, make the desired changes to the account. Any changes will enable the *Apply* button
- 3. Once all desired changes have been made, click the *Apply* button to complete the operation.

11.1.9 Reset an Account's Password

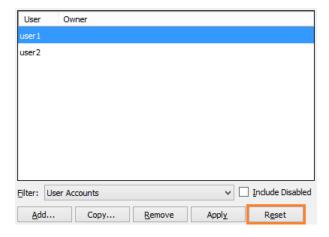
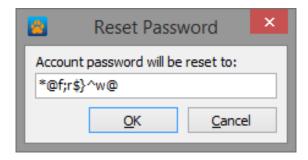
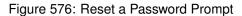


Figure 575: Reset a Password

The password for an account can be reset by selecting the desired account and clicking *Reset* (Figure 575).





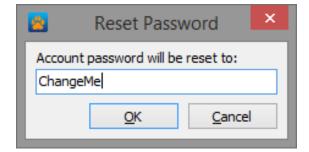


Figure 577: Overriding the Generated Password

Doing so will raise a prompt, which generates a random password and displays it (Figure 576). If a specific password is desired instead, the displayed password can be changed within this prompt (Figure 577).

11.1.10 View a User's Prsnl Record

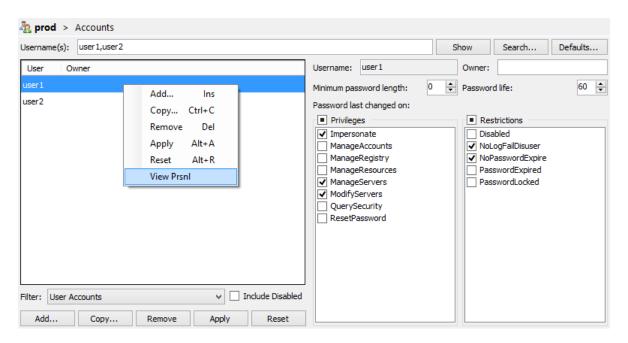


Figure 578: View Prsnl Menu

Provided there is an Oracle[®] connection to the domain, a user can view the Prsnl record associated with the selected user. Right clicking in the user grid and selecting "View Prsnl" will open a dialog that shows the extra information about the user, extracted from the Prsnl table in the database.

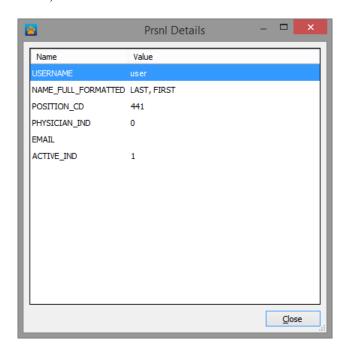
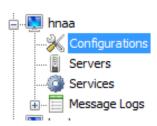


Figure 579: Prsnl Dialog

11.2. Configurations Control

The Configurations control is used to manage the configurations of server processes that run on the back end. The Configurations control can be found in the Domain Explorer (Figure 580) under each node.

After selecting the *Configurations* item in the Domain Explorer, the Configurations control will be displayed in the Application Workspace, as shown in Figure 581.



The columns that appear in the control are user defined, and as with all other controls in Panther, you can re-order and sort on any of the columns. By default, the Configurations control sorts by Entry ID.

Figure 580: Domain Explorer

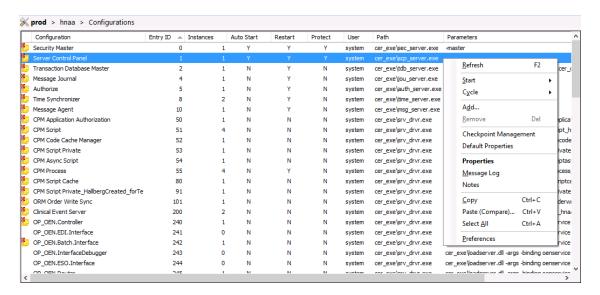


Figure 581: Configurations Control

Selecting any server configuration and right-clicking the mouse expands the Configurations context menu (Figure 581). For details about the behavior of each of the options in the menu, see the Configurations context menu (Table 124).



Any configuration property can be a column.

Panther scans all of the properties of every server configuration, and allows you to display any property as a column. This, in conjunction with sorting of any column, allows you to quickly identify configurations with unusual parameter values. For example, you can add 'Log level' (a Configuration Property) to be able to quickly identify servers with Log level set to "debug."

Option	Description
Refresh	Refreshes the list of configurations
Start	See Table 125 for the sub-menu
Cycle	See Table 126 for the sub-menu
Add	Displays the Configuration Properties dialog where you can provide information to create a new server configuration.
Remove	Removes the selected server configuration(s) from the node. You will be prompted to complete this operation.
Checkpoint Management	Displays the Checkpoint Management dialog where you can create, compare, and restore server configurations from checkpoints.
Default Properties	Displays the default server properties where you can modify the property values the servers use by default.
Properties	Displays the Configuration Properties dialog for the selected server configuration.
Message Log	Displays the message log associated with the selected Entry ID.
Notes	Displays the Server Notes dialog where you can create notes that appear when certain actions are performed on a server.
Сору	Copies the selected server configurations to the system clipboard. Allowing configurations to be moved to other nodes and domains using the Paste option.
Paste (Compare)	Pastes server configurations from the system clipboard. This allows users to compare configurations or move a configuration to a different node or domain.
Select All	Selects all configurations currently in the list.
Preferences	Allows you to customize the appearance and behavior of the control (see Preferences).

Table 124: The Configurations Context Menu

Option	Description
Start Instance	Starts an instance of the configuration's server on the current node
Start n Instances	Opens a dialog and allows multiple instances of the configuration's server to be started
Start Server	Starts a stopped server associated with the selected configuration
Start -All	Starts the maximum number of instances on the current node

Table 125: Start Sub-menu

Option	Description
Cycle Server	Cycles the associated server using its configured cycling behavior (see Properties in Table 124)
Cycle Server with Kill	Cycles the associated server using its configured cycling behavior and a kill command when stopping the server (see Properties in Table 124)
Cycle Server on All Nodes	Attempts to cycle the associated server using its configured cycling behavior on all nodes (see Properties in Table 124)
Cycle Server on All Nodes with Kill	Attempts to cycle the associated server using its configured cycling behavior on all nodes using the kill command when stopping the server (see Properties in Table 124)
View Cycle History	Displays the Action History dialog filtered to only display server cycle history of the selected server on the current domain and node.
View Cycle History for All Nodes	Displays the Action History dialog filtered to only display server cycle history of the selected server on the current domain.
View Cycle History for All Servers	Displays the Action History dialog filtered to only display server cycle history on the current node.

Table 126: Cycle Sub-menu

11.2.1 Adding New Server Configurations

To add a configuration:

- 1. Right-click in the Configurations table.
- 2. Select the *Add...* option from the Configurations context menu.

When creating a new server configuration, populate the tab labeled *SCP Properties*. Be sure that the *Entry ID* is unique, and that the path points to the appropriate server to run. The *Instances* field indicates the number to run by default.

For more information on modifying SCP Configuration Properties, see Section 11.2.2.

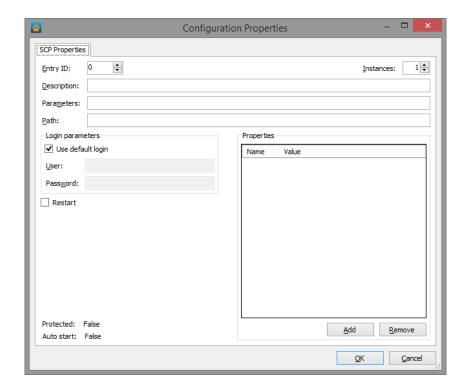


Figure 582: Configuration Properties

There is an additional tab labeled *Panther Properties*. This allows users to define Panther behaviors for specific servers. To learn more about the Panther properties, see Managing Configuration Properties.



Use Restart with caution.

Setting servers to *Restart Automatically* can result a "thrashing" behavior that can degrade system performance. This situation only occurs when the server crashes and continues to crash each time it is restarted by the system. Panther provides a Server Thrashing sensor to notify you of this situation.

You may add new properties to a server configuration by pressing the *Add...* button. Likewise, you can remove a property by pressing the *Remove* button. Editing is done in-place by simply clicking on the current value and setting it to the new value.

11.2.2 Managing Configuration Properties

If you have the appropriate Millennium privilege, Panther will allow you to manage server configurations. If you make changes, you may be prompted to cycle the server (depending on your preferences).

To modify a configuration, double-click the desired configuration or select *Properties* from the context menu. There are two tabs for categorizing the properties of a server. SCP Properties allows you to modify the server's behavior in Millennium and the Panther Properties allows you to control Panther's behavior when managing the server. Both tabs are covered in detail below.

SCP Properties

You can change the value of any field on the SCP Properties tab except Entry ID. As an example, CPM Process is shown in Figure 583.

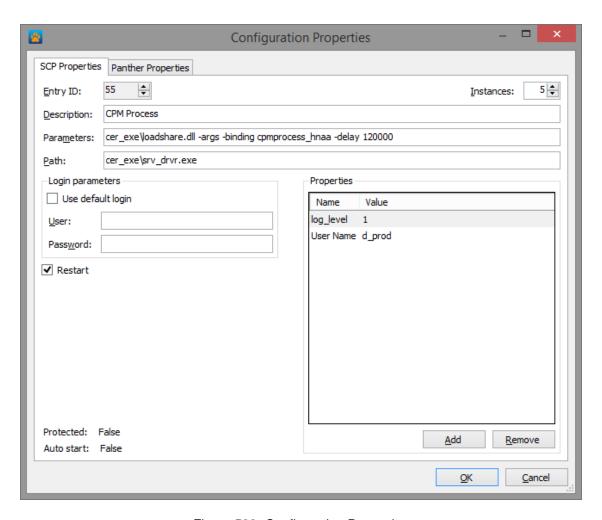


Figure 583: Configuration Properties

SCP Properties only apply to a single server, so if multiple servers are selected, the tab is disabled (Figure 584).

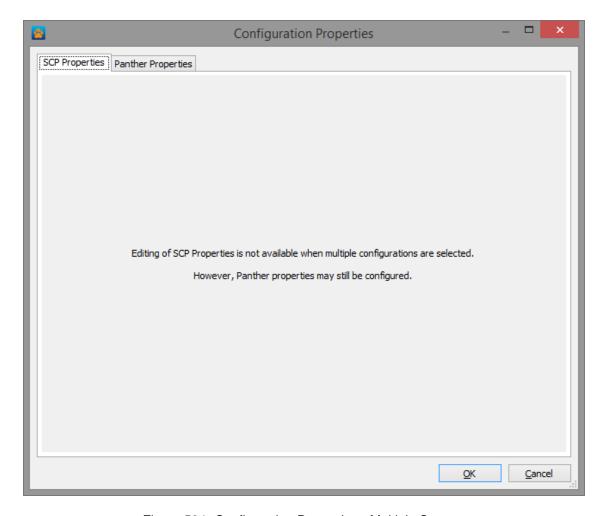


Figure 584: Configuration Properties - Multiple Servers

The Description field is a mechanism for identifying a server by name rather than by Entry ID.

The Parameters are command line arguments that are passed into the server at startup, and the properties are name-value pairs that the server uses to define certain behaviors.

If you do not want the server to use the default login, you can specify a user and password, and indicate whether the Millennium system will restart the server automatically if an instance happens to crash.

You have the option of adding your own Configuration Properties or defining custom values to existing Configuration Properties. To create a property, click the *Add...* button. If you want to define an override for an existing property, enter the property's name exactly as it appears in the Default Properties and the value you want to use instead of the default (shown in Figure 585).

Clicking the *Remove* button will remove the selected property from the configuration.

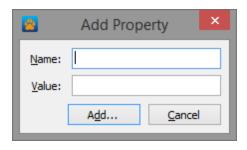


Figure 585: Add Configuration Property

Panther Properties

Cycling Mode

The cycling mode is specific to a server for given domain and node.



You can edit the Panther properties of multiple configurations at once.

If you highlight multiple items in the Configurations, Servers or Interfaces controls and open the Configuration Properties dialog, you can edit the Panther properties of all selected items at once. This can be used to quickly modify the cycling behavior of multiple configurations to use the same settings.

To alter Panther's behavior of the server, such as cycling, you can click on the Panther Properties tab shown in Figure 586.

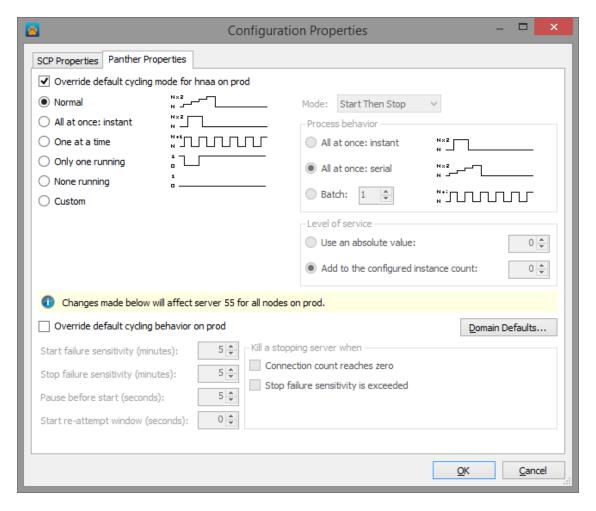


Figure 586: Panther Properties tab

To override the cycle mode as it is shown, check the box to *Override default cycling mode....* Panther provides six predefined settings as well as the ability to customize the cycling process (seen in Table 127).

Image	Meaning
Normal	Panther will cycle the server in the traditional method of starting each instance one at a time, verifying each instance reaches a running state before continuing to start the next instance. Once the appropriate number of new instances is running, all existing instances are stopped.
All at once: Instant	This option is similar to the "Normal" configuration. With this option, Panther will start all the instances of the server at once rather than waiting for each instance to enter a running state. Once the appropriate number of new instances is running, all existing instances are stopped.
One at a Time	Panther will cycle the server one instance at a time. Panther will start a new instance, verify it reaches a running state, and then stop one of the existing instances. It will continue with this process until all instances are cycled.
Only One Running	This mode is designed for servers that can only have one instance running at a time, such as interfaces. It stops the running instance, and once it is stopped, Panther starts a new instance and verifies it reaches a running state.
None running (failover)	This mode is designed for servers that have zero instances running on a given node and are present simply for failover purposes. Panther expects no instances to be running regardless of the configured instance count.
Custom	Allows you to configure the cycle behavior to fit your custom needs.

Table 127: Cycling Modes

When Custom is selected, three properties (Mode, Process Behavior, and Level Of Service) are available to configure the cycling behavior for your specific needs.

Image	Meaning
Mode	Indicates whether to start new instances or stop existing instances first.
Process Behavior	Indicates whether to cycle all instances instantly, serially or in batches. For batched cycling, the number to cycle at a time is also configurable.
Level Of Service	Specifies how many instances should be running at the end of a cycle process. The level of service can be defined as an absolute value or as an additional number to the configured instance count.

Table 128: Custom Options



Use caution when choosing a cycling mode.

Panther provides great flexibility in defining cycling behavior. However, the behavior should only be overridden after careful consideration.

The Mode of "Stop then Start" is capable of allowing a cycle to result in an underserviced state if it takes too long stopping an instance or an error occurs starting a new instance. Make sure someone is signed up for the notifications Cycle Start Failure and Cycle Stop Failure.

The Mode of "Start then Stop" is safe and will never result in an underserviced state. Use the predefined settings of Normal or One at a Time whenever possible.

Cycling Behavior

Cycling behavior properties are configured for the server on the entire domain, across all nodes.

Property	Description
Start Failure Sensitivity	The time allowed for each instance to reach a running state before it is considered a start failure.
Stop Failure Sensitivity	The time allowed for each instance to stop before it is considered a stop failure.
Pause Before Start	The time to pause before starting the initial instance.
Start Reattempt Window	The time allowed for the start reattempts. If a server instance fails to reach a running state, the start will be reattempted if the elapsed time is less than this time.
Connection count reaches zero	Indicates whether to automatically kill existing servers when the server's connection count reaches zero.
Stop Failure Sensitivity is exceeded	Indicates whether to automatically kill existing server instances that do not stop in the amount of time defined by <i>Stop Failure Sensitivity</i> .

Table 129: Behavior Properties

You can also adjust the default values for the four cycle behavior properties. Click the button *Set Defaults...* to view and change these values. Changes to these values are for the entire domain and affect all servers on the domain that do not have overrides defined.



Figure 587: Default Cycling Behavior

Once the desired changes are made to the Configuration Properties, simply click *OK* on the Configuration Properties dialog. If you make changes to SCP properties, Panther asks if you wish to cycle the server. SCP changes will not take effect until the server is cycled.

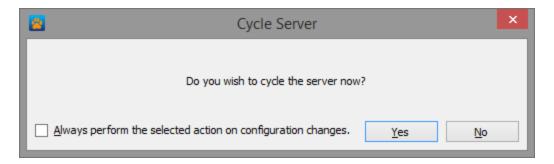


Figure 588: Cycle Server Confirmation

11.2.3 Configuration Checkpoints

Configuration checkpoints are a way to keep snapshots of server configurations. This can be helpful in identifying changes in a domain through time (e.g., before and after applying a service pack), and identifying differences between node and domain configuration.

To view or manage checkpoints, click on *Checkpoint Management* from the context menu. This opens the Configuration Checkpoint Management dialog (shown in Figure 589).

You can use the Configuration Checkpoints to compare multiple checkpoints, compare a checkpoint to the current configurations, and even restore configurations from a checkpoint to any node or domain.



Why aren't all of my checkpoints being shown?

It is possible that even after creating checkpoints, the checkpoint dialog will appear empty. This is because by default, the checkpoints are filtered to only show the checkpoints relating to the node and domain that the configurations control is currently on. You can show all checkpoints from the Filter dialog.

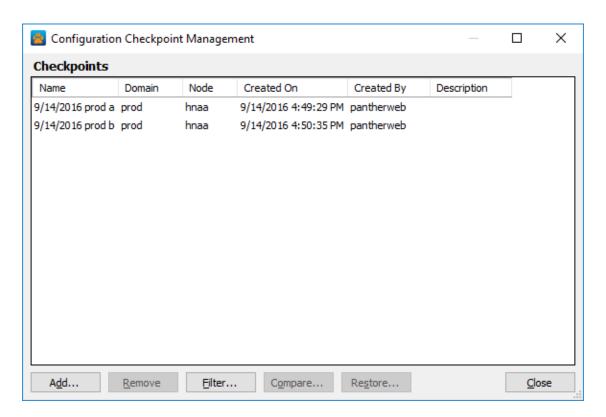


Figure 589: Configuration Checkpoint Management

Filtering Checkpoints

To change the filtering options, click the *Filter...* button, and then select the domains and nodes that you wish to appear in the list of checkpoints.

In the example above, only checkpoints created for the prod domain and the *hnaa* node will appear in the list of checkpoints.

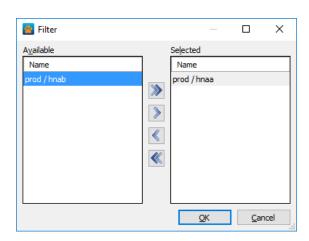


Figure 590: Checkpoint Filter

A

Both node and domain are important.

In order for a checkpoint to appear within the list of checkpoints, both its domain and node must be selected.

Creating Checkpoints

To create a checkpoint:

- 1. From the Configuration Checkpoint Management dialog click the *Add...* button.
- 2. Select the nodes to make a checkpoint of.
- 3. Give the checkpoint a name and description to help identify it later.

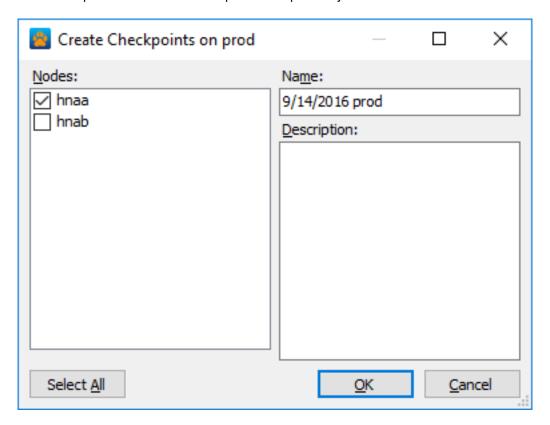


Figure 591: Checkpoint Creation

You can create checkpoints for all of the nodes in a domain at once. When you select multiple nodes, it creates multiple checkpoints: one for each node. By default, the *Name* field will contain the date and selected domain in the following format: YYYY-MM-DD <domain name>.

Each checkpoint has a user supplied name and description as well as the date it was created and the domain and node it was created on. Once a checkpoint is created, it cannot be modified.

Comparing Checkpoints

To compare two checkpoints, select both in the grid. The *Compare* button will become enabled as shown in Figure 592.

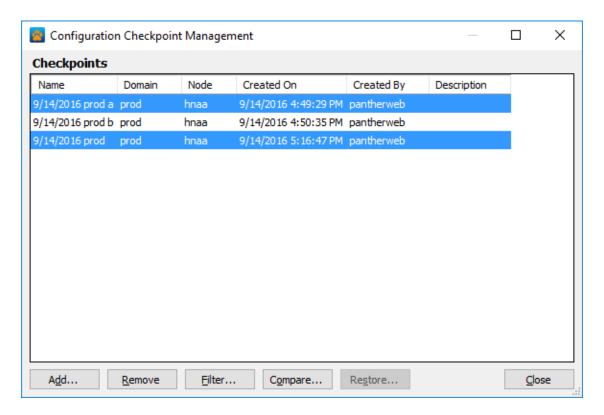


Figure 592: Checkpoint Comparison

To compare these two checkpoints, click the *Compare* button. The Compare Configuration Checkpoints dialog will open (shown in Figure 593).

Configuration differences appear in the *Source* and *Destination* tables for the selected configuration. Differences causing a status of "Different" appear in red text. It is possible additional differences exist but are being excluded. These are shown in gray text.

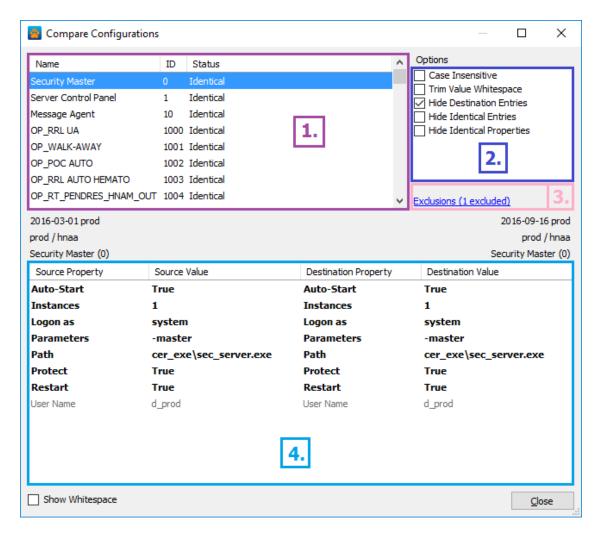


Figure 593: Comparing Configuration Checkpoints

The Compare Configuration Checkpoints dialog has four main components:

- 1. The list of configurations in the comparison.
- 2. A list of comparison options.
- 3. The property exclusion list link.
- 4. A view of the details of the two versions of the configuration.



Use Options to filter the list of configurations.

You can reduce the number of configurations that appears in the comparison list by selecting *Hide Destination Entries, Hide Identical Entries, or Hide Identical Properties* from the *Options* list. Additional options are available from the Exclusions dialog.

Option	Description
Case Insensitive Values	When checked, comparison of all values is case insensitive. Property names are always compared with case sensitivity.
Show Whitespace	Whitespace characters (spaces) are shown using a single dot (·).
Hide Destination Entries	Configurations that only the destination contains are hidden from the list.
Hide Identical Entries	Identical configurations are hidden from the list.
Hide Identical Properties	All fields and properties with identical values are hidden from the details view.

Table 130: Comparison Options

Excluding Properties

If the existing comparison options are insufficient for your purposes, Click *Exclusions* to access the Manage Exclusions dialog (shown in Figure 594).

The Manage Exclusions dialog offers a wide range of options for excluding data from the comparison. By default the *User Name* property will be excluded.

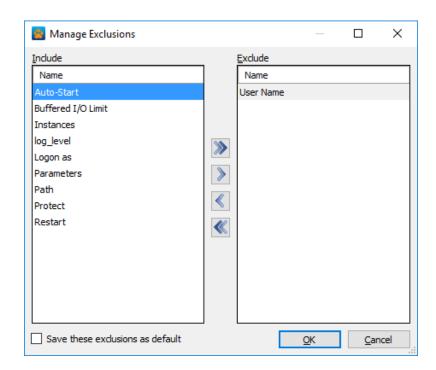


Figure 594: Manage Exclusions

Restoring Configurations from a Checkpoint

After selecting a checkpoint and clicking the *Restore...* button, the Confirm Configuration Restoration dialog opens.

Notice that the layout of the dialog matches the Configuration Comparison dialog (Figure 593) with the addition of the *Copy* column in the list of configurations and the *Copy* button in the bottom right of the dialog.

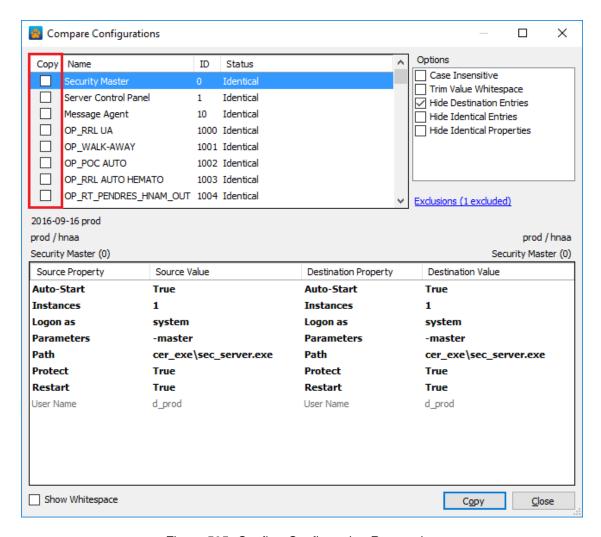


Figure 595: Confirm Configuration Restoration

When restoring configurations from a checkpoint, the checkpoint is the source, and the destination is the node and domain being restored to.

11.2.4 Configuration Defaults

Millennium defines certain default properties for server configurations. The actual list of properties varies by version of Millennium and the Operating System platform.

To access default properties:

- 1. From the Configurations control (see the section on the Configurations Control for details), right-click in the Server Configurations table.
- 2. Locate and select the *Default Properties* option in the context menu.

Configuration defaults are a mechanism for setting server configuration properties for all server configurations. These default values can be overridden for a particular server configuration by defining the same property from the Panther Configuration Properties dialog.



Configuration defaults can be shown as columns.

You can also view the default properties as columns in the main control. When you do, the default values will appear in gray letters, and any overridden values will appear in the normal black text. This feature can help you identify what servers are overriding default property values, and whether the overrides are necessary or valid.

To view the configuration defaults, click the *Defaults* button at the bottom of the Configurations view (only visible if the option is turned on from Preferences) or select *Default Properties* from the context menu. This opens the Default Properties dialog shown in Figure 596.

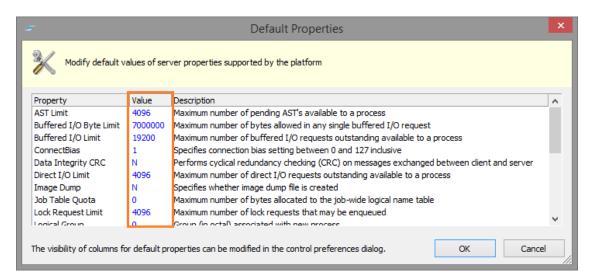


Figure 596: Default Configuration Properties

To modify a default property value, simply click on the current value. This provides a cursor where you can type in the new value (Example: ConnectBias on Figure 596). When the desired changes are made, click *OK*.

Changes made here will not be completed on the node until SCP is cycled. This must be done from Millennium's bus view unless the privileges have been changed to allow Panther to cycle SCP.



Check your default property overrides often.

Millennium will always use a server specific property value over the default value, therefore whenever you modify a default property value be sure to check for server specific overrides to ensure that the override values are still necessary and valid.

11.2.5 Message Logs

Users with the 'Access Server Logs' privilege can right-mouse click on a configuration to access the associated message log. Selecting *Message Log* from the Configurations context menu opens the Message Log Contents dialog similar to Figure 597.

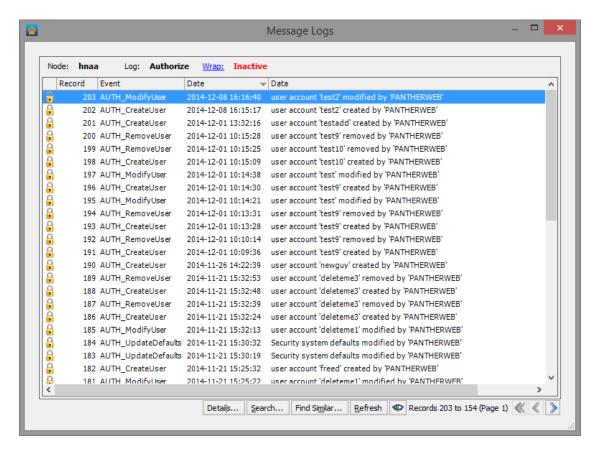


Figure 597: Message Log Contents

This dialog displays the Message Log data that will display in the Server Logs control elsewhere in Panther. For more information about navigating through these logs, refer to Section 11.10, Message Logs Controls.

11.2.6 Server Notes

Server Notes can be viewed from both the Configurations control and the Servers control.

To access *Server Notes* from the Configurations control:

- 1. Select the configurations you wish to create/modify notes for.
- 2. Right-click the selected configurations.
- 3. Locate and select Server Notes from the Configurations context menu.

Selecting Server Notes opens the Manage Server Notes dialog (shown in Figure 598).

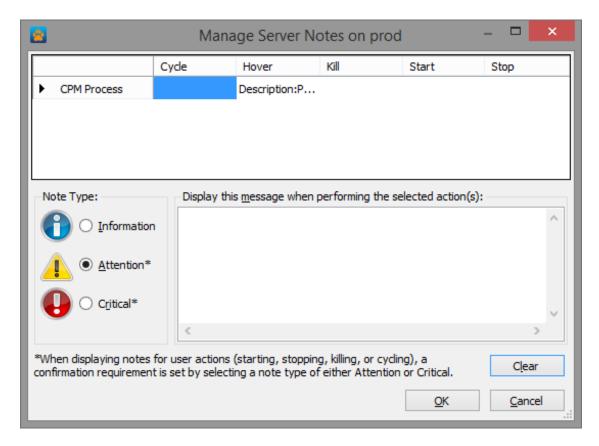


Figure 598: Server Notes

The Manage Server Notes dialog allows you to create notes for four actions (Starting, Stopping, Killing, and Cycling), and for when the user hovers the mouse over the associated server.

Server Notes give you a way to warn other users of the consequences that go along with taking certain actions on a server such as stopping, starting, killing or cycling the server.

Hovering Notes (also known as Hover Notes) will appear when a user hovers over the server or its configuration. These are useful when you want to provide details about servers that are not available as column items or that are unique to your organization's Millennium management strategy.

Creating Server Notes

- 1. From the Configurations Control, select the servers for which you wish to create notes. This opens the Manage Server Notes dialog (Figure 598).
- 2. From the Manage Server Notes dialog, select the cells in the table at the top of the dialog that correspond with the server, the note it will belong to, and the action that will trigger the note.
 - For example, you may want to warn clinicians that a certain server should never be stopped during business hours. In this case, you would click in the cell of the table where the *Cycling* column intersects with the server that warning would belong to.
 - · Multiple servers can be selected at a time.
 - · Multiple states can be selected at a time.
- 3. Once server(s) and trigger(s) have been chosen, select the Note Type (Information, Attention or Critical) to access the message area.

- If you select a note type of Attention or Critical, and a triggering action of Starting, Stopping, Killing, or Cycling users will be required to confirm requests to perform the associated action(s). This is useful when it is imperative that anyone wanting to perform an action on the selected server knows the ramifications of their request.
- 4. Type the note to appear to the user in the message area of the dialog (shown in Figure 599).

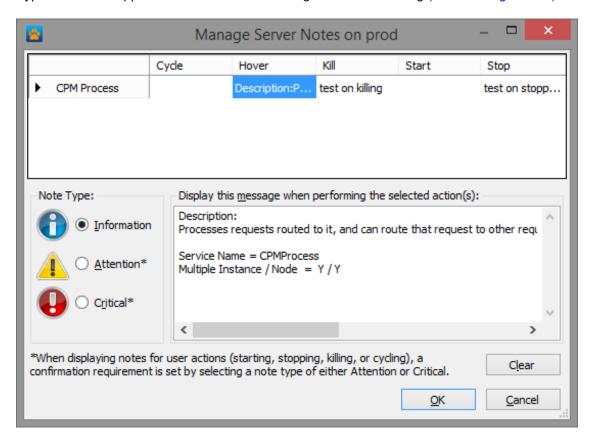


Figure 599: Server Notes

Notice that as you type a note into the message area of the dialog, the note appears in all of the selected server and trigger action cells of the grid at the top of the dialog.

1. Click OK to save the note(s) and close the dialog.



You can create a note for all open engine servers.

You can create a note for all open engine servers or any other group of servers by selecting all of the open engine servers, selecting *Server Notes...* and then typing a message for the servers.

To remove a note, highlight the note in the grid, then click the *Clear Note(s)* button. This button can be used to remove any number of notes at once.

If a configuration is removed, Panther will retain the associated note. If a configuration is later created with the same Entry ID, the old note will be associated with the new configuration. This can be prevented by removing the note before deleting the configuration.

11.2.7 Copying or Comparing Configurations

In addition to creating and restoring configurations from checkpoints, you can drag and drop, or copy and paste (Ctrl+C, Ctrl+V) server configurations from one Configuration control to another Configuration control. You can do this across nodes, domains, and Panther sessions.

When you drop or paste configurations onto a Configurations control, the Compare Configuration dialog, will open (shown in Figure 600).

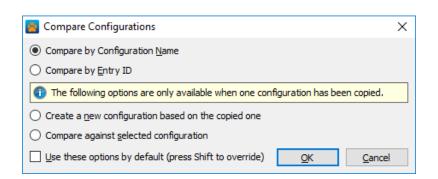


Figure 600: Compare Configurations

This dialog always gives the option to compare configurations by Name or Entry ID. If you have only copied one configuration, you have the additional options of creating a new configuration based on the copied one, or comparing it directly to another configuration. Selecting an option and clicking the *OK* button opens the Confirm Configuration Copy dialog (shown in Figure 601).

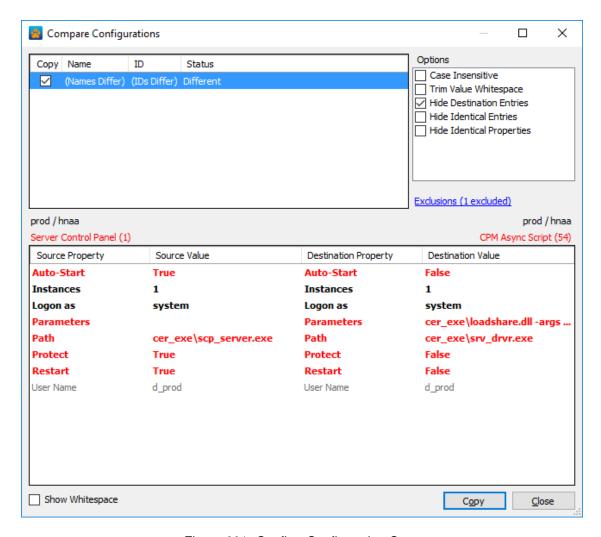


Figure 601: Confirm Configuration Copy

The Confirm Configuration Copy dialog is very similar to those used for restoring or comparing checkpoints, shown in Figure 593 and Figure 595). It supports the same filtering and exclusion options.

In order to accept the displayed changes and copy the configuration(s), check or un-check the appropriate configurations in the *Copy* column. Once the desired configurations are checked, click the *Copy* button.

11.2.8 Preferences

The Preferences dialog allows you to define preferences that relate to the behavior and display of the control. These settings are unique to your account and will be remembered between login sessions.

Preferences Tab

This tab allows you to define how the Configurations control behaves in response to user actions.

- Configurational Cally Coycle servers: Cycles servers immediately after a configuration change, without asking for confirmation.
 - 2. **Prompt to cycle servers:** Requests confirmation before cycling in response to a configuration change request. This is the default.
 - Do not cycle servers: Does not cycle or request to cycle when configurations are changed.

Cycling Server Preferences

- Confirm cycle requests: Requires confirmation of every cycle request before cycling.
- Show dialog of successful cycle requests: Displays a dialog after the completion of every cycle request, otherwise, only cycle requests that are blocked or fail will display a dialog.

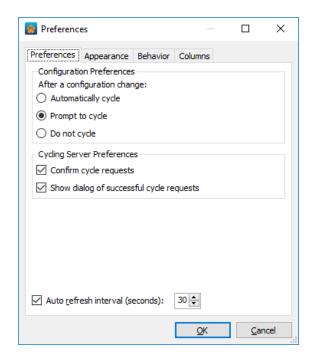


Figure 602: Preferences

You may also specify that this control "auto refresh" itself on a given interval. When the Configurations control refreshes it queries the database for new information, so the more frequently it refreshes the busier the database will be.

Appearance

This tab allows you to customize the appearance of the Configurations control.

The only Appearance option for the Configurations control is whether to show or hide the button strip.



Figure 603: Appearance Tab

The button strip is useful for quick access to *Add* and *Remove* configuration features, as well as accessing the *Default Preferences*.

Behavior

This tab allows you to customize the way the *Paste* feature works for the Configurations control. These same options will appear in a special dialog each time you past a configuration into the control by default (*Always prompt*).

If you do not want to be asked how you would like to compare pasted configurations, you can select one of the other options to be your standard behavior.



Figure 604: Behavior Tab

Columns

This tab allows you to define which columns to display when viewing server configurations.

The list of columns is dynamically built from the properties of the server configurations. The *Has Default* column indicates whether the property is available as a Millennium default property. The *Relevance* column is an indication of how many configurations have that property defined.

You may quickly alter the list of shown columns in this list by using the *Show only checked items* and *Show only properties with defaults* checkboxes at the bottom.

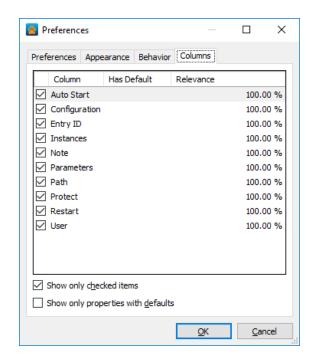


Figure 605: Columns Tab



How to: Find bad server properties

You can quickly identify servers with bad server properties by scanning the list on the *Columns* tab of the Preferences dialog. Since the server properties can be entered by hand, it is possible for them to be mistyped.

For example, when scanning the list, if you see "log level" and "Log Level" as two separate entries in the columns list, you know that some server configuration has a parameter called "Log Level" instead of "log level". To locate this errant configuration, check the *Log Level* column in the columns list, then sort by that column from the Configurations control, and the server with this value defined will sort either to the top or bottom of the list making it easier to find.

11.3. Cycle Groups Control

The Cycle Groups control allows you to define cycling settings for multiple servers at one time to be used whenever that group of servers needs to be cycled. A cycle group is treated as a single unit that can either succeed or fail. The Cycle Groups control can be found in the Domain Explorer (Figure 606) under the domain.

Most users can only view and cycle groups that are assigned to them. However, users with the 'Manage Cycle Groups' privilege are allowed to add, edit, and remove any cycle groups. Users with this privilege may view all available cycle groups instead of only those assigned to them. This chapter covers all functions available to users with the 'Manage Cycle Groups' privilege.

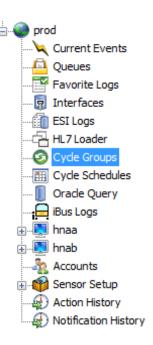


Figure 606: Domain Explorer

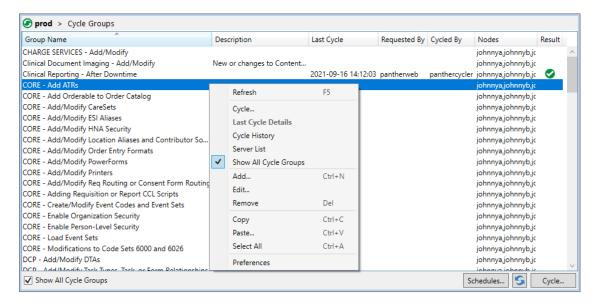


Figure 607: Cycle Groups Control

Menu Option	Description
Refresh	Refreshes the displayed cycle groups.
Columns	Allows users to choose which columns appear in the control.
Cycle	Cycles the selected cycle groups using their cycling settings.
Last Cycle Details	If the selected cycle group has been cycled, this allows users to view the details of the last cycle operation.
View Cycle History	This will show the cycle history for the selected cycle group(s).
View Server List	Displays a dialog with a list of the servers associated with the selected cycle group.
Add	Opens a dialog that allows you to set up a new cycle group.
Edit	Opens a dialog to edit the currently selected cycle group's settings.
Remove	Removes the currently selected cycle group(s).
Сору	Copies the selected cycle group(s) to the system clipboard.
Paste	Pastes the cycle group(s) currently in the clipboard.
Select All	Selects all displayed cycle group(s).
Preferences	Allows users to define your personal preferences for the Cycle Groups control.

Table 131: Cycle Groups Context Menu

11.3.1 Cycling Cycle Groups

Selecting *Cycle...* from the Cycle Groups Context Menu or clicking on the *Cycle...* button will open the Cycle Server Group dialog (Figure 608).

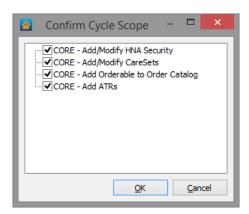


Figure 608: Scope confirmation dialog

The Cycle Server Group dialog presents a chance to confirm the cycle request. Additionally, if a cycle group is not configured to always cycle on all nodes, the user is able to specify which nodes to cycle on. Clicking *OK* will confirm your cycle request, and open the Cycle Response dialog (Figure 609).



You cannot cycle a cycling server.

Panther does not let multiple users perform a cycle operation on the same server. Cycle Groups are no different in this regard. While a Cycle Group is being cycled, none of the associated servers may be cycled.

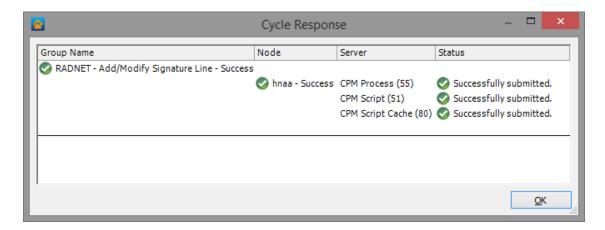


Figure 609: Cycle Response dialog

The Cycle Response dialog presents the status of all submitted cycle requests. It provides warnings when domains or nodes are suspended, when configurations do not exist on certain nodes, or if the cycle request is blocked due to another cycling operation. Cycling of groups will proceed even with warnings, although any errors will cancel the operation.

Clicking *OK* will return you to the Cycle Groups control's main screen. From here, a user can refresh the screen to watch the cycling status or open up the results of the last cycle operation. For information on viewing cycle history, see Browsing Cycle History.

11.3.2 Browsing Cycle History

Selecting *View Cycle History* will display the Cycle History dialog (Figure 610), which will include all cycling operations performed on the current day for all selected cycle group(s). The Cycle History information provided in this screen will provide some summary information regarding the cycling operations performed. Cycle group history will only display a success result if all cycles in the group succeeded.

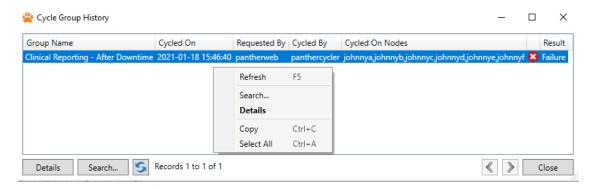


Figure 610: Cycle History dialog

Menu Option	Description
Refresh	Refreshes the cycle history list by performing the search again. This may also be done by clicking the <i>Refresh</i> button.
Search	Opens the Cycle History Search dialog and modify the search criteria.
Details	Displays detailed information regarding the cycle history operation. This may also be done by double-clicking the mouse or clicking the <i>Details</i> button.
Сору	Copies the selected data to the system clipboard in tab-separated format.
Select All	Selects all visible records.

Table 132: Cycle History Context Menu

Searching Cycle History

To see Search History for a cycle group that was not selected when first opening the History dialog, add it to the *Selected Groups* from the Cycle History search (Figure 611).

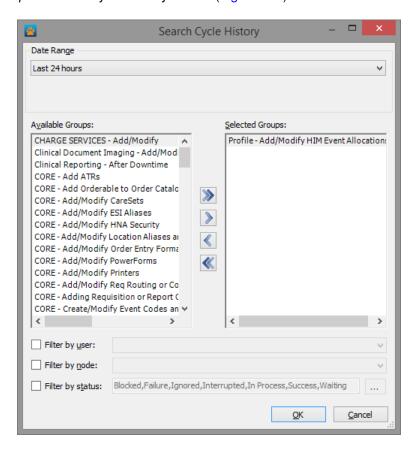


Figure 611: Search Cycle History dialog

Option	Description
Data Range	Defines the span of time used to search for records.
Groups	Identifies the groups whose history records will be shown.
User	Provides the ability to filter by the user who performed the operation.
Node	Provides the ability to filter by cycle operations performed on a specific node.
Status	Provides the ability to filter by specific statuses. Clicking on the ellipsis button () will display the Status Selection dialog (Figure 612). This dialog allows a user to specify the statuses that should be returned as a result of the search. This status refers to the results of the individual cycles within the group, not the displayed result of the group. Searching only for success statuses may show failed cycle groups that contain one or more successful cycles.

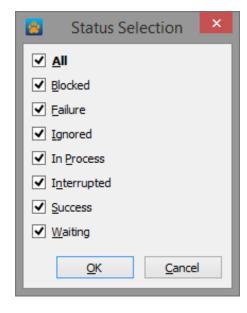


Figure 612: Status Selection dialog

Table 133: Searching Options

11.3.3 Viewing Cycle History Records

Double-clicking on a record in the cycle history list, or clicking the *Details* button will display the Detailed Information for the selected record.

The cycle history will contain cycling operations that are still in process. When viewing the details for a cycle operation in progress, the *Refresh* and *Auto refresh* will be available. As each individual server's cycling operations reaches a terminal state, they will collapse and display the final status. This provides the ability to watch the cycling operation as it is happening (Figure 613).

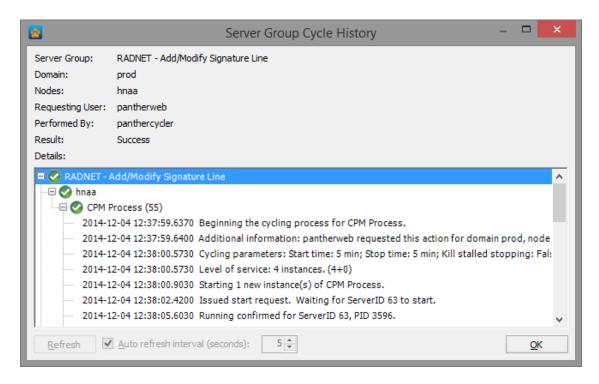


Figure 613: Server Group Cycle History dialog

When a cycling operation is finished, the history shows each step with either a success () or failure () image to the left of the step. Since the operation is complete, the results no longer refresh (Figure 614).

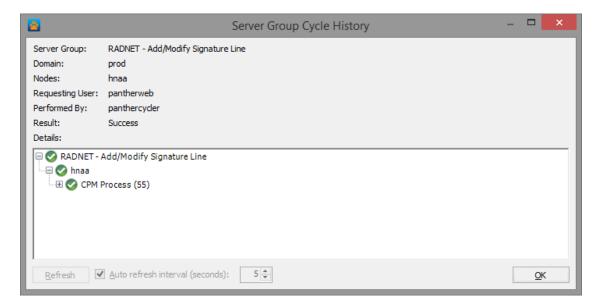


Figure 614: Server Group Cycle History - complete

11.3.4 Viewing Server Lists

Selecting *View Server List* from the context menu of the main control will display a list of servers associated with the selected cycle group (Figure 615).

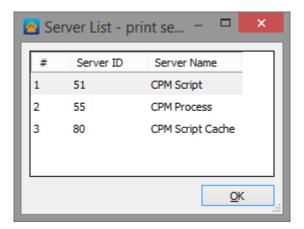


Figure 615: Server List dialog

11.3.5 Creating Cycle Groups

To add a new cycle group, right-click in the main table of the Cycle Groups control and select the *Add...* option from the context menu. This opens the Cycle Group Definition dialog (Figure 616). Fill out the information for the cycle group and click *OK* or *Apply* to save the new cycle group.

Warnings will appear in three cases:

- · There are no servers in the cycle group.
- There are no nodes in the Scope of the cycle group.
- · There are no users assigned to the group.

11.3.6 Modifying Cycle Groups

To modify a cycle group, double-click on it in the main control, or select *Edit...* from the Cycle Groups context menu.

The first options are *Group Name* and *Description*, which are available for editing regardless of the selected tab. Other settings for the Cycle Group are split into the following sections.

Servers Tab

In the *Servers* tab, identify which servers to associate with this cycle group. The servers in the cycle group can be given a specific order. Note: some configurations on the "Sequence" tab ignore server order.

The Stop cycle process upon failing to successfully complete a phase checkbox will determine whether or not this cycle group should continue or abort when a server fails to cycle successfully.

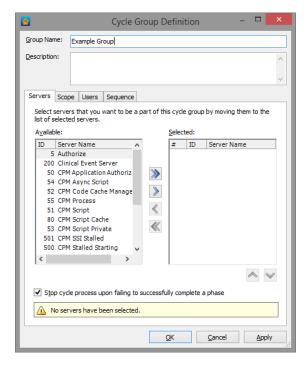


Figure 616: Cycle Group Definition dialog

Scope Tab

The *Scope* tab identifies which nodes are included in the cycle group's definition.

When the Always cycle this group across all of the selected nodes checkbox is selected, the option to exclude some of the nodes in the *Included Nodes* list will not be available when a cycle request is made for this group.

When the *Automatically add new nodes by default* checkbox is selected, any time a node is added to this domain, it will be included in this cycle group. This is the default behavior.

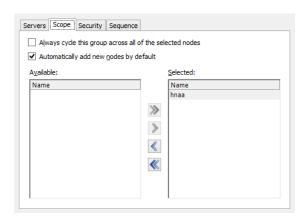


Figure 617: Scope Tab

Users Tab

The main purpose of the *Users* tab is to control who is allowed to cycle the group. Cycle groups can be configured to automatically add new users. Additionally, the *Cycle servers using the user's credentials controls* checkbox determines whether or not the cycle operation will be done with the users' Millennium accounts, or if it should be cycled with Panther's cycling account User2 in most installations of Panther).

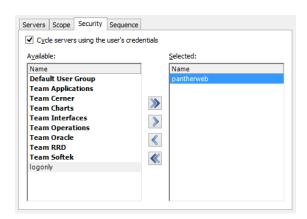


Figure 618: Users Tab



Use Panther's cycling account to allow under-privileged users to cycle.

When you choose not to cycle servers using the user's credentials, you can still allow users without the 'Manage Servers' Millennium privilege to cycle the group using Panther's Cycling Millennium account (typically User2). This provides a great benefit in which you can create Millennium users who should only be given the rights to do very specific cycling operations while being unable to start, stop, kill or cycle any other servers.

For example, if you are adding printers, certain servers have to be cycled but the user adding the printers may not be allowed to do other work on the servers.

Sequence Tab

In the Sequence tab, you may specify the order (if any) that Panther should follow when cycling the servers.

It is anticipated that order will matter in most cycle groups. However, if the order is not important, relieving order requirements of a cycle group can reduce the group's overall cycling time.

Once the Cycle Group is fully configured, click OK at the bottom of this dialog to perform the changes made and close the window.

Each of the various cycling sequences have a diagram associated with them to make their behavior more apparent. These diagrams are shown in the Cycling Sequences table along with the sequence's behavior in the order they appear in the Cycle Group Definition dialog (Figure 619).

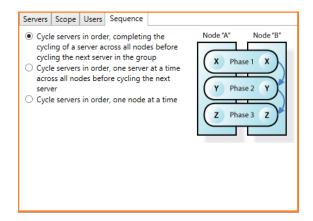


Figure 619: Sequence Tab

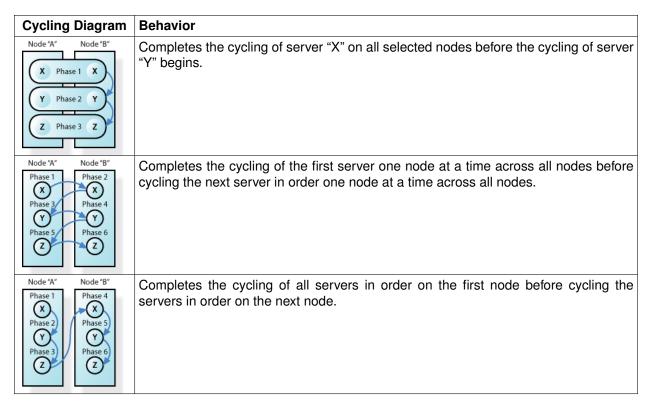


Table 134: Cycling Sequences

11.3.7 Removing Cycle Groups

To remove cycle groups:

- Select the desired groups in the main control.
- · Right-click the selected groups.
- Select the Remove... menu item.

A confirmation dialog will appear to confirm your action (Figure 620).



Figure 620: Confirm Removal dialog

11.3.8 Cycle Group Preferences

To access Cycle Group Preferences:

- 1. Right-click in the Cycle Groups table.
- 2. Select the *Preferences* option at the bottom of the context menu.

The Cycle Groups control provides options to modify the behavior and appearance of the control.

In this dialog, you can enable or disable the control's automatic refresh behavior, as well as modifying the refresh interval.

The Show the bottom button strip option may be useful when displaying the Cycle Groups control in the desktop, to save on vertical space. It will hide the Refresh and Cycle... buttons.

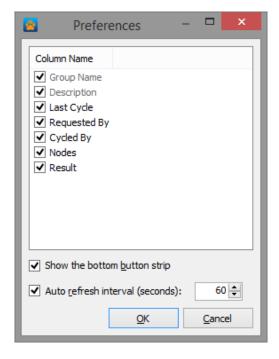


Figure 621: Preference dialogs

11.3.9 Copying Cycle Groups

The following instructions will move a Cycle Group from one domain to another without requiring you to go through setting up the group again:

- 1. Locate the domain you would like to copy cycle groups from, also known as the Source Domain.
- 2. Navigate to the Cycle Groups control for the domain using the Domain Explorer (Figure 606).
 - (a) Once the Cycle Groups control has loaded, select the group(s) to copy.
 - (b) Right-click the selected cycle groups.
 - (c) Select the *Copy* option from the Cycle Groups context menu. Now you have the groups on your system clipboard.
- 3. Locate the domain you would like to move the selected groups to, also known as the Destination Domain.
- 4. Navigate to the Cycle Groups control in the desired domain using the Domain Explorer (Figure 606).
 - (a) Once the Cycle Groups control has loaded for the desired domain, right-click in the list of cycle groups.
 - (b) Select the *Paste...* option from the Cycle Groups context menu. This opens the Copy Cycle Groups dialog (Figure 622).
- 5. Review the copy information and any conflicts that may exist in cycle groups between the source and destination domains.

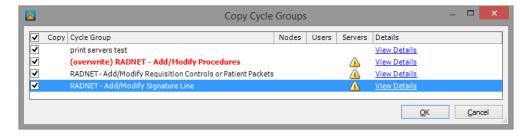


Figure 622: Copy Cycle Groups dialog

(a) If a cycle group with the same name exists in the destination domain, it will be shown in red and will be overwritten if you continue.



Figure 623: Copy Conflict Warning dialog

- (b) If there are conflicts between the copied cycle groups and those in the destination domain, a warning (4) will be shown. Select *View Details* to see the cause of the warning.
- 6. If the information provided by the Copy Cycle Groups dialog is acceptable, click the *OK* button to perform the indicated actions and move the cycle groups to the destination domain. Otherwise, clicking the *Cancel* button will ignore the paste request and leave the destination domain as it was.

11.3.10 Scheduling Cycle Groups

Users with the 'Manage Cycle Groups' privilege can manage cycle group schedules, by clicking *Schedules...*. This opens the Cycle Group Schedules dialog (Figure 624).

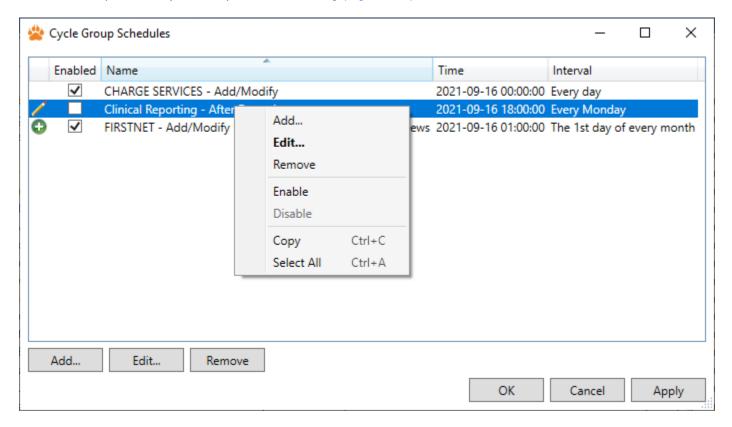


Figure 624: Cycle Group Schedules dialog

Menu Option	Description
Add	Opens a dialog to set up a new cycle group schedule.
Edit	Opens a dialog to edit the currently-selected cycle group schedule.
Remove	Marks the currently-selected cycle group schedules for removal.
Enable	Enables the currently-selected cycle group schedules.
Disable	Disables the currently-selected cycle group schedules.
Сору	Copies the selected data to the system clipboard in tab-separated format.
Select All	Selects all visible records.

Table 135: Cycle Group Schedules Context Menu

Add/Edit Cycle Group

Selecting Add... or Edit... from the Cycle Group Schedules Context Menu or clicking their corresponding buttons will open the Edit Schedule dialog (Figure 625).

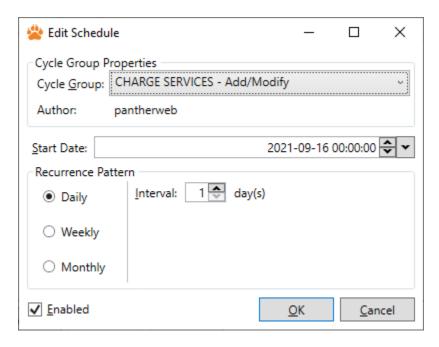


Figure 625: Add/Edit Schedule dialog

The dialog allows selection of the cycle group and definition of the schedule recurrence to use, as well as enabling/disabling the schedule.

11.4. Cycle Schedules Control

The Cycle Schedules control gives users access to Automated Cycle Schedules. From this page, a user can create, remove, modify, copy, or enable/disable cycle schedules.

To view the Cycle Schedules control, select the *Cycle Schedules* item in the Domain Explorer (Figure 626). This will load the control into the Application Workspace.

Image	Meaning
②	Attempting to Cycle
②	Successful Cycle Attempt
€3	Failed Cycle Attempt

Table 136: Scheduled cycle status images

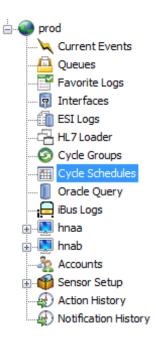


Figure 626: Domain Explorer

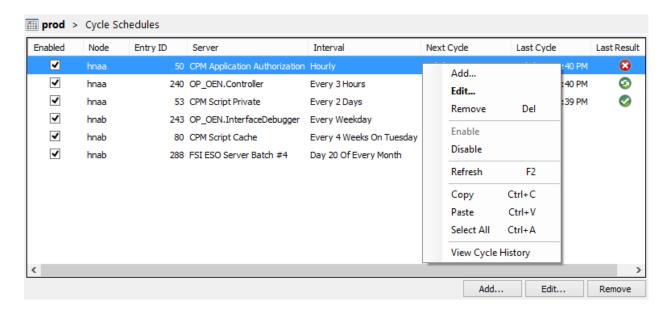


Figure 627: Server Cycler Schedules page

Option	Description
Add	Allows the user to add a new cycle schedule.
Edit	Allows the user to modify the currently selected cycle schedule.
Remove	Deletes the currently selected cycle schedule.
Enable	If disabled, will re-enable the currently selected cycle schedule.
Disable	Disables the currently selected cycle schedule, preventing future cycles until it is re- enabled.
Refresh	Refreshes the page.
Сору	Copies the selected cycle schedules to the clipboard.
Paste	Pastes the contents of the clipboard into the control. If the clipboard currently contains cycle schedules, this will open the Schedule Comparison dialog.
Select All	Selects all of the currently displayed cycle schedules.
View Cycle History	Displays the Action History dialog filtered to only display server cycle history of the selected cycle schedule. For more information on viewing action history, see the Action History Control.

Table 137: Server Cycler context menu

11.4.1 Copying and Comparing Cycle Schedules

When schedule(s) are copied and pasted into a Cycle Schedules table, the Schedule Comparison dialog opens. Pasted schedules will appear in the Source grid on the left and schedules on the current domain will appear in the Destination grid on the right. Pasted schedules may have their node and start time modified through the context menu so that a user can copy Cycle Schedules from one node to the next and offset the schedules by a few minutes, evening out server load.

Selecting a schedule from either grid will select the overlapping schedule (if any) from the opposite grid and highlight any differing properties above.

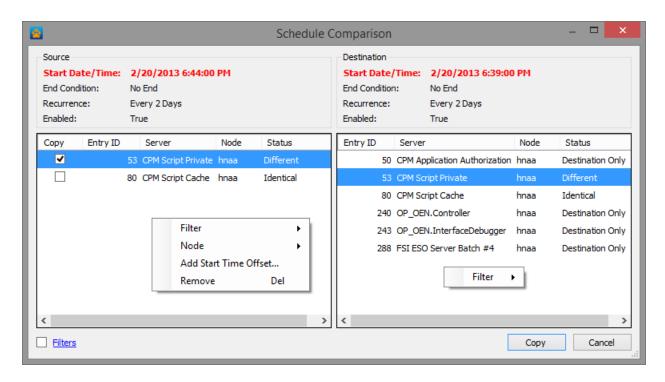


Figure 628: Schedule Comparison dialog

Option	Description
Filter	Set the currently used filters (Figure 629). Filters will not be applied unless the Filters checkbox (located in the bottom left corner) is checked.
Node	Sets the node of the schedule a user wishes to copy. This helps a user to easily copy schedules to a domain with different nodes.
Add Start Time Offset	Adds an offset to the schedule's start time. When copying a schedule across nodes, this can help to even out system load.
Remove	Removes the currently selected pasted schedule from the list of source schedules. This will only remove the schedule from the dialog, not from the system.

Table 138: Schedule Comparison context menu

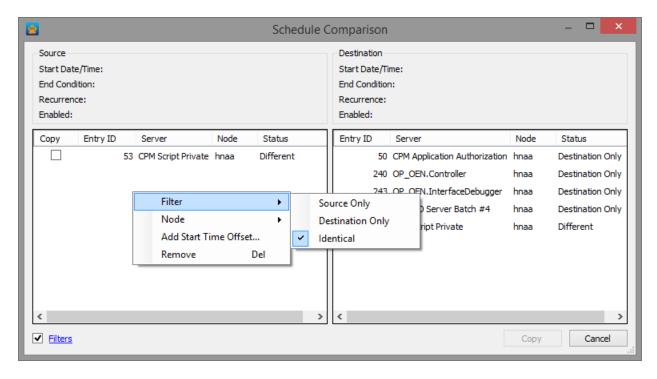


Figure 629: Schedule Comparison filters

Filters can also be changed through the Filters Dialog (Figure 630) by clicking on the *Filters* link in the bottom left corner of the Schedule Comparison Dialog (Figure 629).

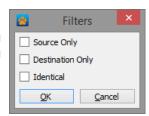


Figure 630: Filters dialog

When Add Start Time Offset... is selected from the context menu, the Start Time Offset dialog (Figure 631) opens. This dialog provides the option of adding an offset of 0 to 1440 minutes (24 hours) to the start time of the copied schedule(s).

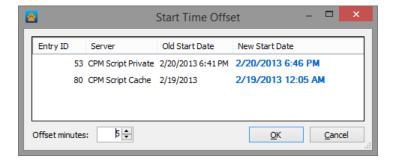


Figure 631: Start Time Offset dialog

The Preview pane shows the difference between the original start time and the start time that will result

from the offset.

11.4.2 Editing Cycle Schedules

Cycle Schedules can be edited in one of three ways:

- Double-clicking the Cycle Schedule.
- Selecting the schedule and clicking the Edit... button.
- Right-clicking the schedule and selecting the Edit... option from the context menu.

Any of these three actions will open the Cycle Schedule Editor dialog (Figure 632) populated with the selected schedule's information.

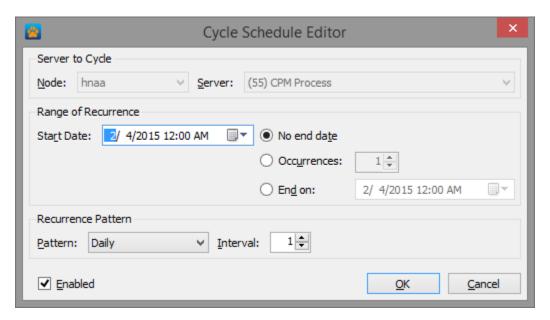


Figure 632: Cycle Schedule Editor dialog

11.5. ESI Logs Control

The ESI Logs control is used to view External Service Inbound (ESI) log entries in the database. The ESI Logs control can be found in the Domain Explorer (Figure 633) under the domain.

After selecting the *ESI Logs* item in the Domain Explorer, the ESI Logs control will be displayed in the Application Workspace.

Image	Meaning
	Success Log
€	Failure Log
4	Warning Log
€3	Terminate Log

Table 139: ESI Log Images

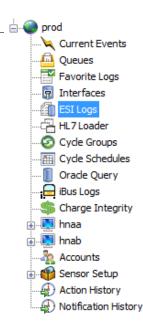


Figure 633: Domain Explorer

11.5.1 ESI Log Interface List

The list of interfaces on the left includes columns with aggregate data such as newest log record date, oldest log record date, and total number of failures. Right-clicking the mouse in the left side of the control will open the ESI Logs Context Menu.

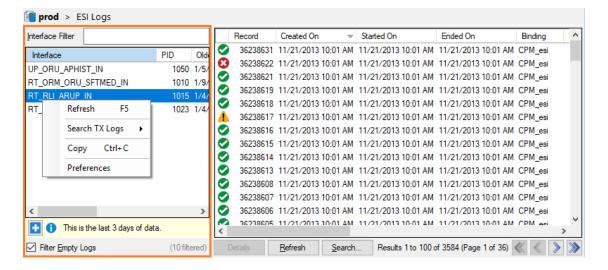


Figure 634: ESI Logs control

Menu Option	Description
Refresh	Refreshes the data displayed in the ESI Log Interface list.
Search TX Logs	Displays the Search TX Logs sub-menu.
Сору	Copies the selected ESI Logs to the clipboard.
Preferences	Allows you to define preferences for the ESI Logs control. (see ESI Logs Preferences)

Table 140: ESI Log Interface Context Menu

Option	Description
Last 24 hours	Enables searching of the interface's TX Logs for the last 24 hours. Messages found will be displayed in the Interface Tx Explorer.
Custom	Enables searching of the interface's TX Logs based on the selected date range. Messages found will be displayed in the Interface Tx Explorer.

Table 141: Search TX Logs sub-menu

Filtering Interfaces

Interfaces can be filtered to only include interfaces with log entries or interfaces with a given name. To hide interfaces with empty logs check the Filter Empty Logs checkbox at the bottom of the interface list. To filter interfaces by name type in the Interface Filter box at the top of the interface list. This will limit the interface list to only interfaces with names containing the provided text.

11.5.2 ESI Log Record List

Once an Interface is selected, the associated log records are displayed in the record list to the right. By default, this list shows all available records associated with the selected interface. You can use a search to reduce the number of results and more easily locate the records you want. The ESI Log Record context menu can be accessed by right-clicking the mouse in the record list.

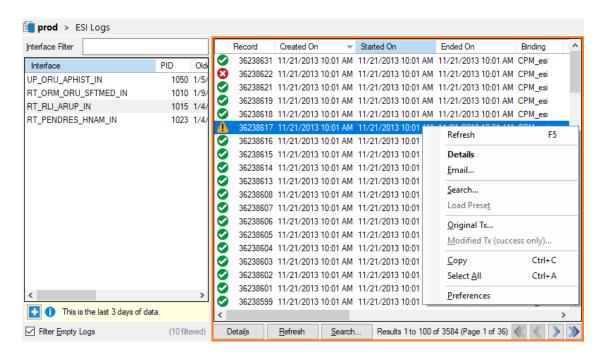


Figure 635: ESI Logs Record Context Menu

Menu Option	Description
Refresh	Refreshes the data displayed in the ESI Log Record list.
Details	Displays a dialog that includes the detailed information about this ESI log record. This is the default menu item, which means that if you select a record and press the Enter key, or simply double-click on a record, the ESI Log record details dialog will be displayed.
Email	Allows you to send the selected ESI Logs to other parties via Email.
Search	Displays the ESI Logs search dialog.
Load Preset	Allows you to select and run a saved search.
Original HL7	Retrieves and displays the original HL7 associated with the selected ESI Log.
Modified HL7	Retrieves and displays the modified HL7 associated with the selected ESI Log.
Сору	Copies the selected ESI Logs to the system clipboard.
Select All	Selects all of the ESI Logs currently being displayed.
Preferences	Allows you to define your personal preferences for the ESI Logs control.

Table 142: ESI Log Record Context Menu

11.5.3 Log Display Limitations

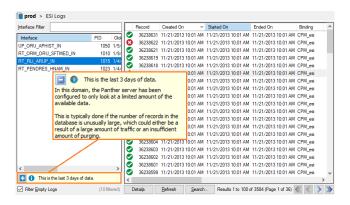


Figure 636: Log Display call-out

In the lower left of the ESI Logs control, you may notice a bar that notifies you that "This is the last x days of data" (Figure 636). If this bar is shown, you may click on the plus icon to view a description of the behavior.

If enabled by Panther Support staff, the information displayed in the left hand side of the ESI Logs control (such as total number of records) will only be calculated over a certain amount of time. This may be done if it was determined that a full guery of the table was a long-running guery on your database.

Organizations that enforce a regular purging interval on the ESI Logs tables can avoid this limitation.

11.5.4 Viewing Record Details

The details of an ESI Log record can be displayed by double-clicking on the desired record.

You may navigate up and down through ESI Log records by using the up and down arrow buttons. The up arrow button will display the data for the record written just after the current record (this record would appear above the current record in the ESI Log control). The down arrow button will display the data for the record written just before the current record (this record would appear below the current record in the ESI Log control.

You may also copy the displayed details of an ESI Log record to the system clipboard by pressing the copy button ((a)). Copied details will be in tabular format which makes it possible to paste them into a Microsoft Excel® spreadsheet.

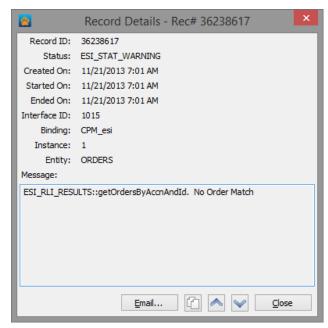


Figure 637: Log record details dialog

11.5.5 Searching ESI Logs

There are four ways to Search for ESI Log Records:

- 1. Using the ESI Log Record context menu:
 - (a) Right-click inside of the list on the right side of the ESI Logs control.
 - (b) Select the Search... option from the context menu.
- 2. Using the Search...button:
 - (a) Click the Search... button located just below the list on the right side of the ESI Logs control.
- 3. Using Search Presets:
 - (a) Right-click inside of the list on the right side of the ESI Logs control.
 - (b) Select Load Preset from the context menu.
 - (c) Select the desired preset search from the sub-menu.

Options 1 and 2 will open the Search dialog (Figure 638). Option 3 will run the selected search immediately without opening a dialog.

General Searching

Enter search criteria into the available fields to find matching ESI Logs. The default search settings are shown in the figure to the right.

If you want to run a search for a log written in a certain period of time, you may want to select the *Custom* option in the *Date Range* section of the dialog.

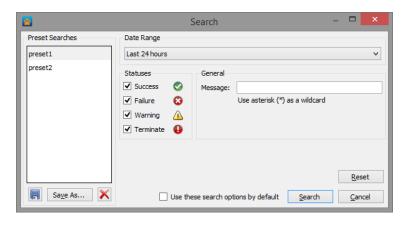


Figure 638: Search dialog

Setting a Default Search

The "Use these search options by default" checkbox can be checked to save current search settings. From the time this checkbox is checked until a new default search is set, this search will be run each time the control is loaded.

Search Presets

Search Presets are basically shortcuts to common searches, and like all shortcuts, you have to make them before they can be used.

Presets can only be made from the associated Search dialog using the Save As... button (Figure 638).

Each Preset must have a unique name to distinguish it from other presets.

Once saved, there are two ways to access a preset search.

- 1. From the ESI Logs Record context menu:
 - (a) From the ESI Logs Control, right click inside of the list on the right side of the control.
 - (b) Select *Load Preset* from the context menu.
 - (c) Select the desired preset search from the sub-menu.
- 2. From the Search Dialog:
 - (a) Select the preset from the list on the left.
 - (b) Click the search button.

11.5.6 Emailing Log Entries

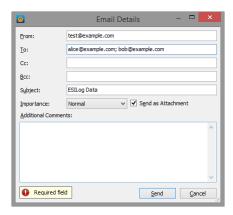


Figure 639: Email Details dialog

To email ESI Log records, Select the log records you wish to send, right-click and select the *Email...* option from the ESI Log Record context menu.

It is required that you provide one or more recipients for the email in the *To:* field. Separate multiple email addresses with commas.

If you provide additional comments, they will be placed in the body of the email above the ESI Log record details.

11.5.7 ESI Log Preferences

To access ESI Log Preferences:

- 1. Right-click in either of the lists in the ESI Logs Control.
- 2. Select *Preferences* from the context menu.

ESI Logs Preferences allow you to modify which columns are visible inside the ESI log list or the records list. Auto refresh only applies to the list of ESI Logs in the left grid. The list of records can be refreshed manually but will not be automatically refreshed to reduce load on the database.

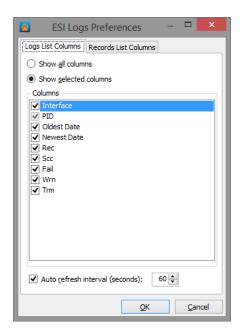


Figure 640: Log List tab

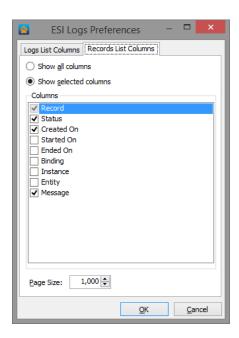


Figure 641: Records List tab

11.6. Favorite Logs Control

The Favorite Logs Control is a part of Message Logs. It exists to provide a node-independent view of Message Logs and a quick way to access commonly reviewed logs together. For more information on setting up and using Favorite Logs, see the section on Message Logs, later in this chapter.

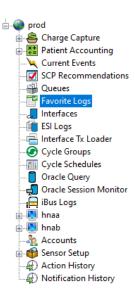


Figure 642: Domain Explorer

11.7. Interface Tx Loader Control

The Interface Tx Loader control provides access to read OEN Transactions. It can be found in the Domain Explorer (Figure 643) under the domain.

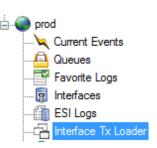


Figure 643: Domain Explorer

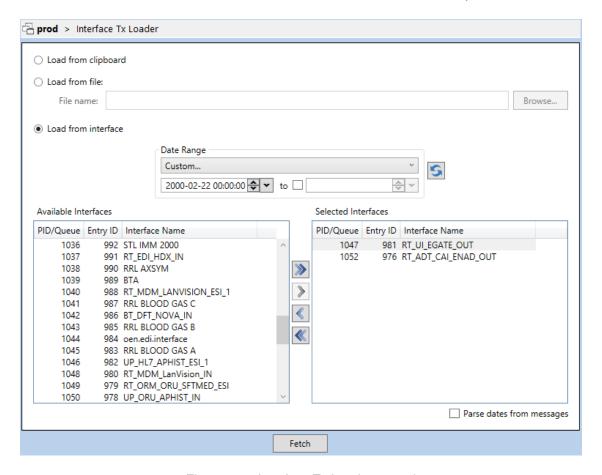


Figure 644: Interface Tx Loader control

OEN Transactions can also be accessed via the *Original HL7* and *Modified HL7* functions within the ESI Logs control. These operations directly open the Transaction Explorer window if a message is found.

Additionally, OEN Transactions can be accessed by the *Search TX Logs...* function in the Interfaces control. This operation opens the Select Interfaces dialog (Figure 645), populating *Selected Interfaces* with the interfaces that were selected when *Search TX Logs...* was clicked.

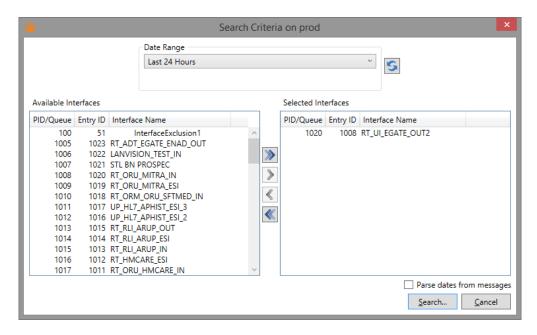


Figure 645: Select Interface dialog

11.7.1 Loading OEN Transactions

The Interface Tx Loader allows users to view messages from their clipboard, from a file, or from Open Engine interfaces.

From the Clipboard

Select this option to load previously copied transaction(s) from the clipboard of the computer.

From a File

Select this option to import OEN Transactions saved in a file. When selecting File as the source, a standard Windows Open File dialog will be presented.

From an Interface on the Domain

This option will find messages for specific interfaces during a specific period of time.

Once you have selected the source of the OEN Transactions, click the Fetch button to load them.

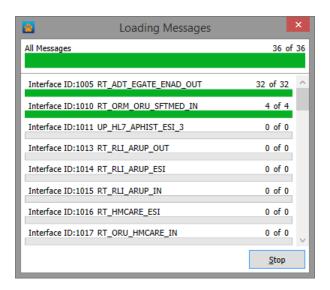


Figure 646: Loading OEN Transactions dialog

If a source that contains a large number of records was selected, the loading progress dialog will appear (Figure 646).

11.7.2 The Transaction Explorer

Once the messages fitting the load criteria have been loaded, the Transaction Explorer dialog will open.

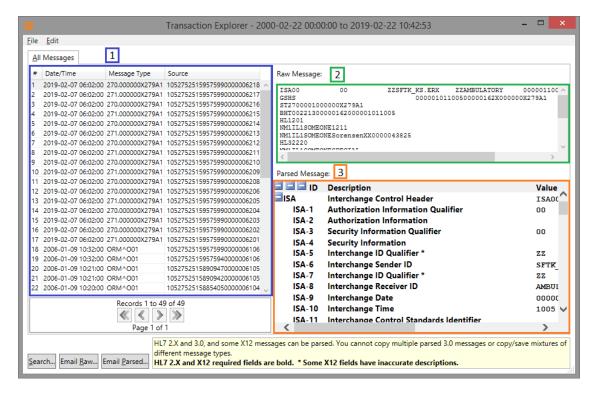


Figure 647: Transaction Explorer dialog

The Transaction Explorer dialog has three main components (Figure 647):

- 1. The list on the left displays a list of all messages.
- 2. The area at the top of the right hand side of the control displays the raw transaction.
- 3. The area at the bottom right of the control displays the parsed transaction.

For HL7 v2.x messages, Panther displays segments defined in the HL7 standards with their associated field name (such as "Patient Name") next to the data. Required fields are marked in bold, while unrecognized fields are displayed are grayed.



Why are some of the message's rows gray?

Grayed text indicates that the message has components that are not defined in version 2.5 of the HL7 standards. For example, any data within Z-segments in your messages will show up as gray because there are no 2.5 standards for these segments. A message that does not conform to the HL7 standards may still be a valid message between the two systems using it.

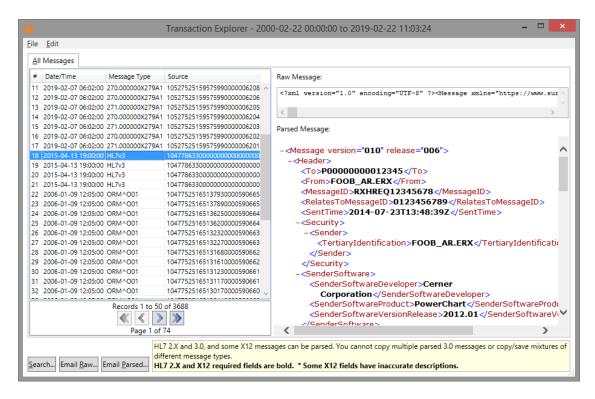


Figure 648: Transaction Explorer dialog

For HL7 v3 messages, Panther formats the message XML in a collapsible tree structure.

For X12 transactions, Panther formats the message as a collapsible tree structure. Descriptions are available for a few transaction types, but these are sometimes inaccurate.

Messages are split into pages. Navigation between pages is done using the arrow buttons on the lower left of the dialog. Each page will contain up to 100 messages.

11.7.3 Searching within OEN Transactions

The Interface Tx Loader control allows users to view messages filtered by various search criteria:

- The search can execute against all messages or just those on the current tab.
- Users can limit the scope of the search to a particular path within messages. This path supports both hyphenation or period delimiters (e.g., PID-1-1, PID-1.1, or PID.1.1). The Path is only used with HL7 2.x messages and X12 message. When there are several fields with the same path, only the first occurance is searched.
- Messages can be filtered to those which contain or do not contain a search term.

To begin a search, click the Search... button. This will open the search dialog (Figure 649).

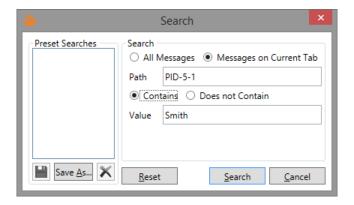


Figure 649: Search dialog

When *Search* is clicked, the Transaction Explorer performs the search and places the results in a new tab. Figure 650 below shows two search tabs, one for 'Mary' and the other for 'cmcd'.

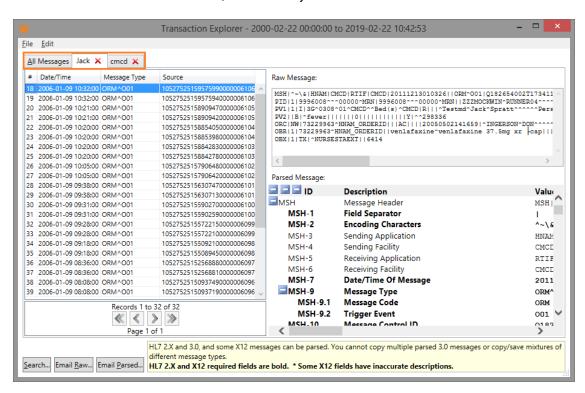


Figure 650: Transaction Explorer - tabs

Users can perform as many searches as they wish, with each search result appearing on a new tab. The basis of a search is determined by the tab active at the time the search is defined. For example, a search can be done from a source multiple times by returning to the source tab each time. Results can be built upon by searching from the most recently created tab, further defining the search parameters. Individual tabs can be closed by clicking the X.

Search Presets

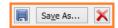


Figure 651: Preset Buttons

Search Presets are basically shortcuts to common searches, and like all shortcuts, you have to make them before they can be used (Figure 651).

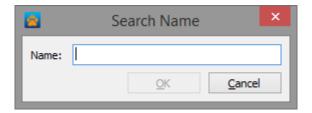


Figure 652: Save Preset Search

Presets can only be made from the associated Search dialog using the *Save As...* option under the *Preset Searches* list box (Figure 651). Each Preset must have a unique name to distinguish it from other presets.

11.7.4 Exporting OEN Transactions

The Transaction Explorer allows users to save raw or parsed OEN Transactions to a file or copy them to the clipboard. Only one type of message (HL7 2.x, or 3.0, or X12) can be copied or saved at a time. For example, if the selected messages include a mixture of HL7 2.x and HL7 3.0 messages, the Copy and Save options will be disabled. Likewise, if the messages on a tab are mixed, the options for Saving/Copying all messages on the tab will be disabled.

Copying

The copy functions are available from the *Edit* menu at the top of the dialog (Figure 653). Both raw and parsed copying functions provide the option to copy *All Messages*, *Messages on Current Tab*, and *Selected Messages on Current Page*.



Figure 653: Copy to Clipboard

Additionally, the context menu in the message list on the left allows users to copy the selected messages.



Figure 654: Copy to Clipboard (Context Menu)

Saving to a File

The save functions are available from the *File* menu at the top of the dialog (Figure 655). Similar to copying, the save function contains both raw and parsed options, each allowing the user to save *All Messages*, *Messages on Current Tab*, and *Selected Messages on Current Page*.

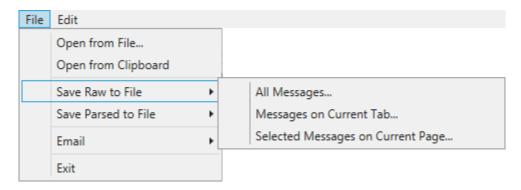


Figure 655: Save to File

Additionally, the context menu in the message list on the left allows users to save the selected messages.



Figure 656: Save to File (Context Menu)



Attention: Export warnings

Before exporting to a file or the clipboard, Panther will check each message for an ending indicator (specifically a "line break" or "carriage return"). If no indicator is present, Panther will ask whether to continue without these characters (thus preserving messages verbatim) or insert ending indicators.

11.7.5 Emailing OEN Transactions

OEN Transactions can be emailed in either raw or parsed format. To email a selected message, click either the *E-mail Raw Message...* button or the *E-mail Parsed Message...* button. This will open the email details dialog (Figure 658).

One or more recipients must be provided for the email in the *To* field. Separate multiple email addresses with commas.

If additional comments are provided, they will be placed in the body of the email above the transaction details.

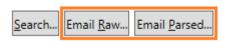


Figure 657: Email Buttons

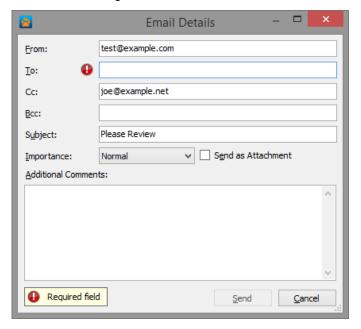


Figure 658: Email Details dialog

11.8. iBus Logs Control

The iBus Logs control gives users access to view log files stored on iBus servers defined in Foreign System Setup for the domain.

To view the iBus Logs control, select the *iBus Logs* item in the Domain Explorer (Figure 659).

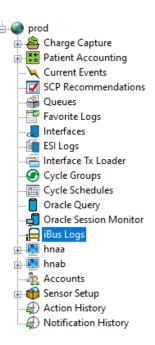


Figure 659: Domain Explorer

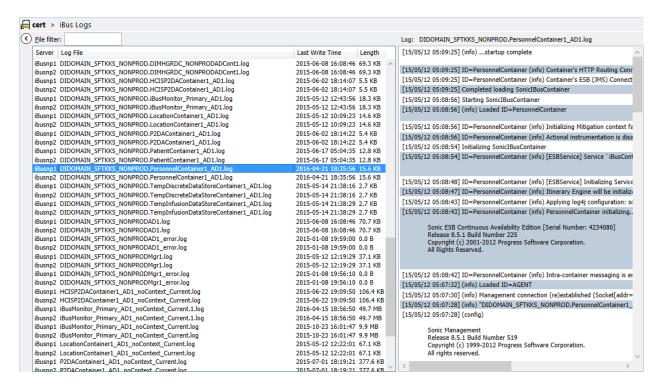


Figure 660: iBus Logs Control

11.8.1 iBus Log File List

The list of files on the left shows all iBus log files found across all servers in the current domain. It includes columns for the server the log originated on and its name, last write time, and length. Right-clicking the mouse in this list will open the iBus log files Context Menu.

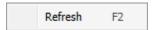


Figure 661: iBus Logs File List Context Menu

Menu Option	Description
Refresh	Refreshes the data displayed in the iBus log file list.

Table 143: iBus Log Files Context Menu

The *Filter* text box above the file list trims the list down to those with server or file names containing the filter text (Figure 662). It allows multiple filter terms, separated by spaces.

When multiple terms are used, the list will only show those files which match all terms. However, it does not matter if some terms match server name while others match file name.

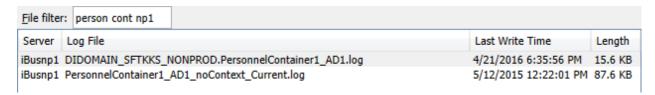


Figure 662: iBus Log File Filtering

11.8.2 iBus Log Records

The list on the right shows the records found in the currently-selected log file, in reverse-chronological order. Alternating row colors are used to improve readability. Right-clicking the mouse in this list will open the iBus log records Context Menu.



Figure 663: iBus Logs Records List Context Menu

Menu Option	Description
Refresh	Refreshes the data displayed in the iBus log file list.
Сору	Copies the text of the selected records to the clipboard.
Find	Moves focus to the search text box, found above the log records list.
Find Next	Selects the next record in the list with text matching the current search text. If the last record with a match is already selected, this will wrap and find the first record with a match.
Find Previous	Selects the prior record in the list with text matching the current search text. If the first record with a match is already selected, this will wrap and find the last record with a match.

Table 144: iBus Log Records Context Menu

The Search text box above the record list highlights matching words in the log records and enables navigation forward and backward to other records containing the search text (Figure 664). If multiple words are entered, they are treated as a single search phrase rather than as multiple search terms.

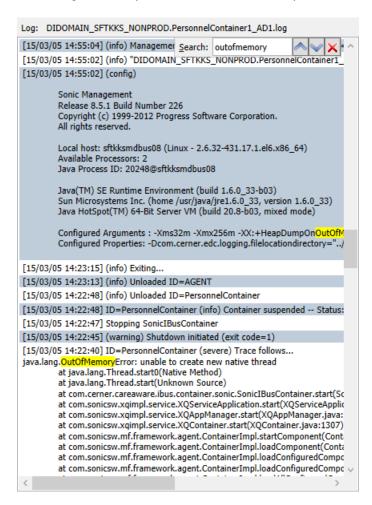


Figure 664: iBus Log Record Search

In any case where the text cannot be found in any log records, the search text will turn red (Figure 665).



Figure 665: iBus Log Record Search Not Found

Once the desired log file has been found, the control provides the ability to collapse the log file list so the record list takes up the entire control (Figure 666). When it comes time to select a different log file, the file list can be re-expanded.

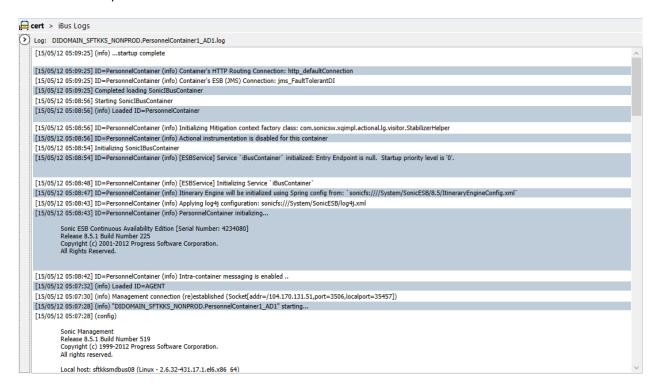


Figure 666: iBus Logs Collapsed File List

11.8.3 When iBus servers are not defined

If panther does not yet have any iBus servers defined for the current domain, the iBus Logs control will display an information banner indicating as such (Figure 667). This banner will include a *Configure* button which launches Foreign System Setup.

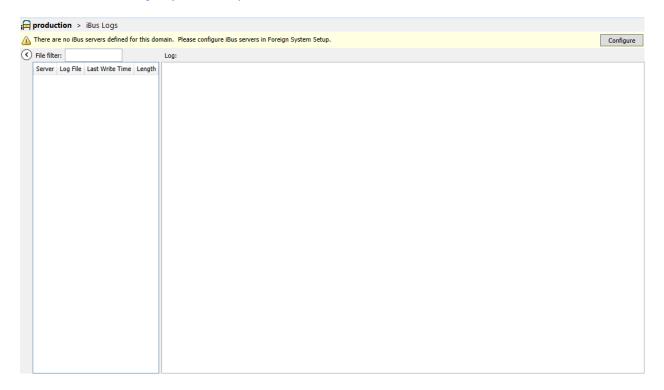


Figure 667: No iBus Servers Defined

11.9. Interfaces Control

The Interfaces control is used to monitor the interface processes that run on the back end. Interfaces are domain specific in Panther. To view the Interfaces control, select the domain you wish to view interfaces for and the *Interfaces* option under that domain in the Domain Explorer (Figure 668).

The columns that appear in the control are customizable, and you can re-order and sort by any of the columns. By default, the Interfaces control sorts by State in descending order.

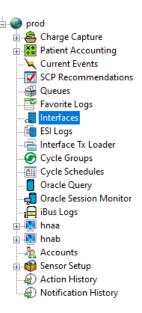


Figure 668: Domain Explorer



Where is the interface I need?

If you cannot locate an interface, it is possible the interface you are looking for is not included in the view currently in use. If you have the proper privileges, you can temporarily disable views by selecting (none) from the view list at the bottom of the screen.



You can limit users to specific views.

With the 'Manage Interface Views' privilege, you can create multiple views, and assign them to specific users. This means that if you have certain users that should only see a specific subset of interfaces, you can create a view for that subset and assign it to those users.

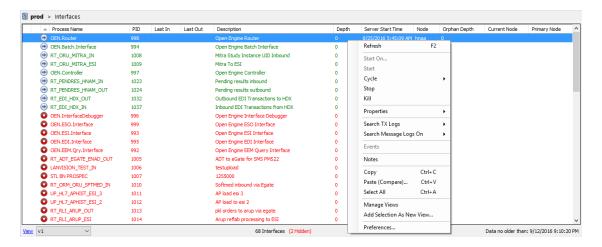


Figure 669: Interfaces Control

Image	Meaning
1	The interface has a Starting, Stopping, Killing, or Cycling note
#	The interface has a Hovering note
4	The interface has an ongoing event
•	The interface is running
0	The interface is stopped

Table 145: Interface Images

When an interface is selected and right-clicked, the Interfaces Context Menu will open.

Option	Description
Refresh	Refreshes the data displayed in the control.
Start On	Prompts for the node to start selected interface(s) on.
Start	Starts selected interface(s) on the Configured Node.
Cycle	Displays the Cycle sub-menu.
Stop	Stops running instance(s) of the interface server.
Kill	Kills running instance(s) of the interface server.
Properties	Displays the Properties sub-menu.
Search TX Logs	Displays the Search TX Logs sub-menu.
Search Message Logs On	Allows users with the <i>Access Server Logs</i> privilege to view the server message logs associated with the interface.
Events	Displays a dialog which displays the current events for the selected interface.
Notes	Enables creation of notes which appear when certain actions are performed on an interface server.
Сору	Copies the interface and all of its personalities to the clipboard.
Paste (compare)	Compares the interface(s) that are currently in the clipboard with the selected interface(s). This can be especially useful for comparing across domains.
Select All	Selects all interfaces in the control.
Manage Views	Opens the Interface View Manager (requires the <i>Manage Interface Views</i> privilege).
Add Selection As New View	Opens the Interface View Manager with the selected interface(s) added to a new view (requires the <i>Manage Interface Views</i> privilege).
Preferences	Displays the preferences dialog, which allows modification of the control's operational preferences and displayed columns.

Table 146: Interfaces Context Menu

Option	Description
Cycle Interface	Cycles selected interface(s) on their currently running node or <i>Configured Nodes</i> .
Cycle Interface with Kill	Kills underlying server(s) immediately during the "Stopping" phase of the cycling operation.
View Cycle History	Opens the cycling history for the selected interface.

Table 147: Cycle sub-menu

Option	Description
Interface Properties	Enables viewing of interface properties including personalities.
SCP Configuration Properties On	Allows users with the <i>Access Configurations</i> privilege to view the configuration of the interface's server.
Interface Blacklist	Allows addition/removal of interfaces from the blacklist (see Interface Blacklist)

Table 148: Properties sub-menu

Option	Description
Last 24 hours	Enables searching of the interface's TX Logs for the last 24 hours. Messages found will be displayed in the Interface Tx Explorer.
Custom	Enables searching of the interface's TX Logs based on the selected date range. Messages found will be displayed in the Interface Tx Explorer.

Table 149: Search TX Logs sub-menu



Panther can automatically notify you of interface changes.

Panther includes an interface configuration change sensor that can automatically notify you of any changes to interface servers. For more information see the Interface Configuration Change sensor.

11.9.1 Starting and Cycling Interface Servers

In multi-node domains, the *Start*, *Start On...*, and *Cycle* options need to know which node the server should be running on.

Option	Description
Start On	Prompts you to select the node on which to start each selected server.
Start	Uses the <i>Configured Node</i> . (But, if no node is configured in OEN_PROCINFO or Panther Primary Node, Panther prompts, as in <i>Start On</i>).
Cycle	•When cycling, if the interface is already running, it will be cycled on the same node.
	•If the interface isn't running, it is started on the <i>Configured Node</i> .

Table 150: Starting and Cycling Node Selection

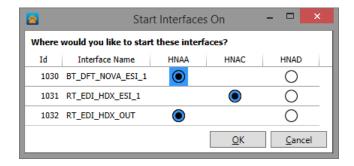


Figure 670: Interfaces Start On Dialog



When I click Start, where will Panther start the interface server?

If you are curious which node Panther believes a stopped server should be started on, you can right-click on the interface(s) and select *Start On....* The dialog shows the interfaces and which nodes they are configured on. When the dialog first appears, the *Configured Node* is pre-selected for each interface.

11.9.2 Interface Servers Configured Node

To determine the Configured Node, Panther uses the first of these that are specified (not empty):

- CURRENT_NODE from the OEN_PROCINFO table (this is empty at many sites).
- PRIMARY_NODE from the OEN_PROCINFO table (this is empty at many sites).
- Panther's Primary Node (See Foreign System Setup.)

11.9.3 Cycle History

To view Cycle History for an interface:

- 1. Select the desired interface.
- 2. Right-click the selected interface.
- 3. Select the Cycle option from the Interfaces context menu.
- 4. Select *View History* from the bottom of the sub-menu that opens.

The Cycle History option within the Interfaces control allows you to view a history of cycle operations that were performed by Panther on interface servers. By default, the Cycle History dialog returns only cycle operations that were performed in the last 24 hours.

Cycle History is a part of Action History. For more information, see the Action History section.

11.9.4 Interface Properties

There are two ways to view Interface properties:

- · From the Interfaces context menu:
 - 1. Select the desired interface.
 - 2. Right-click the selected interface.

- 3. Select *Properties* from the Interfaces context menu.
- 4. Select Interface Properties from the sub-menu that opens.
- · Double-click the desired interface.

Either of these actions will open an Interface Properties dialog similar to Figure 671.

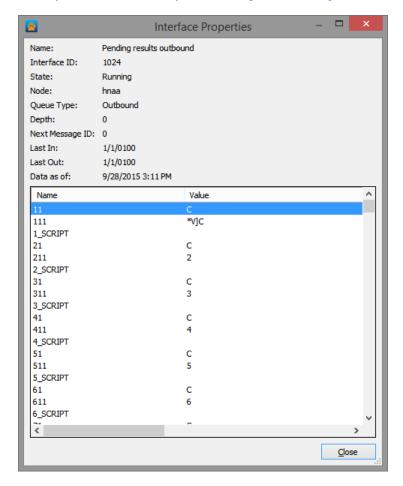


Figure 671: Interface Properties dialog

This dialog displays general interface and queue properties, and all interface personalities.

11.9.5 Interface Blacklist

A blacklisted interface is an interface that may cause some of Panther's Oracle[®] queries to take a long time to execute, thus producing an undesirable amount of load on the Oracle[®] database. The interfaces that are most likely to cause this situation are those with orphaned transactions.



Attention: Interfaces in the Interface Blacklist are ignored.

Interfaces that are in the Interface Blacklist will not be monitored by Panther's Sensors. This means that anything happening with an interface while blacklisted will not be reported when it is removed from the blacklist.



Attention: Panther will automatically add interfaces to the Interface Blacklist.

Interfaces that are identified as causing long-running Oracle® queries will be automatically blacklisted. For this reason, it is suggested to sign up for notifications from the Interface Orphan/Blacklist sensor, which will notify you if Panther begins to ignore specific interfaces.

By default, Panther will automatically add interfaces to the Interface Blacklist if they cause Panther's Open Engine queries to scan more than 100,000 records. This threshold is configurable by Panther Support if necessary. The Interface Stalled and the Interface Backlog sensors can be configured to automatically remove interfaces from the blacklist. This setting is turned on by default.

You may right-click on interfaces in the Interfaces control, and manually add or remove interfaces from the Interface Blacklist through the Properties menu item followed by the *Interface Blacklist* sub-menu.

11.9.6 Viewing Current Events

There are two ways to view ongoing events for an interface:

- · Using the Interfaces context menu:
 - Select the desired interface.
 - 2. Right-click the selected interface.
 - 3. Find the *Events* option in the Interfaces context menu. If this option is enabled, then the interface has events and clicking the option will open the Event Viewer.
- The Event Indicator column:
 - 1. A lightning bolt icon indicates an open event.
 - 2. If a lightning bolt icon appears in the Event Indicator column for an interface, you can double click the icon to open the Event Viewer.

For the selected interface, this dialog shows the events that Panther's sensors are currently reporting.

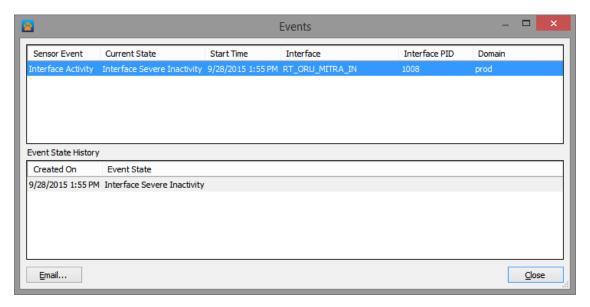


Figure 672: Event Viewer dialog

11.9.7 Interface Notes

To manage interface notes, select the interfaces to manage notes for, right-click the selected to bring up the context menu and select *Interface Notes* from the menu. After clicking on *Interface Notes*, the Manage Interface Notes dialog will open.



Attention: Interface notes are separate from server notes.

Interface notes are specified for an interface's PID and server notes are specified for a configuration's Entry ID. As a result, Interface notes are not visible in the Servers or Configurations controls, and server notes are not visible in the Interfaces control.

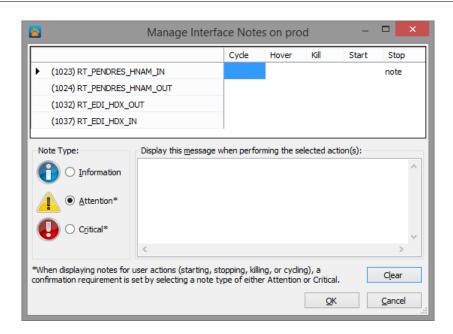


Figure 673: Manage Interface Notes dialog

The Manage Interface Notes dialog allows you to create notes for four actions (Starting, Stopping, Killing, Cycling), and for when the user hovers the mouse over the interface.

To create an interface note:

- 1. Select the interfaces and actions you want to trigger the note's appearance.
- 2. Select the Note Type (Information, Attention or Critical).

 If you select a note type of *Attention* or *Critical*, and an action of *Starting*, *Stopping*, *Killing* or *Cycling*, the user will be required to confirm their action.
- 3. Type the note you want to appear in the Message Area of the dialog.
- 4. Press *OK* to save the notes and close the dialog.

Notice that as you type a note into the message area of the dialog, the note appears in all of the selected interface and action cells of the grid at the top of the dialog.

To remove a note, highlight the note(s) in the grid, then click the *Clear Note(s)* button.

If an interface is deleted, Panther will retain the associated note. If a new interface is later created with the same PID, the old note will be associated with the new interface. This can be prevented by removing the note before deleting the interface.

11.9.8 Comparing Interfaces

Panther allows you to compare the personalities of interfaces between domains or between two individual interfaces that may be similar. This allows users to quickly identify differences that could be causing issues or unexpected behaviors.

Steps to Compare Interfaces

- 1. Navigate to the Interfaces control.
- 2. Select the interface(s) you wish to compare.
- 3. Right-click on the selected interfaces, and then select the *Copy* menu option. Copying all the personalities can take some time.
- 4. You have the option of either comparing interfaces from the same domain or from different domains.
 - To compare interfaces in the same domain, select the interfaces you would like to compare the copied interfaces to.
 - To compare interfaces on another domain, navigate to the Interfaces control for the second domain.
- 5. Right-click in the Application Workspace for the Interfaces control, and select the *Paste (Compare)* context menu option.
- 6. Select the method of comparison which best suits your purposes.

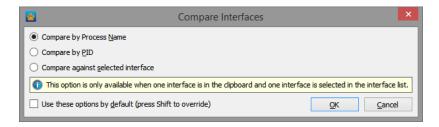


Figure 674: Compare Interface options dialog

- (a) Compare by Process Name will use the names of processes to uniquely identify interfaces being compared.
- (b) Compare by PID will use the Process Identifier to uniquely identify interfaces being compared.
- (c) Compare against selected interface will only be an option when you are performing a one to one comparison.
- 7. The Interface Compare dialog will now open, using your selected comparison method.

The Interface Compare Dialog

Main components:

- 1. The list of interfaces in the comparison.
- 2. A list of comparison options.
- 3. A view of the details of the two versions of the interface.

Differences in personalities will appear in the detailed comparison of the selected interface on the bottom half of the dialog. Differences causing a status of "Different" will appear in red.

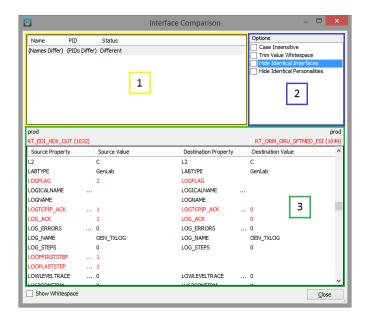


Figure 675: Interface Compare dialog

Option	Description
Case Insensitive	When checked, comparison of personality values and personality names is case insensitive.
Trim Value Whitespace	When checked, the whitespace at the beginning or ends of personality values is both hidden and ignored for comparisons.
Hide Identical Interfaces	Identical interfaces are hidden from the top list.
Hide Identical Personalities	All personalities with identical values are hidden from the details view.

Table 151: Interface Comparison Options

In the lower-left corner, there is a checkbox for "Show Whitespace". If it is checked, whitespace will be shown using a single dot (\cdot) .

11.9.9 Interface View Management

The primary function of Views is to grant administrators the ability to restrict which interfaces a user can access without denying them access to the interfaces control altogether. Users with the 'Manage Interface Views' permission can Manage Views and will see the *Manage Views* link in the lower right-hand corner of the control, while those without this permission will only see those views assigned to them.

Using Views

All Interface Views that have been assigned to you will appear in the *View* drop-down list found at the bottom left of the control. Once you have selected a view, the Interfaces control will show only the interfaces that match the view as seen in the figure below.

For users with the 'Manage Interface Views' permission the View drop-down will also contain the *(none)* view which contains all available interfaces. This permission also allows the *Manage Views*



Users can be forced to use only certain views.

Panther allows you to define any number of views, and who has access to them. To allow certain users to only see a subset of interfaces, simply create the appropriate view, assign them to the view, and do not grant them the 'Manage Interface Views' privilege.

Manage Views

Within the Interfaces control, users with the 'Manage Interface Views' privilege may create any number of filtered views of the interfaces.

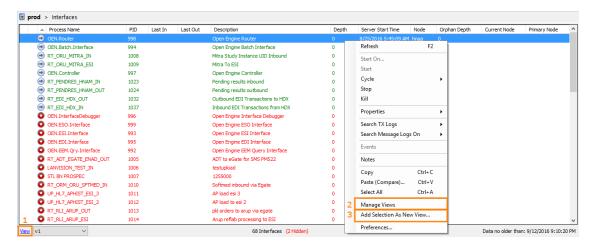


Figure 676: Manage Views menu within the Interfaces control

There are three ways to access Interface View Management:

- 1. Click the View link in the lower left corner of the control to open the View Manager.
- 2. Using the Interfaces context menu:
 - (a) Right-click inside of the Interfaces Control.
 - (b) Select Manage Views from the context menu.
- 3. Creating a Quick View:
 - (a) Select the interfaces you wish to appear in a new interface view.
 - (b) Note: you can use the Shift and Ctrl keys on the keyboard to select multiple interfaces.
 - (c) Right-click the selected interfaces.
 - (d) Select Add Selection As New View... from the context menu.



You can create new views by selection.

If you highlight the interfaces you wish to be in the new view, right-click the mouse and select *Add Selection as New View...* from the *Current View* menu option in the context menu. The View Management screen will open with a new view containing your selected interfaces. You will still need to provide a name and subscription list.

For more information on view management, refer to Appendix A.

11.9.10 Preferences

Panther allows users to save your preferences for each control. Within the Interfaces control, users can save preferences dictating the behavior of the control when modifying an interface server configuration, the appearance of interfaces in different states, and what columns to show in the control.

Preferences

The preferences tab of the Preferences dialog (Figure 677) allows users to define how Panther will behave when using features of this control. The first set of preferences is "Configuration Preferences", which allows users to define specific behavior when altering the SCP configuration on a running interface.

Users have the ability to define how the Interfaces control behaves after you make a configuration change to a running interface. Users may select one of the following:

1. Automatically cycle

Cycles an interface without prompting you anytime you make a change to an interface's SCP configuration while it is running.

2. Prompt to cycle

Causes Panther to prompt you to cycle the interface anytime you make a change to an interface's SCP configuration while it is running.

3. Do not cycle

Allows you to make changes to an interface's SCP configuration without cycling or prompting after the change is made.

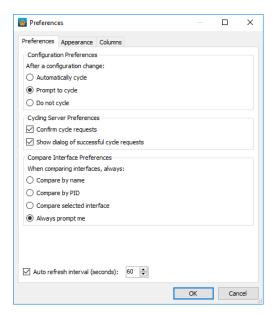


Figure 677: Preferences tab

Users may also specify that this control "Auto Refresh" itself on a given interval. Keep in mind that the shorter the refresh interval, the busier the database becomes.

Appearance

The appearance tab of the preferences dialog (Figure 678) allows users to specify how the Interfaces control displays interfaces.

Color Coding

The Color Coding Preferences allow users to change the display colors of interfaces depending on their state. To change the color for a state, select the desired state, then select the color used to display those interfaces. The preview pane below the color selector displays what the colors will look like.

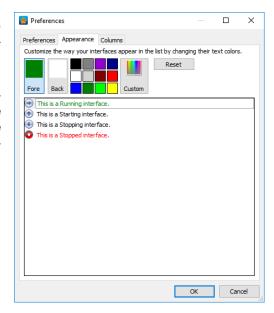


Figure 678: Appearance tab

Columns

The third tab of the preferences dialog (Figure 679) allows users to specify which columns are displayed in the Interfaces control.

Users have the option to show all available columns or to view only columns they wish to display.

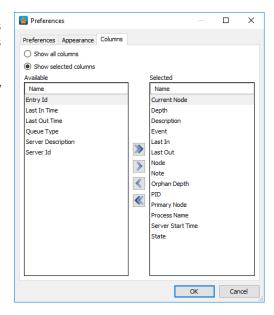


Figure 679: Columns tab



You can change column visibility from the main control and context menu.

Rather than require users to navigate to the preferences dialog to alter column visibility, Panther allows users to show and hide columns through the right-click menu of the Interfaces control. You may also right-click on column headers to quickly access the same functionality.

11.10. Message Logs Controls

The Message Logs control is used to view Message Logs written to by each server. The Message Logs control can be found in the Domain Explorer (Figure 680) under each node, as well as a *Favorite Logs* item underneath the domain.

Message Logs are divided into the following groups:

- system: allows you to view and search records in the system log of the current domain and node.
- Server Logs: loads a list of all server logs, allowing you to browse multiple log files. A log file that is loaded by the server logs view will be named using the Entry ID of its server.
 - Example: The log file for CPM Script is cmb_0051, where 51 is the plorer Entry ID for CPM Script. Panther translates the log file name to identify the server, so viewing the appropriate server's logs be done by server name rather than file name.
- Other Logs: shows all remaining log files whose names do not identify a server.

The *Favorite Logs* item underneath the domain displays the system logs for each node in addition to items you have added to favorites among all the nodes in that domain.

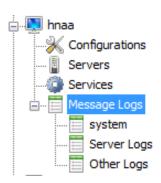


Figure 680: Domain Explorer

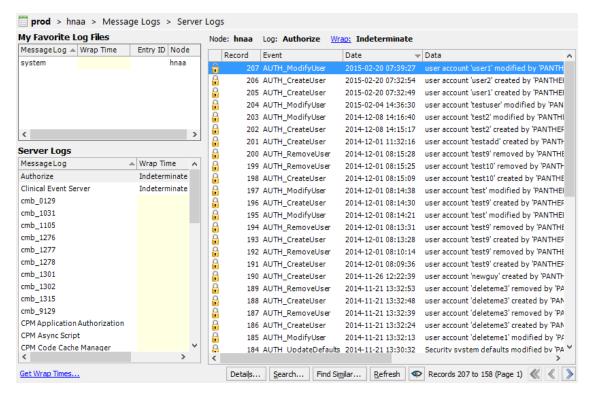


Figure 681: Message Logs Control

Servers with a log file are listed on the left. To view the contents of the file, select the desired server and the most recent records will be shown on the right. Column display can be altered by selecting *Preferences* from the Log List Context Menu (Table 153).

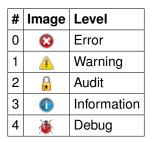


Table 152: Log Levels

Message logs have two main areas, the Log list and the Record list (Figure 682). Each list has its own Context Menu which can be accessed by right-clicking in the list area.

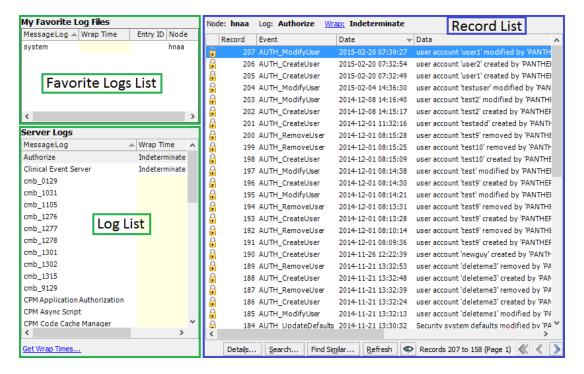


Figure 682: Message Logs Layout

Option	Description
Log Info	Displays information about the selected log file
Add To Favorites	Adds the selected file to the favorite logs list as well as the <i>My Favorite Logs</i> section in the Domain Explorer.
	From the Favorite Logs List, this option is replaced with "Remove From Favorites".
Refresh	Reloads the record data for the selected log file.
Get Wrap Time	Loads the data for the selected log file(s) and calculates the wrap time.
Сору	Copies the selected rows to the clipboard in a tab-separated format.
Select All	Selects all of the currently displayed rows.
Show All Columns	Displays all available columns for the Log List section
Preferences	Allows you to define custom appearance and behavior for the Log List

Table 153: Log List Context Menu

Option	Description
Log Info	Displays information about the selected log file
Search	Opens the Search dialog, allowing you to search for specific records in the log.
Load Preset	Opens a sub-menu and allows you to select a search that was previously saved
Refresh	Reloads the data for the records being displayed
Details	Loads the record details in a separate dialog
	This is the default menu item.
Email	Allows you to email the selected record(s) to the recipients you provide
Сору	Copies the selected record(s) to the system clipboard
Select All	Highlights all records currently being displayed in the record list
Preferences	Opens the Preferences dialog for the Records List

Table 154: Record List Context Menu

11.10.1 Viewing Log File Information

Log info can be view from the Log Info context menu (Table 153).

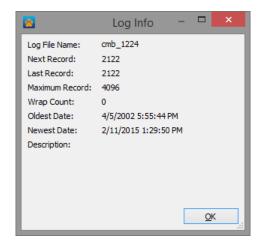


Figure 683: Log Info

- 1. Select the desired log from the Log List.
- 2. Right-click the selected log.
- 3. Select the Log Info option from the Log List context menu (Table 153).

This action opens the Log Info dialog for the selected log (Figure 683).

To view the log file information for multiple logs at once:

- 1. Highlight the desired logs in the Log list (Figure 682).
 - Note: you can use the Shift and Ctrl keys to highlight multiple logs.
- 2. Right-click the selected logs.
- 3. Select the *Copy* option from the Log List context menu.
- 4. Open Microsoft Excel® or Access® and paste the copied logs into a spreadsheet.

11.10.2 Wrap Time

Getting Wrap Times

One convenience of the Panther log viewer is that it provides a calculated wrap time for each log file. It makes this calculation using information from the log file, including the oldest and newest dates.

Wrap Time	Description
Days	The log file will not hold records older than the number of days listed. This estimate is based on the current contents of the file.
Empty	The log file has no contents
Intermediate	A wrap time cannot be accurately calculated because the wrap count is less than the Wrap Count Intermediate Sensitivity.
Inactive	The newest record in the file is older than the Inactive Message Log Sensitivity.

Table 155: Potential Wrap Time Results



Loading wrap times for all log files

You can have Panther load the log file information for all log files so a calculated wrap time can be displayed for every file. This allows useful sorting on the wrap time column to quickly identify the worst offenders. To load the information and wrap times for all log files, click the link labeled *Get wrap times...* below the *Log List* section (Figure 682).

Calculating Wrap Times

Panther provides a convenient way for you to estimate how large to make a given log file, based on a desired wrap time.

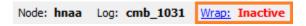


Figure 684: Calculating Wrap Times

To calculate a file size, select the desired file in the Log list. When the records load into the Record list, click on the *Wrap Time* link in the table's header (Figure 684).

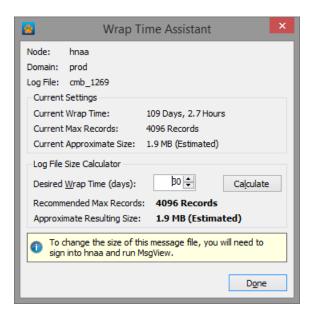


Figure 685: Wrap Time Assistant

Selecting the link will open the Wrap Time Assistant (Figure 685) which displays the current settings, including wrap time, number of records, and approximate size.

Using this information you can adjust the wrap time to the desired number of days, this will cause the Assistant to calculate the Recommended Records and the Approximate Resulting Size for the file if this wrap time is used.

11.10.3 Windshield Wiper



Figure 686: Bottom Button Strip

The *Windshield Wiper* button (below the Record List) is a specialized search. This button will clear the log and only show new records. This button takes your current search criteria (default criteria if no search was done) and modifies the Date Range of the search. It will use a custom search and set the *from* date to the time the button was clicked.

11.10.4 Searching for Records

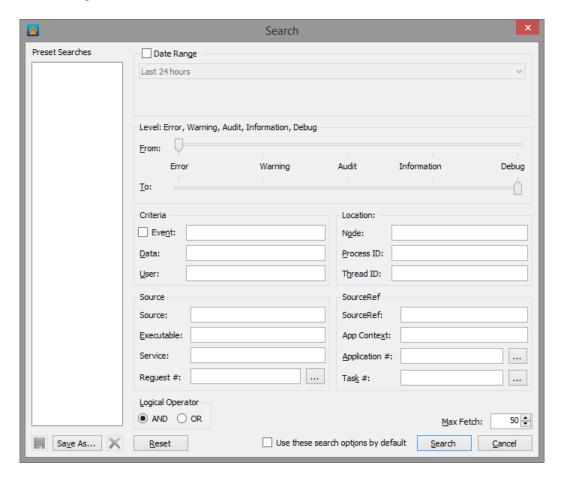


Figure 687: Search Dialog

To perform a detailed search of the current log file, select *Search...* from the context menu or press the *Search...* button at the bottom of the window.

The "Use these search options by default" checkbox can be checked to save default search behavior, which will be applied to the Record List each time the control is loaded until the default is changed.

The *Reset* button will reset the form to the default search.

Criteria	Description
Level	Allows you to specify the log level or a range of log levels to search.
Date	Allows you to specify a date or date range. If you only specify the first date, the search will return all dates on or after the date provided.
User, Event, Location, Source, SourceRef, and Data	Enter the term exactly as it appears in the record (including spaces) or use the * wildcard. If the field is left blank, the search will ignore the criteria.
	The * wildcard can be used to replace any number of characters. Example: J*n = John, Jan, Joan, or any word starting with J and ending with n.
Logical Operator	Allows you to specify whether any or all search criteria must be met.
Max Fetch	Determines how many records will be displayed per page. Note: smaller values yield faster searches.

Table 156: Message Log Searching Criteria

Search Presets

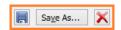


Figure 688: Preset Buttons

Search Presets are basically shortcuts to common searches, and like all shortcuts, you have to make them before they can be used (Figure 688).

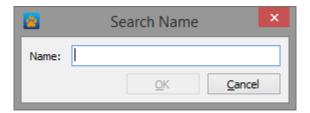


Figure 689: Save Preset Search

Presets can only be made from the associated Search dialog using the *Save As...* option under the *Preset Searches* list box (Figure 688). Each Preset must have a unique name to distinguish it from other presets.

Once saved, these searches can be quickly accessed using the Record List context menu's *Load Presets* option or the *Load* option under the *Presets* button on the Search dialog.

11.10.5 Viewing Record Details

The records associated with log files appear in the Record List on the right of all message log controls. Once you have selected the Log File you wish to view records for in the Log List, you can view details for a

specific record in that Log File in any of the three ways described below.

There are three ways to access record details (Figure 691):

- 1. Double-click the desired record.
- 2. Using the Details button:
 - (a) Select the desired record.
 - (b) Click the *Details* button located below the Record List (Figure 690).
- 3. Using the Record List context menu:
 - (a) Select the desired record.
 - (b) Right-click the selected record.
 - (c) Select the *Details* option from the Record List context menu (Figure 690).

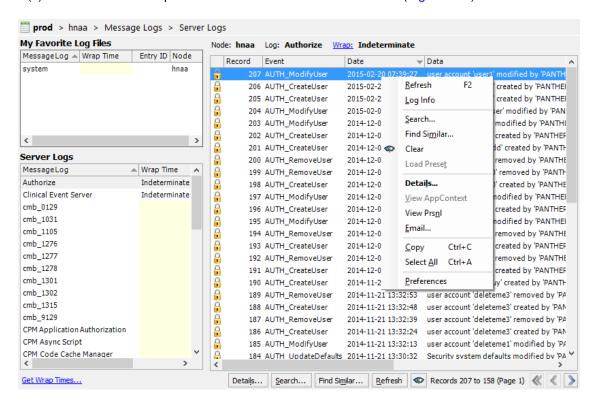


Figure 690: Message Log Records



Figure 691: Log Record Details

If you have the *Allow Application Context Retrieval* privilege, the dialog will expand to display application context data.

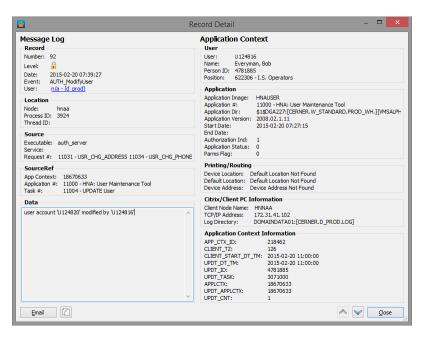


Figure 692: Log Record Details with Application Context data

If there is no application context attached to the record, or if the record cannot be found, the dialog will display a message indicating it could not retrieve the data.

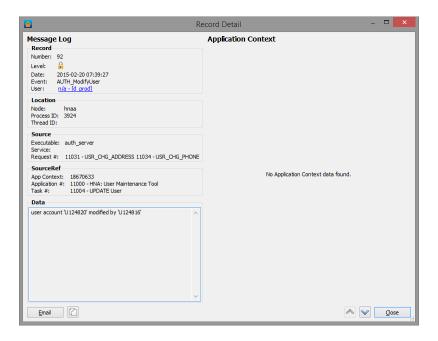


Figure 693: Log Record Details without Application Context data

Clicking the Up Arrow (^) will show you the record that came just after the current record in the Record Details dialog. Clicking the Down Arrow (>) will show you the record that came just before the current record in the Record Details dialog.

If you wish to copy the record being displayed in the Record Details dialog, you can do so by clicking the *Copy* button (①). This will move the details of the record to the system clipboard.

The record details may have a link to the user of the record details. Clicking this link opens a dialog that shows additional information about the user, pulled from the Prsnl table in the database.

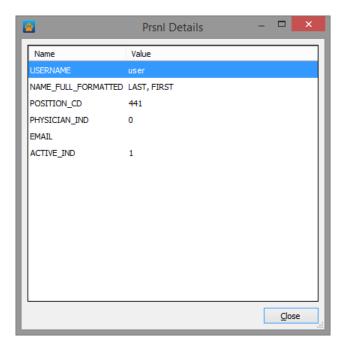


Figure 694: Prsnl Dialog

When you are done viewing the record details, click *Close* to return to the Message Logs control.

11.10.6 Emailing Log Entries

To send any number of records via email, select the records you wish to send, right-click and select *Email...* from the Record List context menu.

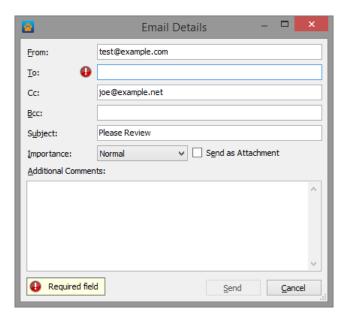


Figure 695: Email Details Dialog

This will open the Email Details dialog (Figure 695) with the *From* field populated with your user email address (if you have set one up in Email Preferences) and the Subject filled in as "Message Log Data".

In order to send the email you are required to provide one or more email addresses in the *To* field. Separate multiple addresses with commas.

11.10.7 Message Log Preferences

Show bottom button strip

The button strip at the bottom of the Message Log control can be hidden from the General Preferences section of the preferences dialog (Figure 696). This can save space when the Message Log control is viewed from the desktop.

Auto Refresh

Automatic refresh of the list of records can be enabled with a configurable interval (Figure 696). It may be beneficial to leave this off when searching or viewing details about specific logs since the data in the Message Log is volatile.

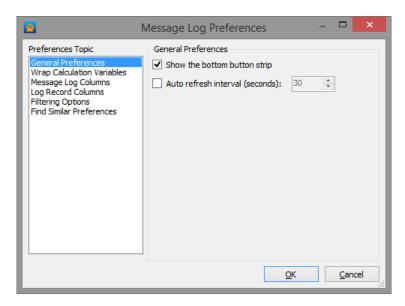


Figure 696: Message Log Preferences

11.10.8 Log List Preferences

Log List Preferences allow you to control how Message Log Files look and act whenever you access them. There are two categories of Preferences for this control, Wrap Variables and Columns.

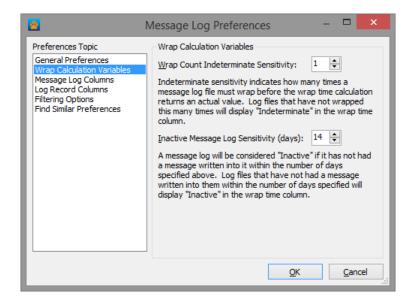


Figure 697: Wrap Calculation Variables

Wrap Variables

Wrap Count Intermediate Sensitivity

The minimum wrap count required in a log file to provide a wrap time estimate in days.

If the wrap count is less than this sensitivity setting, the wrap time calculation results in "Indeterminate".

Interactive Message Log Sensitivity

The minimum number of days required since the last record was written in a log file to consider the file inactive. If the age of the newest record in a file is older than the number of days specified, the log file is considered "Inactive".

Columns

The Columns tab allows you to select which columns you wish to display in the list of log files.

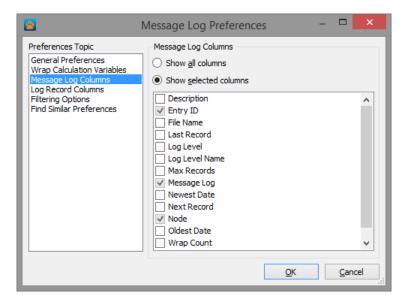


Figure 698: Log List Columns

To show a column, check the box to the left of its name; to hide a column, un-check the box.

Filtering Options

The filtering options in the Message Log preferences dialog allow for configuration of automatic wrap time fetching and message log filtering based on the wrap times (Figure 699). When the *Auto Get Wrap Time* checkbox is checked, the control will spend addition time loading and calculating the wrap time data. If the *Auto hide Empty log files* or *Auto hide Inactive log files* checkboxes are checked, logs with wrap times that fall into the included categories will be hidden from the list of message logs.

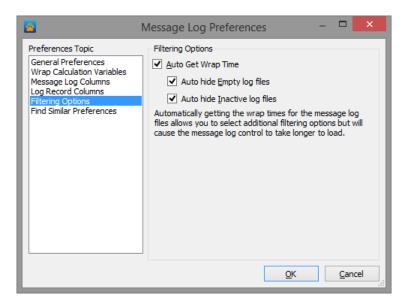


Figure 699: Filtering Options

11.10.9 Record List Preferences

To alter the appearance or behavior of the Record list (table of records shown on the right of the Message Logs and Favorite Logs controls), right-click in the table and select the *Preferences* option from the Record List context menu.

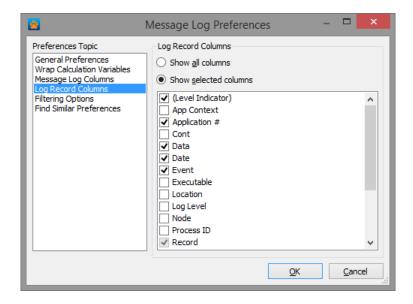


Figure 700: Record List Preferences

From this Preferences dialog (Figure 700) you can choose which columns display in the table. Check the box to the left of a column name to show the column; un-check the box to the left to hide the column.

Additionally, you can turn on auto-refresh, which will automatically reload the current page of data. This may be useful when viewing the most recent records that match the search criteria. If another match is found on a refresh, it will be added to the list. You also have the ability to change how often the refresh occurs.

Find Similar Preferences

The default search criteria for find similar search can be modified from the Find Similar Preferences section of the preferences dialog (Figure 701). When the *Confirm search criteria* checkbox is checked, find similar searches will bring up a dialog allowing the criteria to be reviewed or altered before the search. When not checked, the find similar function will use the configured criteria for find similar searches without prompting.

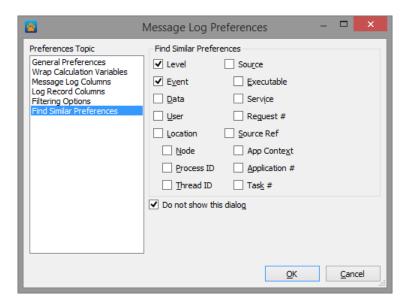


Figure 701: Find Similar Preferences

11.11. Oracle Query Control

The Oracle Query control gives users access to issue queries against the Oracle® instance defined in Foreign System Setup for the domain.

To view the Oracle Query control, select the *Oracle Query* item in the Domain Explorer (Figure 702).

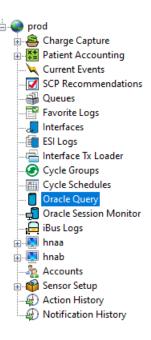


Figure 702: Domain Explorer

11.11.1 Connecting to Oracle®

Before any queries can be issued, the Oracle Query control must connect to Oracle[®]. In most circumstances, Panther will already have a connection defined so other controls and sensors can function. When this is the case, Oracle Query will present fields to enter credentials for the current session (Figure 703).

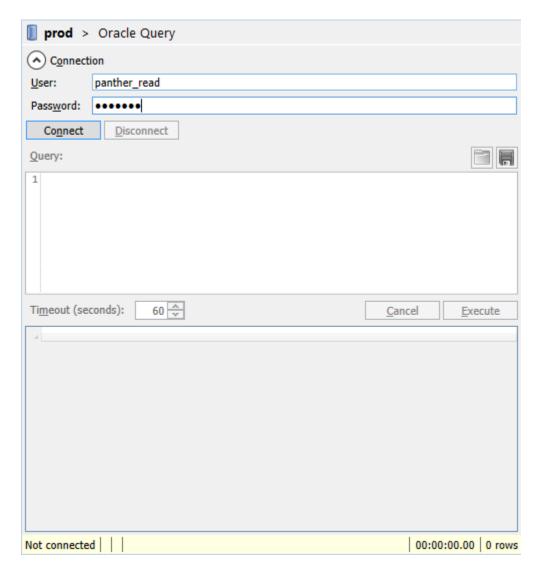


Figure 703: Not Connected

Once connected, the credentials panel will collapse and the remaining controls will become active.

When a Connection is not Defined

If Panther does not yet have a connection defined for the current domain, the Oracle Query control will display an information banner indicating as such (Figure 704). This banner will include a *Configure* button which launches Foreign System Setup.

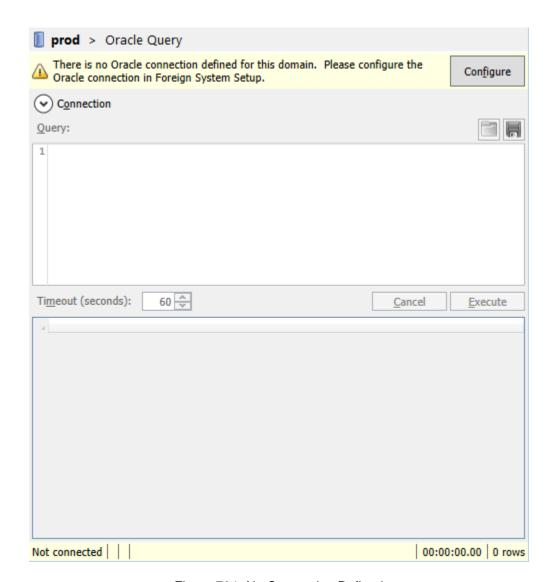


Figure 704: No Connection Defined

11.11.2 Issuing a Query

Issuing a query is as simple as entering text into the query area and clicking the *Execute* button. Oracle Query allows users to enter queries manually or load saved queries from a file using the load button or the context menu (Figure 705).

To protect against long-running queries, a timeout is provided. The default is one minute, and it can be increased to a maximum of one hour.



Attention: Timeout is handled by the Oracle® instance.

SELECT statements can run longer than the timeout parameter. Timeouts only appear to trigger when Oracle[®] is still processing a query. However, longer-running queries often correlate with large result sets, so a significant portion of the overall query time may be spent transmitting data.

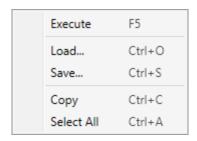


Figure 705: Query Context Menu

Option	Description
Execute	Executes the current query. If text is selected, it will use only the selected text. Otherwise, all text in the query area is used.
Load Query	Loads a query from a file.
Save Query	Saves the current query to a file.
Сору	Copies the selected text to the clipboard.
Select All	Selects all text in the query area.

Table 157: Query Context Menu

11.11.3 When a Query Succeeds

Upon successful query completion, Oracle Query will display the results in a grid below the query area (Figure 706). Values can be copied or saved from the results context menu (Figure 707).

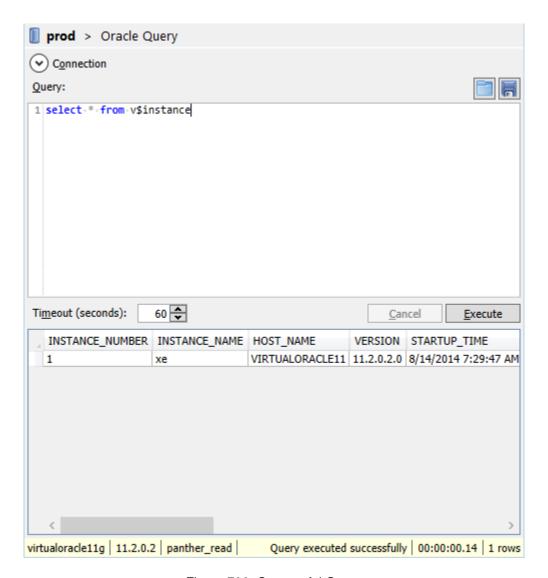


Figure 706: Successful Query

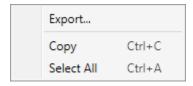


Figure 707: Results Context Menu

Option	Description
Export	Saves the contents of the results grid to a user-specified file.
Сору	Copies the selected values to the clipboard.
Select All	Selects all values in the results area.

Table 158: Result Context Menu

11.11.4 When a Query Fails

Occasionally, an executing query fails. This can happen for any number of reasons, from mis-named tables or columns through Oracle[®] execution engine errors. When this occurs, the Oracle Query control will hide the results grid and instead display the error message (Figure 708).

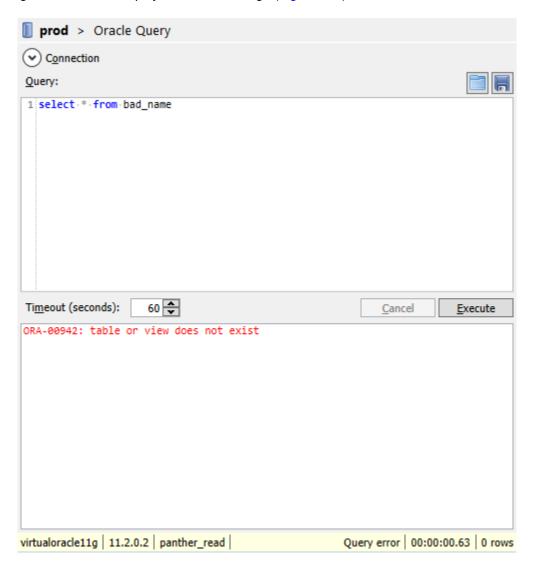


Figure 708: Failed Query

11.11.5 Disconnecting From Oracle®

Oracle Query will automatically end the current session when closing the control or leaving Panther entirely. However, the control provides the ability to manually disconnect in case a user wants to reconnect the session (e.g., when a user needs to switch their session to use different credentials).

To do so, click the arrow button next to *Connection*, which will expand the credentials panel (Figure 709), then click *Disconnect*.

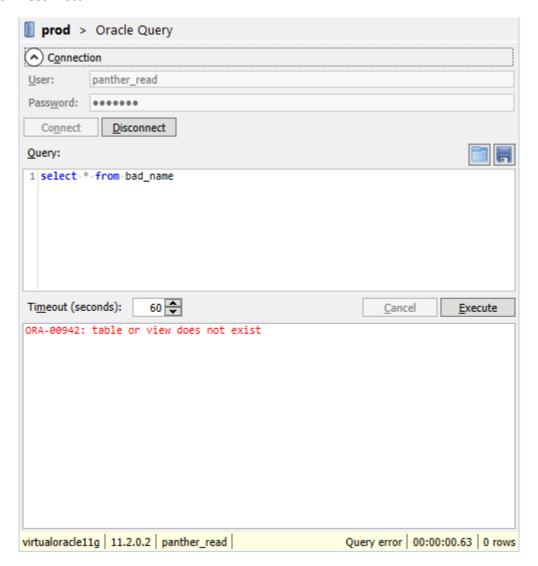


Figure 709: Disconnecting

11.12. Oracle Session Monitor Control

The Oracle Session Monitor control is used to keep track of active sessions in Oracle[®]. It can be found in the Domain Explorer (Figure 710) under each domain.

Image	Meaning
#	The session is associated with a server which has one or more notes
-	The session is associated with a server server which has a hover-note
4	The session is associated with a server that has one or more ongoing events
\$	The session is connected to a Java process
188	The session is connected to an SCP process
	The session is connected to an interactive user process
**	The session is connected to the Panther server

Table 159: Oracle Session Monitor Images

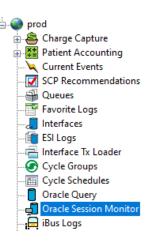


Figure 710: Domain Explorer

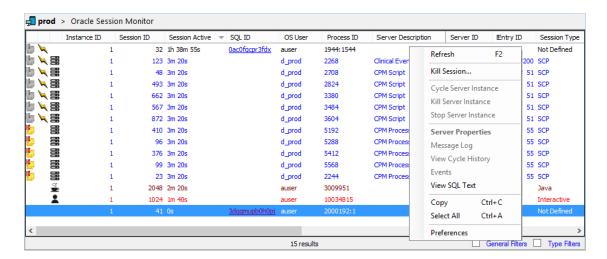


Figure 711: Oracle Session Monitor Control

Option	Description
Refresh	Refreshes the list of sessions.
Kill Session	Kills the selected sessions. Panther will prompt for Oracle credentials in order to complete this action.
Cycle Server Instance	Cycles any Millennium servers associated with the selected sessions.
Kill Server Instance	Kills any Millennium servers associated with the selected sessions (requires the <i>Allow SCP Kill operations</i> privilege).
Stop Server Instance	Stops any Millennium servers associated with the selected sessions.
Server Properties	Displays the Server Properties dialog for the Millennium server associated with the selected session. This is the default menu item.
Message Logs	Displays the message log for the Millennium server associated with the selected session.
Events	Displays ongoing events for the selected session.
View SQL Text	Displays the SQL text for the selected session.
Сору	Copies the selected session rows the clipboard in a tab-separated format.
Select All	Selects all of the currently displayed sessions.
Preferences	Allows you to define which columns to display and some operational preferences.

Table 160: Oracle Session Monitor Context Menu

Sometimes a session in Oracle[®] starts to cause problems, either because it runs too long, it consumes too many resources while executing a query, or it acquires locks that block other sessions. Once identified, the session's process is found and stopped or the session itself is killed within Oracle[®].

The Oracle Session Monitor control provides visibility into the active sessions running on the Millennium database so problem sessions can be identified quicker and more easily, and it provides the tools to address them. When sessions can be mapped to Millennium servers, the control provides the ability to dig into message logs, view server properties, show events and notes, and cycle, stop, or kill the server instance. Sessions with a schema name of SYS and sessions originating from the Panther server are filtered out in order to help provide a more targeted view.

11.12.1 Killing a Session

When the Kill Session... option is selected, Panther prompts for Oracle® credentials (see Figure 712).

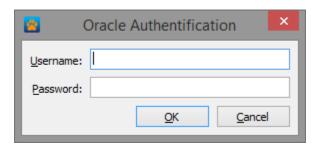


Figure 712: Oracle Authentication Prompt

Once the credentials have been supplied, the control will issue the request to kill the selected sessions and

immediately refresh.



Attention: Oracle® is not guaranteed to end sessions immediately.

When a session is killed, Oracle[®] has to perform clean-up steps, which can often include rolling back transactions. If there is a large number of operations to undo, the session may take a while to disappear.

11.12.2 Identifying Millennium Sessions

Oracle Session Monitor will attempt to match Oracle® sessions with Millennium server processes. It does so by pulling the list of running servers for all nodes on the domain, then matching the machine and process ID values for the session to a node and server process ID.

For those sessions which successfully map to Millennium servers, the icon will appear, server notes and events will display as appropriate, message logs and cycle history will become available, and stop and cycle operations will be enabled. Kill operations will also be enabled if the user has the *Allow SCP Kill operations* privilege.

11.12.3 Preferences

As with other controls, Oracle Session Monitor provides preferences that relate to the behavior and display of the control.

Preferences Tab

The preferences tab provides options for controlling prompts and auto refresh behavior. While the control does not auto refresh by default, that can be enabled from this tab, and the interval can be set.

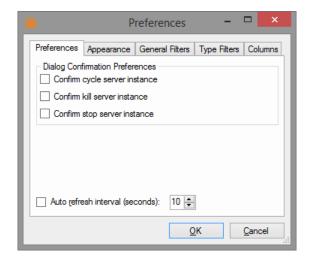


Figure 713: Oracle Session Monitor Preferences

Appearance Tab

The appearance tab allows customization for the appearance of sessions.

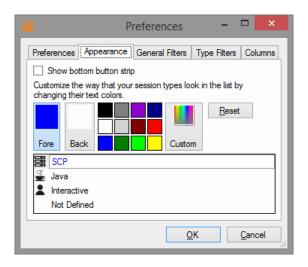


Figure 714: Oracle Session Monitor Appearance Preferences

Show the bottom button strip allows the user to indicate whether they would like the button strip to appear below the server list. Turning this option off saves vertical space (good for desktops), and having it on allows quick access to interactive actions.

The rest of the dialog changes display colors for the Oracle Session Monitor control. To change the color for a specific session type, select the session type and then select the color used to display those sessions. The preview below allows you to get an idea of what the colors will look like.

General Filters Tab

The General Filters tab provides options for filtering sessions based upon various criteria. The filter can be enabled or disabled, and the filter can be configured to filter on specific properties, including the Instance ID of the session, the OS User, the Machine the session is originating from, the Terminal, and whether the session has a blocking session.

If an individual property on the filter is unchecked, the General Filter will ignore it, even if the General Filter is enabled. The text boxes perform an exact match by default, and support wildcards for partial matching ("?" for single characters, and "*" for multiple characters).

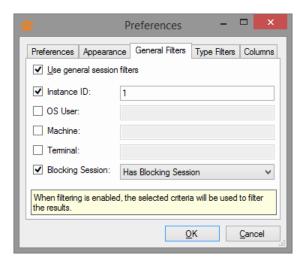


Figure 715: Oracle Session Monitor General Filters Preferences

Type Filters Tab

The Type Filters tab provides options for filtering sessions based upon their type. The filter can be enabled or disabled, and the user can define which types it filters on.



The General Filter can be quickly enabled/disabled.

The filter can be quickly toggled on or off by clicking the *General Filters* check box in the lower-right of the main control.

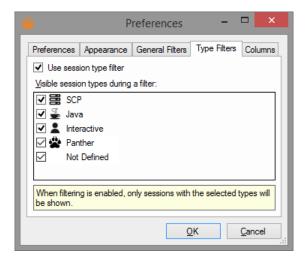


Figure 716: Oracle Session Monitor Type Filters Preferences



The session types filter can be quickly enabled/disabled.

The filter can be quickly toggled on or off by clicking the *Type Filters* check box in the lower-right of the main control.

Once the filter has been applied, the info bar at the bottom of the control will turn yellow and display the number of filtered sessions (see Figure 717).

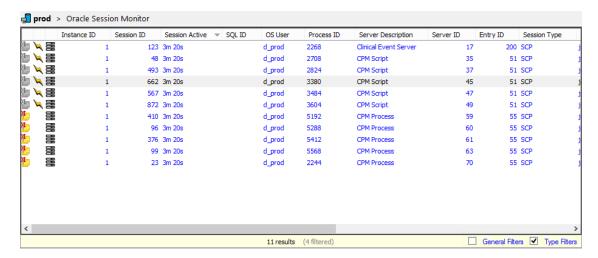


Figure 717: Oracle Session Monitor Filter Applied

Columns Tab

The columns tab allows the user to customize which columns appear in the control. Users can select *Show all columns* to display everything or select *Show selected columns* to limit the control to displaying those columns in the *Selected* list.

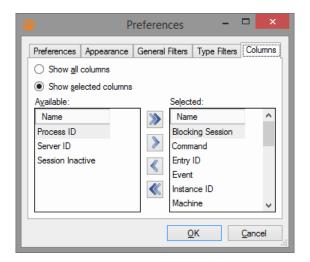


Figure 718: Oracle Session Monitor Column Preferences

11.13. Printers Control

The Printers control shows printers configured in Millennium and helps to configuration inconsistencies. This control does not make any modifications to printers.

To view the Printers control, select the *Printers* item in the Domain Explorer (Figure 719).

On the Printers Control's main screen, and on its dialogs, there is a export icon. This allows you to save the currently displayed data in CSV or Excel® format.

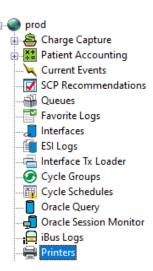


Figure 719: Domain Explorer

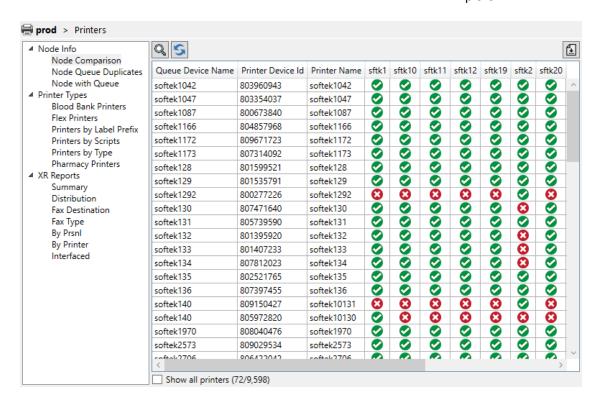


Figure 720: Printers

The tree on the left displays categories of printer information. Clicking a category will load the data on the right side of the control.

11.13.1 Node Comparison

Node Comparison displays the node configuration of printer devices. By default, printers that are configured on all nodes will be hidden. Hidden rows can be shown by checking the "Show all printers" checkbox at the bottom.

By default, all nodes are included in the comparison. To change what nodes are compared, click the search button above the grid to open the Node Selection dialog.

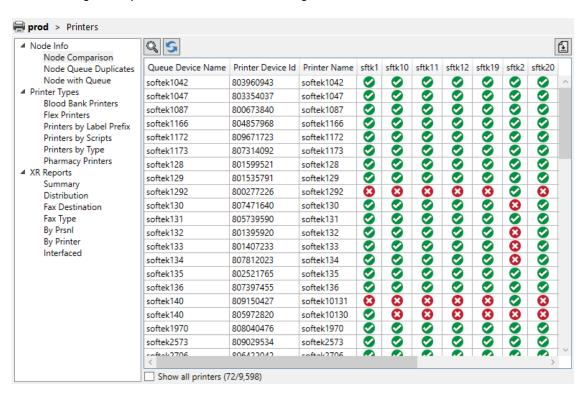


Figure 721: Node Comparison

Menu Option	Description
Refresh	Reloads the data in the grid.
Export	Opens the save dialog to save the displayed results to a file.
Сору	Copies the text of the selected rows to the clipboard.
Select All	Selects all rows.

Table 161: Node Comparison Context Menu

Node Selection

Node Selection is used to choose what nodes are included in the comparison for Node Comparison. Move nodes to the included selection to display them in the comparison.

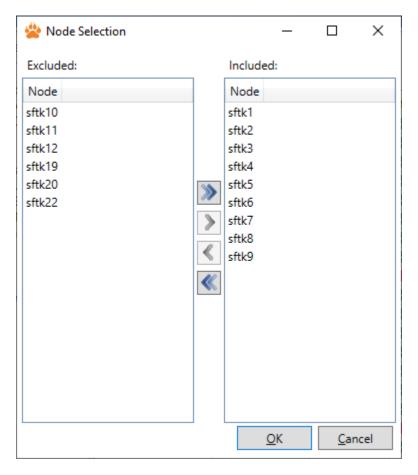


Figure 722: Node Selection

11.13.2 Node Queue Duplicates

Double click a row or use the context menu to view the duplicates in the Details dialog.

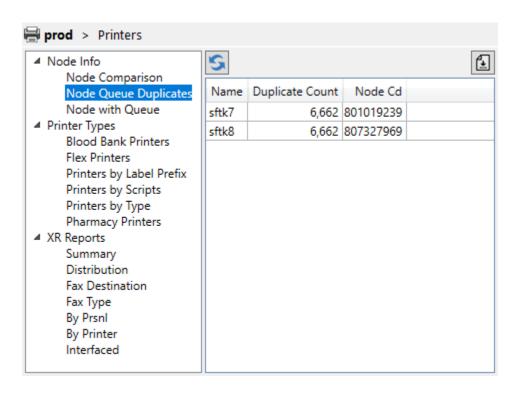


Figure 723: Node Queue Duplicates

Menu Option	Description
Refresh	Reloads the data in the grid.
Details	Navigates to the Details dialog for the selected row.
Export	Opens the save dialog to save the displayed results to a file.
Сору	Copies the text of the selected rows to the clipboard.
Select All	Selects all rows.

Table 162: Node Queue Duplicates Context Menu

11.13.3 Node Queue Duplicates by Queue

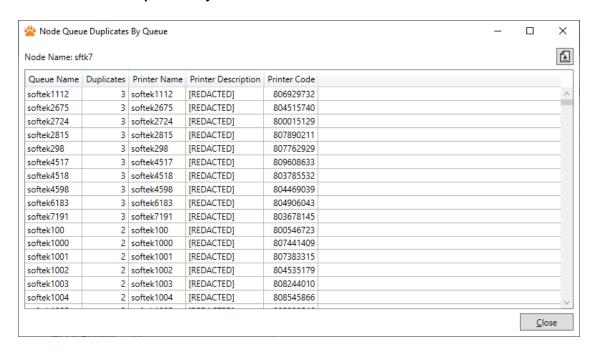


Figure 724: Node Queue Duplicates by Queue

Menu Option	Description
Details	Navigates to the Details dialog for the selected row.
Export	Opens the save dialog to save the displayed results to a file.
Сору	Copies the text of the selected rows to the clipboard.
Select All	Selects all rows.

Table 163: Node Queue Duplicates by Queue Context Menu

11.13.4 Node Queue Duplicate Details

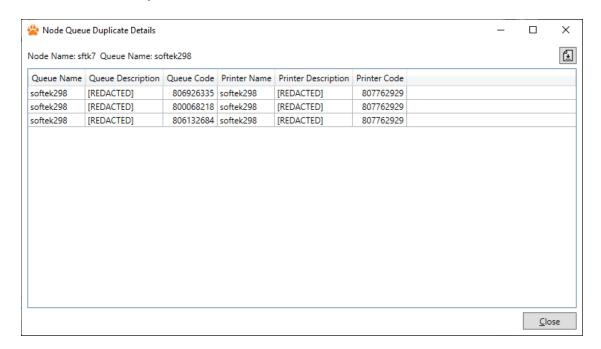


Figure 725: Node Queue Duplicate Details

Menu Option	Description
Export	Opens the save dialog to save the displayed results to a file.
Сору	Copies the text of the selected rows to the clipboard.
Select All	Selects all rows.

Table 164: Node Queue Duplicate Details Context Menu

11.13.5 Node with Queue

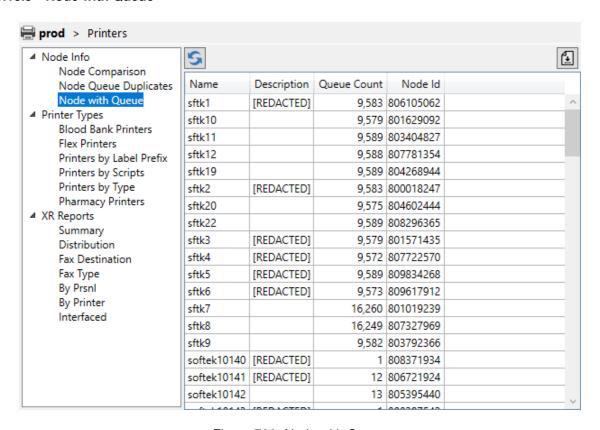


Figure 726: Node with Queue

Menu Option	Description	
Refresh	Reloads the data in the grid.	
Details	Navigates to the Details dialog for the selected row.	
Export	Opens the save dialog to save the displayed results to a file.	
Сору	Copies the text of the selected rows to the clipboard.	
Select All	Selects all rows.	

Table 165: Node with Queue Context Menu

11.13.6 Queue Details

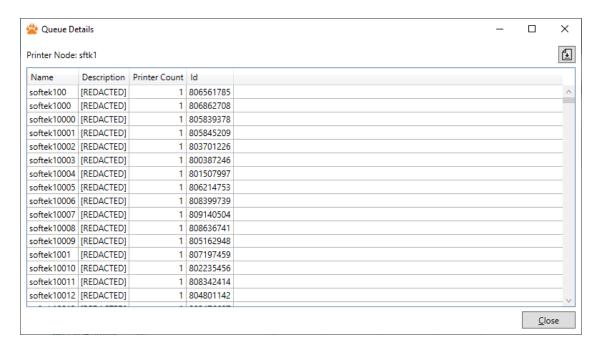


Figure 727: Queue Details

Menu Option	Description	
Details	Navigates to the Details dialog for the selected row.	
Export	Opens the save dialog to save the displayed results to a file.	
Сору	Copies the text of the selected rows to the clipboard.	
Select All	Selects all rows.	

Table 166: Queue Details Context Menu

11.13.7 Printer Details

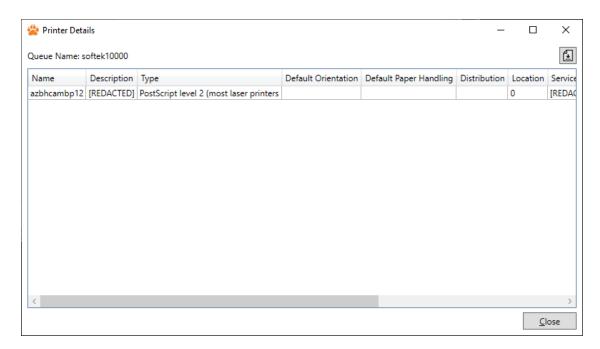


Figure 728: Printer Details

Menu Option	Description	
Export	Opens the save dialog to save the displayed results to a file.	
Сору	Copies the text of the selected rows to the clipboard.	
Select All	Selects all rows.	

Table 167: Printer Details Context Menu

11.13.8 Blood Bank Printers

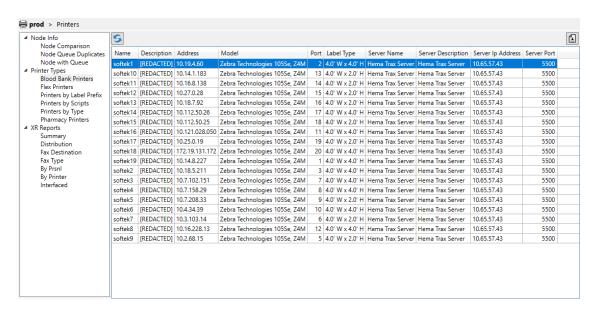


Figure 729: Blood Bank Printers

Menu Option	Description
Refresh	Reloads the data in the grid.
Export	Opens the save dialog to save the displayed results to a file.
Сору	Copies the text of the selected rows to the clipboard.
Select All	Selects all rows.

Table 168: Blood Bank Printers Context Menu

11.13.9 Flex Printers



Figure 730: Flex Printers

Menu Option	Description
Refresh	Reloads the data in the grid.
Details	Navigates to the Details dialog for the selected row.
Export	Opens the save dialog to save the displayed results to a file.
Сору	Copies the text of the selected rows to the clipboard.
Select All	Selects all rows.

Table 169: Flex Printers Context Menu

11.13.10 Flex Printer Orderables

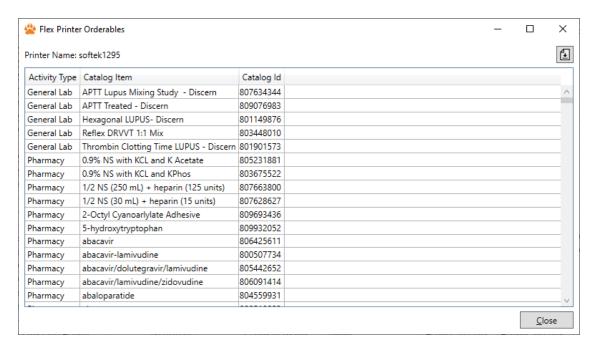


Figure 731: Flex Printer Orderables

Menu Option	Description
Copy Catalog Id	Copies the Catalog Id value to the clipboard.
Export	Opens the save dialog to save the displayed results to a file.
Сору	Copies the text of the selected rows to the clipboard.
Select All	Selects all rows.

Table 170: Flex Printer Orderables Context Menu

11.13.11 Printers by Label Prefix

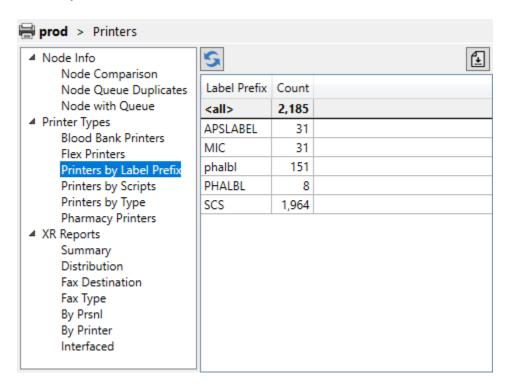


Figure 732: Printers by Label Prefix

Menu Option	Description
Refresh	Reloads the data in the grid.
Details	Navigates to the Details dialog for the selected row.
Export	Opens the save dialog to save the displayed results to a file.
Сору	Copies the text of the selected rows to the clipboard.
Select All	Selects all rows.

Table 171: Printers by Label Prefix Context Menu

11.13.12 Printers by Label Prefix Details

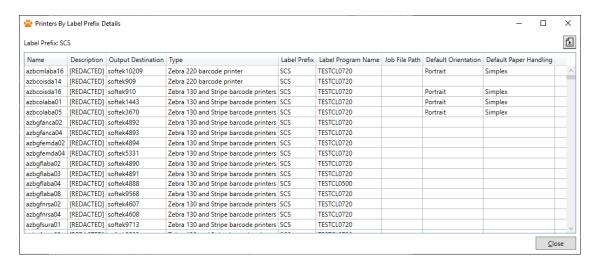


Figure 733: Printers by Label Prefix Details

Menu Option	Description	
Export	Opens the save dialog to save the displayed results to a file.	
Сору	Copies the text of the selected rows to the clipboard.	
Select All	Selects all rows.	

Table 172: Printers by Label Prefix Details Context Menu

11.13.13 Printers by Scripts

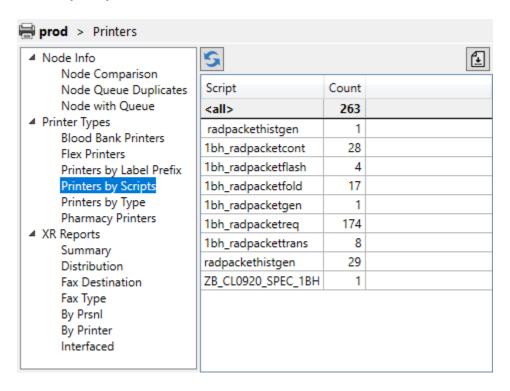


Figure 734: Printers by Scripts

Menu Option	Description
Refresh	Reloads the data in the grid.
Details	Navigates to the Details dialog for the selected row.
Export	Opens the save dialog to save the displayed results to a file.
Сору	Copies the text of the selected rows to the clipboard.
Select All	Selects all rows.

Table 173: Printers by Scripts Context Menu

11.13.14 Printers by Script Details

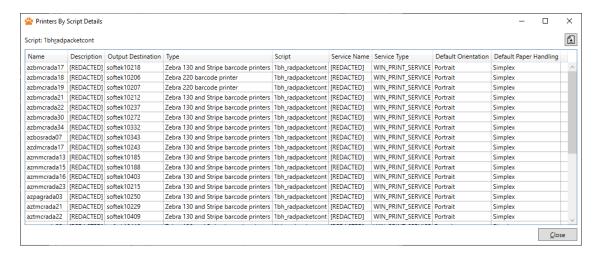


Figure 735: Printers by Script Details

Menu Option	Description	
Export	Opens the save dialog to save the displayed results to a file.	
Сору	Copies the text of the selected rows to the clipboard.	
Select All	Selects all rows.	

Table 174: Printers by Script Details Context Menu

11.13.15 Printers by Type

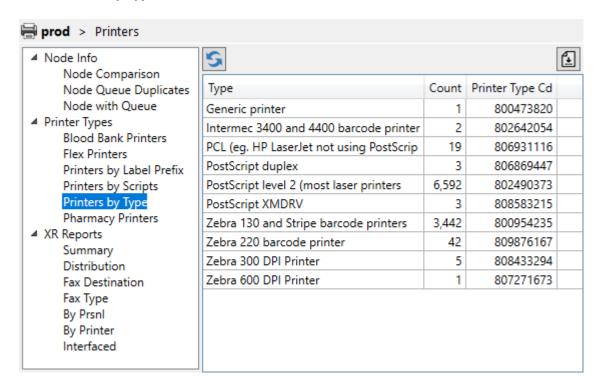


Figure 736: Printers by Type

Menu Option	Description
Refresh	Reloads the data in the grid.
Details	Navigates to the Details dialog for the selected row.
Copy Printer Type Cd	Copies the Printer Type Cd value to the clipboard.
Export	Opens the save dialog to save the displayed results to a file.
Сору	Copies the text of the selected rows to the clipboard.
Select All	Selects all rows.

Table 175: Printers by Type Context Menu

11.13.16 Printers by Type Details

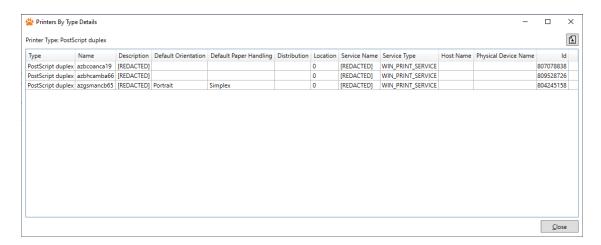


Figure 737: Printers by Type Details

Menu Option	Description
Copy Printer Id	Copies the Printer Id value to the clipboard.
Export	Opens the save dialog to save the displayed results to a file.
Сору	Copies the text of the selected rows to the clipboard.
Select All	Selects all rows.

Table 176: Printers by Type Details Context Menu

11.13.17 Pharmacy Printers

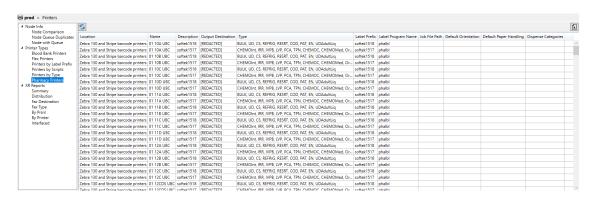


Figure 738: Pharmacy Printers

Menu Option	Description
Refresh	Reloads the data in the grid.
Export	Opens the save dialog to save the displayed results to a file.
Сору	Copies the text of the selected rows to the clipboard.
Select All	Selects all rows.

Table 177: Pharmacy Printers Context Menu

11.13.18 Summary

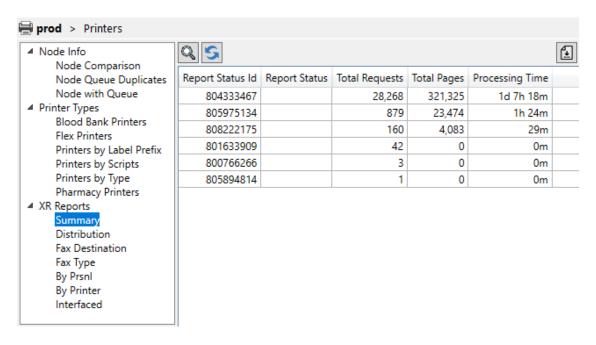


Figure 739: XR Summary

Menu Option	Description
Refresh	Reloads the data in the grid.
Details	Navigates to the Details dialog for the selected row.
Export	Opens the save dialog to save the displayed results to a file.
Сору	Copies the text of the selected rows to the clipboard.
Select All	Selects all rows.

Table 178: Summary Context Menu

11.13.19 Search

Clicking the search button when an XR Reports control is selected will load the search dialog. Select the desired date range and click OK to load the data for that date range. Search criteria will be remembered and used on subsequent visits.

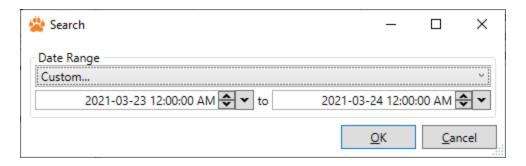


Figure 740: Printers Search

11.13.20 Summary Details

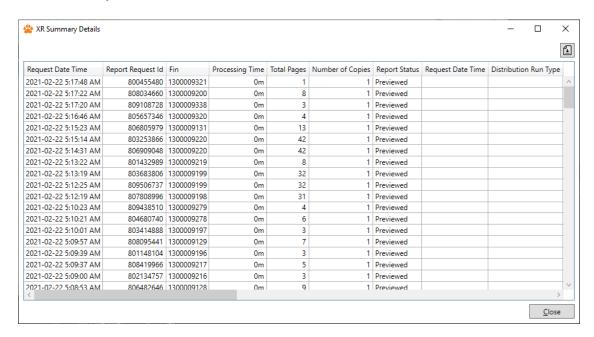


Figure 741: XR Summary Details

Menu Option	Description
Distribution Log	Navigates to the Distribution Log dialog for the selected row.
Export	Opens the save dialog to save the displayed results to a file.
Сору	Copies the text of the selected rows to the clipboard.
Select All	Selects all rows.

Table 179: Summary Details Context Menu

11.13.21 Distribution

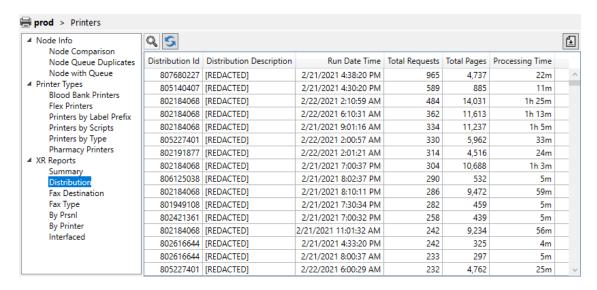


Figure 742: Distribution

Menu Option	Description
Refresh	Reloads the data in the grid.
Details	Navigates to the Details dialog for the selected row.
Distribution Log	Navigates to the Distribution Log dialog for the selected row.
Export	Opens the save dialog to save the displayed results to a file.
Сору	Copies the text of the selected rows to the clipboard.
Select All	Selects all rows.

Table 180: Distribution Context Menu

11.13.22 Distribution Log Details

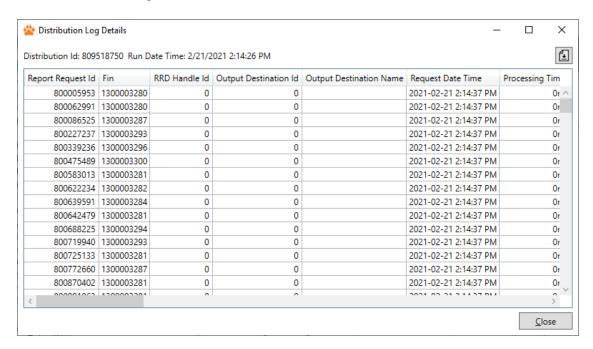


Figure 743: Distribution Log Details

Menu Option	Description
Distribution Log	Navigates to the Distribution Log dialog for the selected row.
Copy Report Request Id	Copies the Report Request Id value to the clipboard.
Copy Fin	Copies the Fin value to the clipboard.
Export	Opens the save dialog to save the displayed results to a file.
Сору	Copies the text of the selected rows to the clipboard.
Select All	Selects all rows.

Table 181: Distribution Log Details Context Menu

11.13.23 Distribution Log

```
Distribution Log
                                                                                                                   ×
ld: 809518750
Name:
Run Date Time: 2/21/2021 2:14:26 PM
Begin Batch Job -- XR BHA Rad R2W Discharged All Encounter Types (test_ind = 0)
Begin Ops_Date = 03-MAR-2021 03:15:00 MST
Actual Start Date = 03-MAR-2021 03:22:00 MST
 * * OPERATIONS PARAMETERS * *
     SCOPE
  - DISTRIBUTION_ID
                          = 2595690500 -- XR BHA Rad R2W Discharged All Encounter Types
     RUN TYPE
                          = INTERIM-ANY
     TEMPLATE_ID
                          = 2779088969
     PENDING FLAG
     ROUTING CRITERIA = 0
     DEFAULT PRINTER = 1501916
     SORT SEQUENCE
                          = 627762
                                          -- Provider Name / Patient Name
     CROSS-ENCNTR LAW_ID = 0
 * * END OPERATIONS PARAMETERS * *
CR_REPORT_REQUEST qual by Dist_Id = 2595690500
LAST DISTRIBUTION RUN date/time = 03-MAR-2021 00:15:58 MST
Clinical_Event Lookup Encounter Count=14529
Discharge Lookup from Enchtr table =3573
Discharge Lookup from CED table =4990
Order-Status Change Lookup =0
Total Encounter Count = 19992
No Person-level Providers selected for Distribution.
No Encounter-level Providers selected for Distribution.
No Order-level Providers selected for Distribution.
Encounter count = 19992 before encounter criteria select
Encounter count = 2513 after encounter criteria select
LOOKBACK for encounters that have never qualified before using encounters create (admit) date.
Finished qualify against cr_report_request table -- Encounter Count = 2513
Absolute qualification start date (will not go further back than this date): 03-NOV-2020 03:22:00 MST
Absolute look back qualification enforced for 4 encounters.
Encounters after Activity/Order Status Hold = 2513
Total event codes in the report template = 5705
Number of request after select on clinical_event table = 0
Number of request after select for radiology events on clinical_event table = 3510
Number of requests after select on clinical_event table = 3510 
Preparing to write 13 report_request rows.
Finished writing 13 report_request rows.
Finished Batch Job -- XR BHA Rad R2W Discharged All Encounter Types - 03-MAR-2021 03:23:08 MST
Total Execution Time = 1
                                      MINUTES
                                                                                                                      Close
```

Figure 744: Distribution Log

Menu Option	Description
Сору	Copies the text of the selected rows to the clipboard.
Select All	Selects all rows.

Table 182: Distribution Log Context Menu

11.13.24 Fax Destination

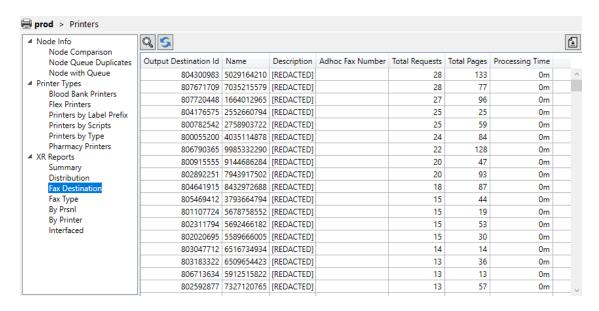


Figure 745: Fax Destination

Menu Option	Description
Refresh	Reloads the data in the grid.
Details	Navigates to the Details dialog for the selected row.
Export	Opens the save dialog to save the displayed results to a file.
Сору	Copies the text of the selected rows to the clipboard.
Select All	Selects all rows.

Table 183: Fax Destination Context Menu

11.13.25 Fax Destination Details

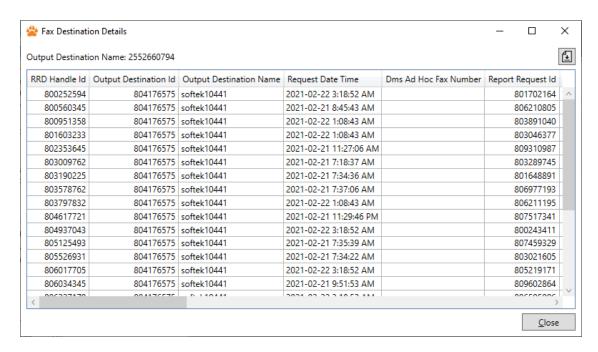


Figure 746: Fax Destination Details

Menu Option	Description
Copy FIN	Copies the FIN value to the clipboard.
Copy Output Destination Id	Copies the Output Destination Id value to the clipboard.
Export	Opens the save dialog to save the displayed results to a file.
Сору	Copies the text of the selected rows to the clipboard.
Select All	Selects all rows.

Table 184: Fax Destination Details Context Menu

11.13.26 Fax Type

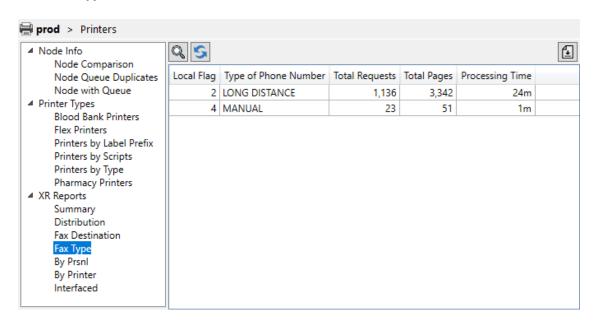


Figure 747: Fax Type

Menu Option	Description
Refresh	Reloads the data in the grid.
Details	Navigates to the Details dialog for the selected row.
Export	Opens the save dialog to save the displayed results to a file.
Сору	Copies the text of the selected rows to the clipboard.
Select All	Selects all rows.

Table 185: Fax Type Context Menu

11.13.27 Fax Type Details

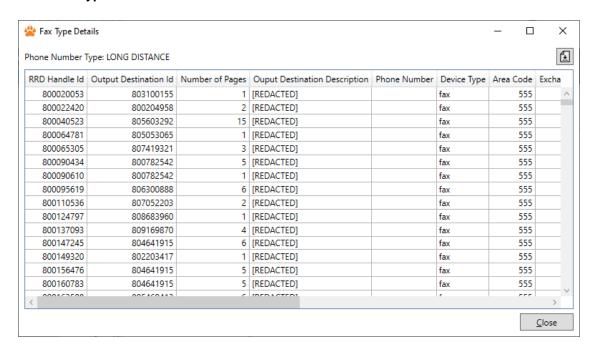


Figure 748: Fax Type Details

Menu Option	Description
Export	Opens the save dialog to save the displayed results to a file.
Сору	Copies the text of the selected rows to the clipboard.
Select All	Selects all rows.

Table 186: Fax Type Details Context Menu

11.13.28 By Prsnl

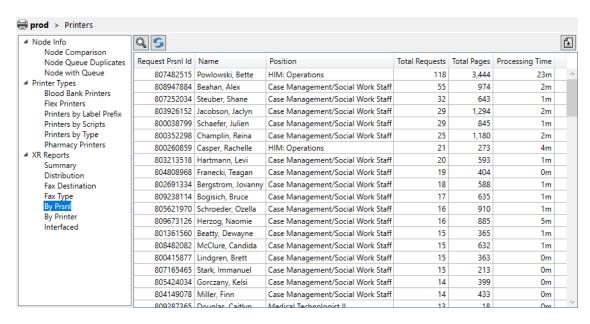


Figure 749: By Prsnl

Menu Option	Description
Refresh	Reloads the data in the grid.
Details	Navigates to the Details dialog for the selected row.
Export	Opens the save dialog to save the displayed results to a file.
Сору	Copies the text of the selected rows to the clipboard.
Select All	Selects all rows.

Table 187: By Prsnl Context Menu

11.13.29 By Prsnl Details

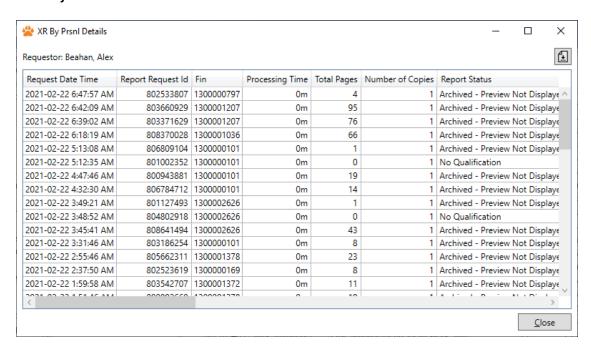


Figure 750: By Prsnl Details

Menu Option	Description
Export	Opens the save dialog to save the displayed results to a file.
Сору	Copies the text of the selected rows to the clipboard.
Select All	Selects all rows.

Table 188: By Prsnl Details Context Menu

11.13.30 By Printer

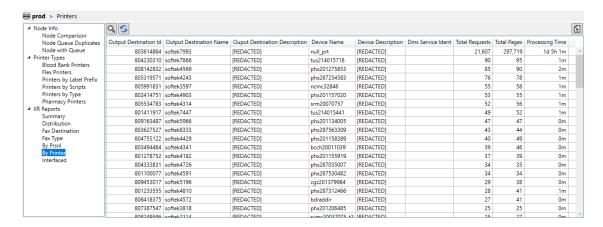


Figure 751: By Printer

Menu Option	Description
Refresh	Reloads the data in the grid.
Details	Navigates to the Details dialog for the selected row.
Copy Output Destination Id	Copies the Output Destination Id value to the clipboard.
Export	Opens the save dialog to save the displayed results to a file.
Сору	Copies the text of the selected rows to the clipboard.
Select All	Selects all rows.

Table 189: By Printer Context Menu

11.13.31 By Printer Details

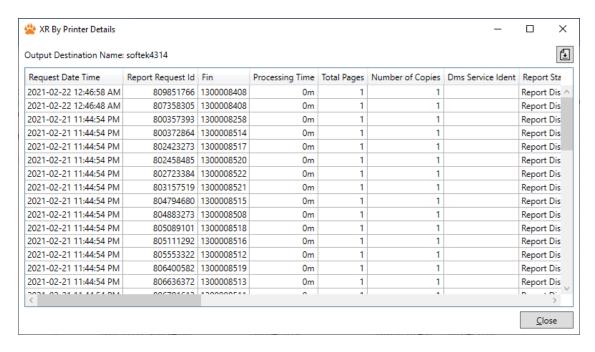


Figure 752: By Printer Details

Menu Option	Description
Export	Opens the save dialog to save the displayed results to a file.
Сору	Copies the text of the selected rows to the clipboard.
Select All	Selects all rows.

Table 190: By Printer Details Context Menu

11.13.32 Interfaced

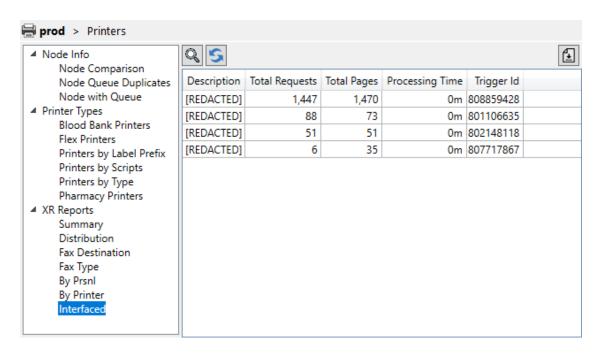


Figure 753: Interfaced

Menu Option	Description
Refresh	Reloads the data in the grid.
Details	Navigates to the Details dialog for the selected row.
Export	Opens the save dialog to save the displayed results to a file.
Сору	Copies the text of the selected rows to the clipboard.
Select All	Selects all rows.

Table 191: Interfaced Context Menu

11.13.33 Interfaced Details

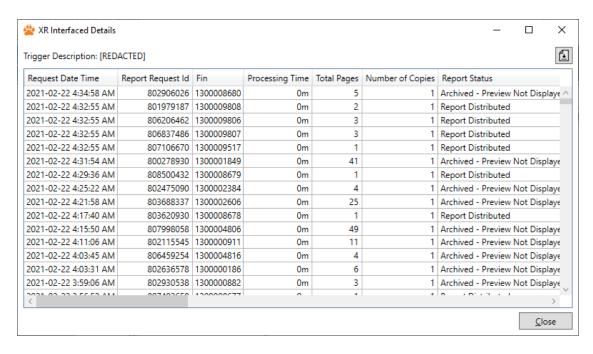


Figure 754: Interfaced Details

Menu Option	Description
Distribution Log	Navigates to the Distribution Log dialog for the selected row.
Export	Opens the save dialog to save the displayed results to a file.
Сору	Copies the text of the selected rows to the clipboard.
Select All	Selects all rows.

Table 192: Interfaced Details Context Menu

11.14. Queues Control

The Queues control is used to manage and monitor the message queues used by the Cerner Millennium[®] system.

To view the Queues control, select the *Queues* item in the Domain Explorer (Figure 755), this will load the control into the Application Workspace (Figure 756). To view the Queues Context Menu, select a queue and right-click it (Table 193).

The Panther Queues control displays the queues across all nodes.

Default columns are shown in Figure 756. Columns may be added or removed using the preferences dialog.

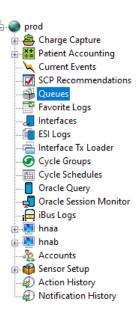


Figure 755: Domain Explorer

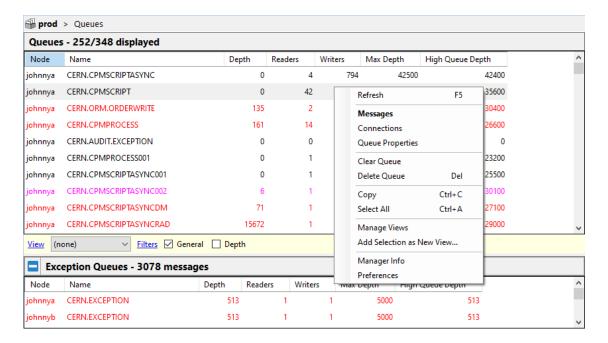


Figure 756: Queues control



Where are the OOC and OIC columns?

Other applications may have shown the OOC or OIC columns. The meaning of these columns is "Open Output Count" and "Open Input Count". These columns represent the number of servers connected to the queue that are either writing to the queue (Open Output Count), or reading messages off of the queue (Open Input Count). For clarity, Panther displays "Writers" and "Readers" instead of OOC and OIC.



Attention: Not all users may access message contents.

In order to view the contents of a message, a user must have the 'Access Queue Message Contents' privilege.

Option	Description
Refresh	Refreshes the list of queues and their associated information.
View Messages	Opens a list of messages that are currently in the queue. This is the default menu item, meaning double-click or Enter displays the Queue Messages dialog for the selected queue.
View Connections	Views a list of servers that are currently connected to the queue.
Queue Properties	Allows a user to manage the properties of the various queues.
Requeue All Messages	Returns all of the messages in the selected exception queue(s) back to their originating queue(s). This action is audited in Panther.
Clear Queue	Clears the selected queue of all messages. This action is audited in Panther.
Delete Queue	Deletes the selected queue from the system. This action is audited in Panther.
Сору	Copies the selected items to the clipboard.
Select All	Selects all of the queues in the Queues control.
Manager Info	Provides information related to queues for each node on the current domain.
Preferences	Allows the user to define filtering and appearance preferences.

Table 193: Queues Context Menu

11.14.1 Viewing Messages

When messages appear in the queue, a user can view more information about them by selecting the View Messages option in the Queues context menu. When this option is selected, the Queue Messages dialog (Figure 757 and Figure 758) will open with a list of all the messages in the queue. The dialog is contextaware and will change based upon whether it displays messages for a normal gueue or exception gueue.

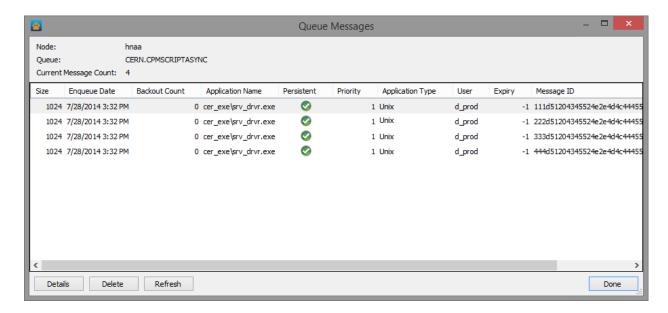


Figure 757: Queue Messages dialog

For all queues, the Queue Messages dialog provides options to view message details or delete one or more messages.

Details displays the contents of the selected message in a new dialog. Only one message can be shown at a time, so the *Details* button is disabled when multiple messages are selected.

Delete will remove all selected messages, prompting for confirmation before performing the operation.

Refresh retrieves and shows the most up-to-date list of messages.

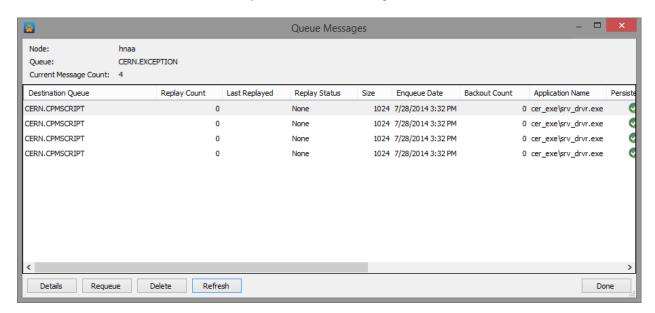


Figure 758: Exception Queue Messages dialog

When viewing messages for an exception queue, additional options and columns are provided. Messages will now show *Destination Queue*, *Reason*, and replay information. Additionally, the *Requeue* button will appear, and *Auto Replay Details* will show in the context menu.

Requeue will replay the selected messages into their destination queues. More information about the status of the replay can be viewed by selecting the Auto Replay Details menu option.



Attention: Panther audits actions performed on messages.

Anytime a message is requeued, deleted, or the content of a message is accessed, Panther creates an audit record which can be viewed in the Audit Log control.

11.14.2 Message Details

The Message Details dialog allows a user to browse the contents of a queue message and email or print the displayed information.

In addition, the up/down arrows can be used to navigate to different messages in the queue without having to close and reopen the dialog.

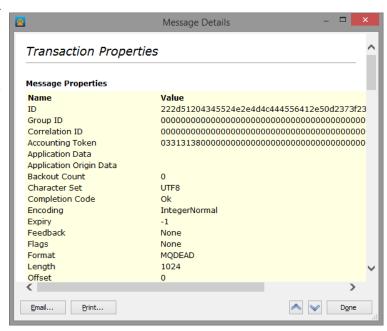


Figure 759: Message Details dialog

11.14.3 Viewing Queue Connections

To view the current connections of the selected gueue:

- 1. Select the desired queue.
- 2. Right-click the queue.
- 3. Select the View Connections option from the Queues context menu.

The Queue Connections dialog will display all connections that are writing messages into the queue (Put mode) and connections that are reading and processing messages off of the queue (Get mode). Many different types of servers may be connected and writing messages into the queue, but there should never be more than one type of server reading from the queue.

While managing a queue, it may be necessary to start, stop or kill servers connected to it. To perform these actions in Panther, select the server(s), and click the appropriate button. This feature is disabled for connections which do not map to Millennium server processes.

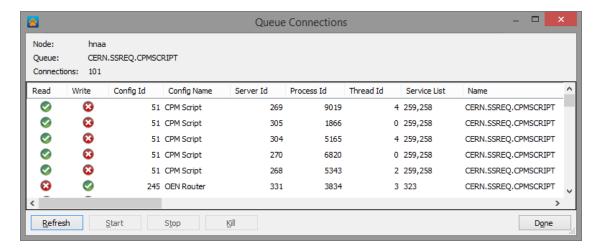


Figure 760: Queue Connections dialog



Attention: Stopping or killing servers

Stopping or killing servers that read from the queue can result in a queue backlog, and some messages may end up in the exception queue. If this happens, re-queue the effected messages immediately to avoid negatively impacting the domain.

11.14.4 Managing Queue Properties

To access Queue Properties:

- 1. Select the desired Queue.
- 2. Right-click on the selected Queue.
- 3. Select the Queue Properties option from the Queue context menu.

Selecting this option will open the Queue Properties dialog, which provides functionality to manage a queue. By default, all of the fields are locked down. To modify a queue, click the *Unlock* button and make the desired changes.

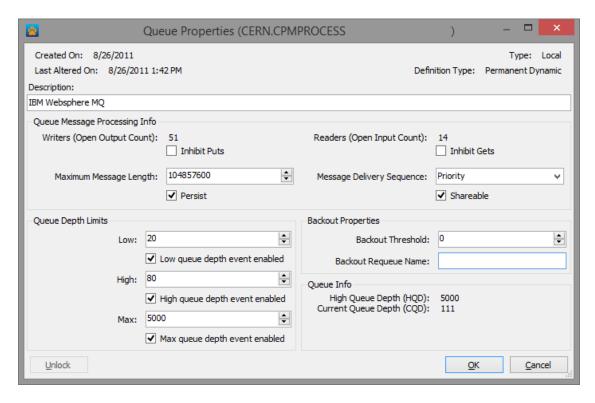


Figure 761: Queue Properties dialog



Attention: Panther audits actions performed on queues.

Any time queue properties are modified, Panther creates an audit record which can be viewed in the Audit Log control.

11.14.5 Manager Information

The Queue Manager Information dialog displays information and status for the queue managers on each node in the domain. To access this dialog, select the *Manager Info* option from the queues Context Menu.

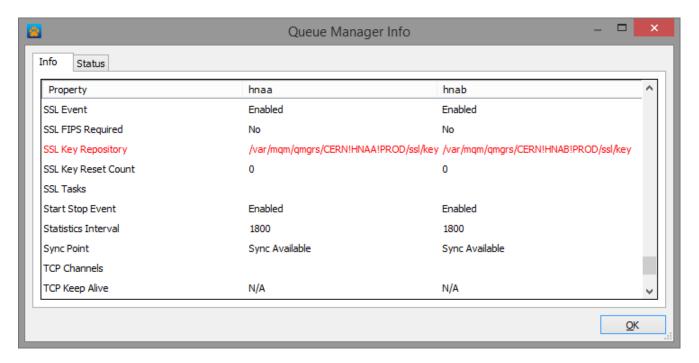


Figure 762: Queue Manager Info dialog

11.14.6 Queue Preferences

To access Queue Preferences:

- 1. Select the desired Queue.
- 2. Right-click the selected Queue.
- 3. Select Preferences from the Queues context menu.

Panther allows each user to setup preferences that determine which queues appear and how they are displayed. There are tabs to define general filters, depth-based filters, modify the appearance of queues based upon depth, and select the displayed columns.

In addition, users can configure the auto-refresh of the Queues control. By default, the control automatically refreshes every 30 seconds.

General Filters

Queues can be filtered based on which node they reside in. This is helpful when you wish to only see queues on a specific node within a domain. All nodes are shown by default.

The General Filters tab also provides settings to show/hide queues based upon their type. By default, only SSREQ and RDM queues are shown.

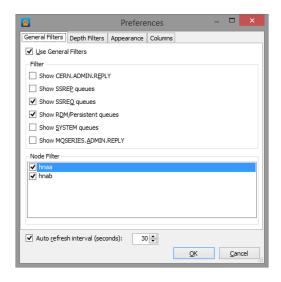


Figure 763: General Filters Preferences

Depth Filters

Queues are grouped into normal, mild, medium, and severe groups based upon their depth. This tab allows a user to define the thresholds used to determine a queue's group and whether each group will be shown or hidden. This is helpful when troubleshooting queuing issues.

By default, thresholds of 2, 5, and 15 are used for mild, medium, and severe, respectively.

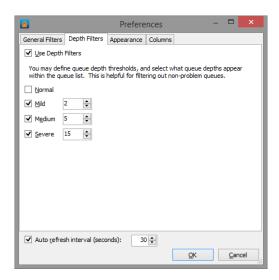


Figure 764: Filter By Queue Depth Preferences

Appearance

The foreground and background colors for queues with mild, medium, and severe depths can be defined. Selecting highly contrasting colors for different depth thresholds makes it easy to identify problem queues at a glance.

By default, the control uses the colors shown in Figure 765.

To modify the colors for a particular depth threshold, simply select it in the list, click the *Fore* or *Back* button, and then either click one of the color boxes or the *Custom* button. Changes will be reflected within the list so users can preview changes before applying them. Clicking *Reset* will return all colors to defaults.

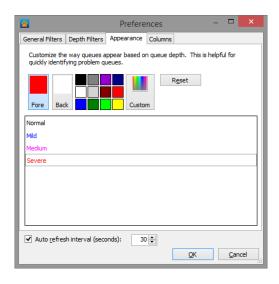


Figure 765: Appearance Preferences

Columns

Columns for the different queue properties can be shown or hidden in the main Queues control. Columns which appear in the *Selected* list are shown, while columns appearing in the *Available* list are hidden. Changing column visibility can be done by selecting one or more columns in a list and clicking the arrow buttons.

Selecting the *Show all available columns* option will display all columns regardless of the available and selected columns. To return the display settings to a custom selection, select *Show only selected columns*.

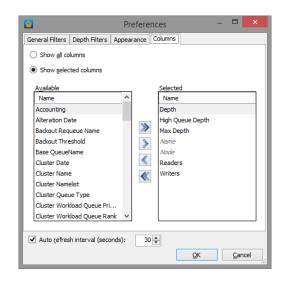


Figure 766: Column Preferences



All preferences are user-specific.

Preferences for what columns appear, their colors, and filters are all specific to each user account. No one else can change or reset them.

11.15. SCP Recommendations Control

The SCP Recommendations control is used to reduce queuing and improve wait times in Millennium® applications. The SCP Recommendations control uses historical queuing data gathered by Panther to recommend increasing instance counts for services that are queuing.

To view the SCP Recommendations control, select the *SCP Recommendations* item in the domain explorer (Figure 767).

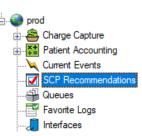


Figure 767: Domain Explorer



Disclaimer

This report has been prepared exclusively for you and is not intended for the benefit of any third party. While Softek works to ensure the accuracy of the information in this report, certain situations or unknown factors within your production environment could affect how your system responds to Softek's recommendations and could create unpredictable results. Accordingly, Softek makes no representations, warranties, or guarantees, express or implied, as to the accuracy or completeness of the information contained in this report or its suitability with your current production environment. You alone are responsible for assessing the relevancy of this report's contents and any change introduced to your system should follow proper change control procedures in a non-production setting before being fully implemented. Softek cannot be held responsible for any negative impact, including downtime events, that occurs based on the recommendations or analysis provided in this report.

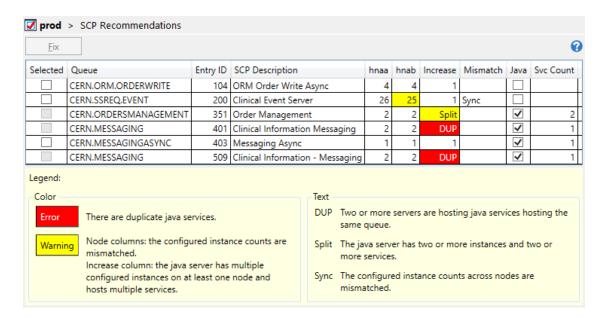


Figure 768: SCP Recommendations control

The table excludes MQ Queues that cannot be linked to an SCP Entry ID, have total queuing time less than 15 minutes per node, or if the name matches any of the following:

- OEN
- EXCEPTION
- SCP
- QCP
- CPMSRVAUDIT
- CERN.SSREP
- · SYSTEM.
- REPLY
- SECURITY
- CERN.SSQA_SERVER
- CERN.SSREQ.FSI.TRIGHOLD_SERVICE
- CERN.SSREQ.LISTENER
- CERN.SSREQ.ESMSRVAGENT
- CERN.SERVER.CTRLREP_
- CERN.FSI.HOLD_SERVICE

The instance count recommendations are meant as a general guideline. Your counts might need to vary if an Entry ID has restrictions related to the number of instances or the number of nodes on which it can run.

The Mismatched column indicates whether the configured instance counts are the same across all nodes.

The Java column indicates if the Path for the Entry ID contains the text "java".

The Svc Count column contains the number of services hosted by Java servers. Svc Count is determined by counting the number of parameters supplied in the server's configuration.

Since Java servers have a maximum instance count of two per node, SPLIT in the INCREASE column indicates that the services for a Java Server need to be separated into additional Java Servers.

If the table has no visible rows, then there are no MQ Queuing issues in which wait times for end users could typically be reduced through increased SCP instance counts.

11.15.1 Fixing Recommendations

If Panther is able to make the recommend changes, the check box in the Selected column will be enabled. Check the boxes for any recommendations you want to apply, then click the *Fix* button. Panther will make the recommended instance count modifications to the configurations and prompt you to cycle the servers. Panther will not automatically start additional instances until the server is cycled.

Panther updates its recommendations weekly, so it may take up to a week for them to change after applying changes.

11.16. Servers Control

The Servers control is used to manage the server processes that run on the back end. A Servers control can be found in the Domain Explorer (Figure 10) under each node.

Image	Meaning
	The server has one or more notes
7	The server has a hover-note
×	There is an ongoing event
•	The server is starting
1	The server is Underserviced
•	The server is running
0	The server is Overserviced
•	The server is stopping
•	The server has no configuration
0	The server is dead
0	The server is dead and not configured to run

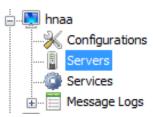


Figure 769: Domain Explorer

Table 194: Server Images

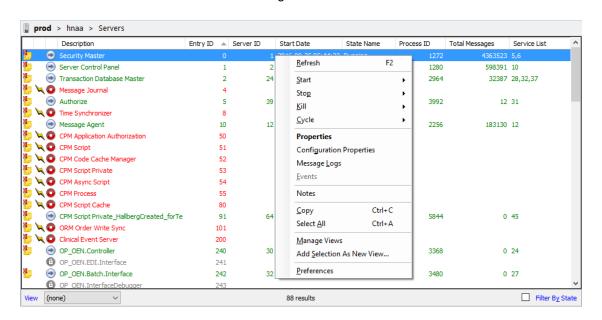


Figure 770: Servers Control

The columns that appear in the control can be modified from the Preferences dialog (see Preferences later in this section), and you can re-order or sort the control by any of them. By default, the Servers control sorts by Server ID. This initial sort brings Dead Servers (which do not have a server ID), to the top of the list.



Where is the server I need?

If you cannot locate a server, it is possible the server you are looking for is filtered out from the list. Panther provides both the ability to filter out servers based on current state and a 'View' feature which can hide Servers by their Entry ID. You can temporarily disable filtering by un-checking the box in the lower right labeled *Filter By State*, and you may select a different view in the *View* drop-down to the lower left.

Option	Description
Refresh	Refreshes the list of servers.
Start	Provides options for starting servers.
Stop	Provides options for stopping servers.
Kill	Provides options for killing servers.
Cycle	Provides options for cycling servers and viewing cycle history.
Properties	Displays the Server Properties dialog for the selected server. This is the default menu item.
Configuration Properties	Displays the Configuration Properties dialog for the selected server configuration. <i>Requires the 'Access Configurations' privilege</i> .
Message Logs	Displays the message log associated with the selected server's Entry ID. Requires the 'Access Server Logs' privilege.
Events	Displays ongoing events for the selected servers.
Notes	Displays the Server Notes dialog where you can create notes that appear when certain actions are performed on a server.
Сору	Copies the selected server rows the clipboard in a tab-separated format.
Select All	Selects all of the currently displayed servers.
Manage Views	Opens the View Manager (requires the Manage Server Views privilege.
Add Selection As New View	Opens the Server View Manager with the selected server(s) added to a new view (requires the <i>Manage Server Views</i> privilege).
Preferences	Allows you to define which columns to display and some operational preferences.

Table 195: Servers Context Menu

11.16.1 Starting Servers

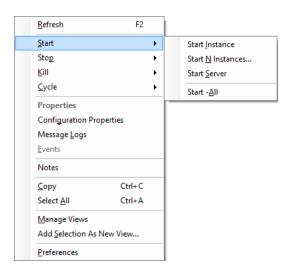


Figure 771: Start Servers Context Menu

To start new instance(s) of a server(s):

- 1. Select the server(s).
- 2. Right-click the selected servers.
- 3. Select Start in the option from the Servers context menu (Figure 771).

When you select Start from the context menu, a sub-menu appears with start options (Figure 771).

If none of the selected servers are stopped, the Start Instance, Start n Instances, and Start Server options will be disabled.

Option	Description
Start Instance	Starts a single instance of the selected server(s).
Start N Instances	Allows you to specify the number of server instances to start.
Start Server	Starts enough Server Instances to bring the total number of running servers to the configured amount. This option uses the instance count specified by the "Panther Properties" in the configuration of the server, which may differ from the instance count specified in the "SCP Properties". For more information about Level Of Service (LOS), see Managing Configuration Properties under Configurations Control.
Start -All	Starts enough server instances for every configuration on the node to bring the total number of running servers to the server's configured amount. However, because this performs the same back-end command as "start –all" would in scpview, this will only start servers to the instance count specifications of the SCP properties.

Table 196: Servers Start Menu

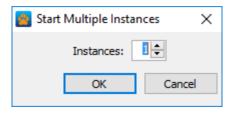


Figure 772: Start Multiple Instances

11.16.2 Stopping Servers

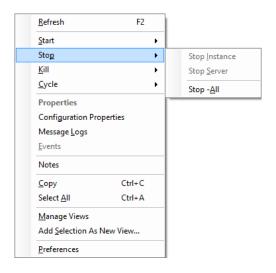


Figure 773: Stop Servers Context Menu

To stop running instances of servers:

- 1. Select the server(s).
- 2. Right-click the selected servers.
- 3. Select the Stop in the option from the Servers context menu (Figure 773).

When you select Stop from the context menu, a sub-menu appears with stop options (Figure 773).

If none of the selected servers are running, the Stop Instance and Stop Server options will be disabled (excluding Stop -All)

Option	Description
Stop Instance	Stops the specific instance(s) selected.
Stop Server	Stops all running instances of the selected server(s).
Stop –All	Stops all server instances for every configuration on the node.

Table 197: Servers Stop Menu

11.16.3 Killing Servers

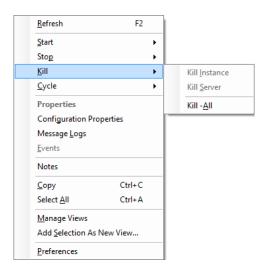


Figure 774: Kill Servers Context Menu

Killing running server instances is very similar to stopping them, but it performs the stop action immediately without waiting for the instance to shut down.

To kill running instances of servers:

- 1. Select the server(s).
- 2. Right-click the selected server(s).
- 3. Select the Kill option from the Servers Context Menu (Figure 774).

When you select Kill from the context menu, a sub-menu appears with Kill options (Figure 774).

If none of the selected servers are running, the Kill Instance and Kill Server options will be disabled.

Option	Description
Kill Instance	Kills the specific instance(s) selected.
Kill Server	Kills all running instances of the selected server(s).
Kill –All	Kills all server instances for every configuration on the node.

Table 198: Kill Servers Context Menu

11.16.4 Cycling Servers

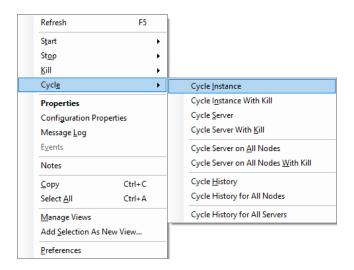


Figure 775: Cycle Servers Context Menu

To cycle servers:

- 1. Select the server(s) to cycle.
- 2. Right-click the selected server(s).
- 3. Select the Cycle option from the Servers context menu (Figure 775).

When you have selected *Cycle* from the Context Menu, a sub-menu appears with cycle options (Figure 775).



You can schedule a server cycle.

The Server Cycler sensor allows the ability to schedule cycles for servers that require cycling on a regular basis.

Option	Description
Cycle Instance	Cycles the specific instance(s) selected.
Cycle Instance With Kill	Cycles the specific instance(s) selected by killing the existing instances immediately rather than stopping them. Panther will display a confirmation dialog before performing this action.
Cycle Server	Cycles the selected servers on this node.
Cycle Server With Kill	Cycles the selected servers on this node by killing the existing servers immediately rather than stopping them. <i>Panther will display a confirmation dialog before performing this action.</i>
Cycle Server on All Nodes	Cycles all of the selected servers on all of the nodes that have the configurations.
Cycle Server on All Nodes with Kill	Cycles all of the selected servers on all of the nodes that have the configurations by killing the existing servers immediately rather than stopping them. Panther will display a confirmation dialog before performing this action.
View Cycle History	Displays the Action History dialog filtered to only display server cycle history of the selected server on the current domain and node.
View Cycle History for All Nodes	Displays the Action History dialog filtered to only display server cycle history of the selected server on the current domain.
View Cycle History for All Servers	Displays the Action History dialog filtered to only display server cycle history on the current node.

Table 199: Servers Cycle Menu

Cycling a server in Panther submits a cycle request to a process running on the Panther machine, so cycling is performed by Panther while you continue to work.



Panther protects against simultaneous requests to cycle the same server.

If multiple users attempt to cycle the same server, Panther responds with a blocked status, indicating there is already an active request to cycle the server.

The default cycling behavior through Panther is to start a new server and monitor its progress to ensure that it reaches a "Running" state before telling the old server to stop running. This behavior can be modified using the server configuration properties. To access these properties select *Configuration Properties* from the Servers context menu (Figure 770 and Table 195). For more detailed instructions on modifying cycling behavior using server configurations, go to the section on the Configurations Control and the subsection on Managing Configuration Properties.

When a server fails to reach a running state in the "Start" phase of the cycling operation, a Cycle Start Failure notification is sent. Likewise, a Cycle Stop Failure notification is sent if Panther attempts to stop a server and it fails to stop.

11.16.5 Viewing Server Properties

There are two ways to access Server Properties:

- 1. Double-click the server for which you wish to view properties.
- 2. Use the Servers context menu.
 - (a) Select a single server for which you wish to view properties.
 - (b) Right-click the selected server.
 - (c) Select the *Properties* option from the Servers context menu (Figure 770).

Taking either of the two actions listed above will display the server's properties in a dialog similar to the one seen in Figure 776.

The Server Properties dialog provides an easier-to-read view of all the current information for the selected server as well as a list of the services related to this server. The services list includes Service ID and Description (Service Name) as well as additional information about the current and total load.

Using the buttons at the bottom of the dialog, you can also stop or kill the server instance you are viewing.

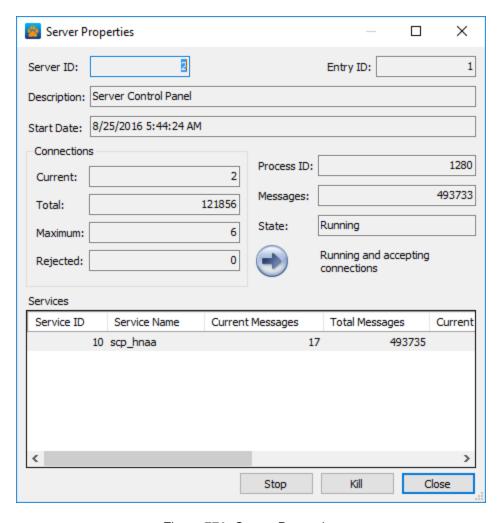


Figure 776: Server Properties

11.16.6 Message Logs

Users with the Panther 'Access Server Logs' privilege can access the message logs for servers from the Servers Control

To access a server's message logs:

- 1. Select the desired server.
- 2. Right-click the selected server.
- 3. Select the *Message Log* option from the Servers context menu (Figure 770).

Selecting *Message Log* from the Context Menu opens the message log associated with the selected server (Figure 777).

This dialog displays the message log data that will display in the Server Logs control elsewhere in Panther. For more information about navigating through these logs, refer to the Message Logs Controls section of this document.

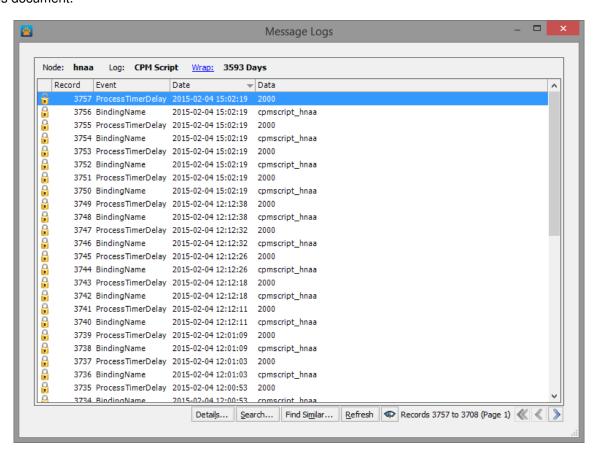


Figure 777: Message Logs

11.16.7 Viewing Current Events

When a server has an event, the Event image () will appear in the server's (Event) column on the Servers control If you do not see this column, you can display it by right-clicking any column header, selecting the (Select Columns...) option Context Menu, and making the Event column available.

When a server has one or more events, there are two ways to access them:

- 1. Double-click the Event image (\(\) in the (Event) column.
- 2. Use the Servers context menu.
 - (a) Select the desired server.
 - (b) Right-click the selected server.
 - (c) Select the *Events* option from the Servers context menu (Figure 770).

Either of these actions will open the Event Viewer dialog. For the selected servers, this dialog shows the events that Panther's sensors are currently reporting.

Currently, only events from the Server Thrashing, Server Under/Overserviced, and Server Instance Stalled sensors are visible through the Servers control.

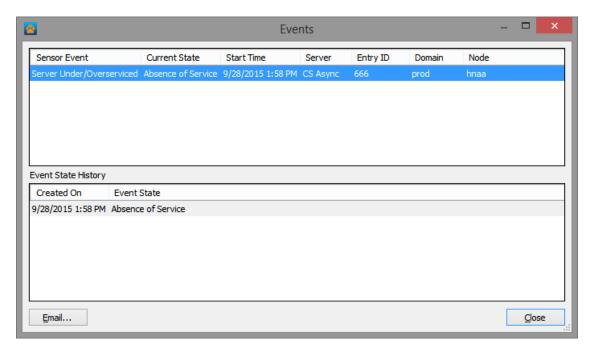


Figure 778: Event Viewer

11.16.8 Server Notes

To access the server notes manager:

- 1. Select the servers for which you wish to manage notes.
- 2. Right-click the selected servers.
- 3. Select *Notes* from the Servers context menu (Figure 770).

After clicking on *Notes*, the Manage Server Notes dialog will open.



Attention: Server notes are separate from Interface notes.

Interface notes are specified for an interface's PID and server notes are specified for a configuration's Entry ID. As a result, Interface notes are not visible in the Servers or Configurations controls, and server notes are not visible in the Interfaces control.

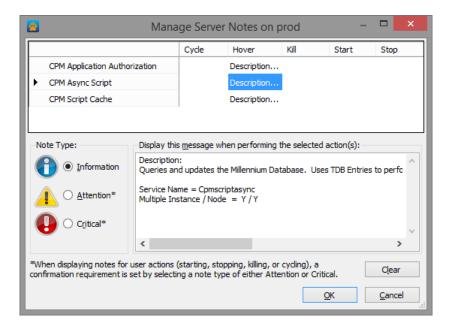


Figure 779: Manage Server Notes

The Manage Server Notes dialog allows you to create notes for four actions (Starting, Stopping, Killing, Cycling), and for when the user hovers the mouse over the interface.

To create a server note:

- 1. Select the servers and actions you wish to trigger the note's appearance.
- 2. Select the Note Type (Information, Attention or Critical).
 - If you select a note type of Attention or Critical, and an action of Starting, Stopping, Killing, or Cycling; users will be required to confirm requests to perform the associated action(s).
- 3. Type the note to appear to the user in the message area of the dialog (Figure 779).
- 4. Click *OK* to save the notes and close the dialog.

Notice that as you type a note into the message area of the dialog, the note appears in all of the selected server and action cells of the grid at the top of the dialog.

To remove a note, highlight the note(s) in the grid, then click the *Clear Note(s)* button.

If a server is removed, Panther will retain the associated note. If a server is later created with the same Entry ID, the old note will be associated with the new server. This can be prevented by removing the note before deleting the server.

11.16.9 View Management

All Views of the servers assigned to a user will appear in the *View* drop-down list found at the bottom left of the main control (Figure 780).

In the main control, when you select a view, the Servers control will show only the servers defined in that view.



Figure 780: Server Views Toolbar

Within the Servers control, users with the 'Manage Servers Views' privilege may create any number of server views. Views can be managed by right-clicking the mouse and selecting *Manage Views* from the Context Menu. Users can also click on the blue *View* link label located in the lower left corner of the main control.

Once you have selected *Manage Views* or clicked on the blue highlighted *View* link on the main control, the Server Views dialog opens.



You can easily create new Views by selection.

Panther allows you to create a new View based on the currently selected servers. To do this, simply highlight the servers you wish to be in the new View, right-click the mouse and select *Add Selection as New View...* from the Context Menu.

For more information on view management, refer to Appendix A.

11.16.10 Preferences

The Servers control allows you to define preferences that relate to the behavior and display of the control.

Preferences Tab

The Preferences tab allows you to define how Panther will behave when using features of this control. This tab offers the following categories of options as well as the option to auto refresh the control on an interval.

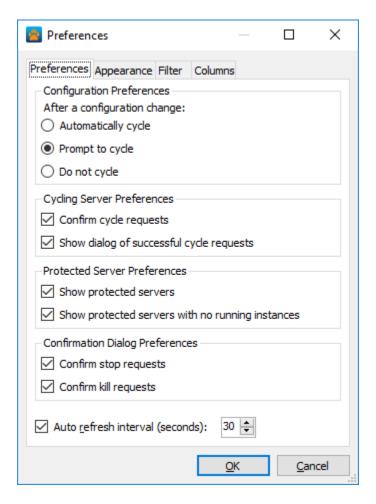


Figure 781: Servers Control Preferences

Configuration Preferences

Next, you have the ability to define how Panther behaves after you make a configuration change. You may select one of the following:

- 1. **Automatically cycle servers:** Cycles servers without prompting you anytime you make a change to a server configuration.
- Prompt to cycle servers: Prompts to cycle the server anytime a change is made to a server configuration.
- 3. Do not cycle servers: Never ask you to cycle a server after a configuration change.

Cycling Server Preferences

Confirm cycle requests will make you confirm every cycle request before proceeding.

Show dialog of successful cycle requests will display a dialog whenever you submit a request to cycle servers. If you un-check this preference, only cycle requests that are blocked or fail will display a dialog.

Protected Server Preferences

Show protected servers will display servers that are marked as protected. These servers cannot be managed by typical SCP operations, so excluding protected servers from the list may be a helpful option.

Show protected servers with no running instances will display protected servers that appear dead by SCP, such as Service Manager, but are not necessarily dead.

Confirmation Dialog Preferences

Confirm stop requests will make you confirm every stop request before proceeding.

Confirm kill requests will make you confirm every kill request before proceeding.

Appearance Tab

The Appearance tab allows you to customize the appearance of the Servers control.

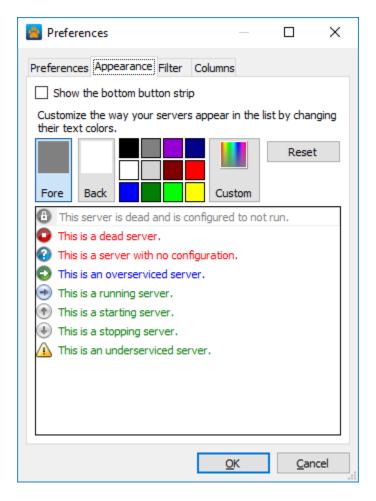


Figure 782: Servers Control Appearance

Show the bottom button strip allows you to indicate whether you would like the button strip to appear below the server list. Turning this option off saves vertical space (good for desktops), and having it on allows quick access to server features.

The rest of the dialog changes display colors for the Servers control. To change the color for a specific server state, select the server state and then select the color used to display those servers. The preview below allows you to get an idea of what the colors will look like.

Filter

The third tab of the preferences dialog allows you to define the server state filter.

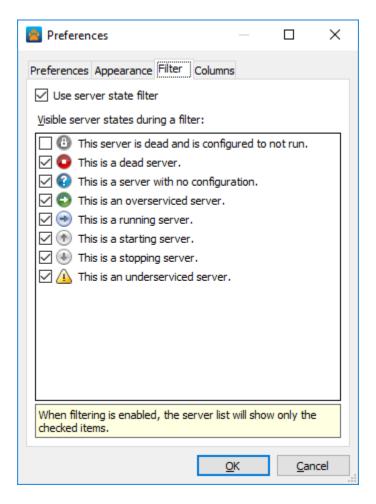


Figure 783: Servers Control Filter

Use server state filter allows you to indicate whether you would like to hide servers with specific states as defined under the Filter Specification.

To hide servers of a specific state simply un-check the appropriate item. Likewise, to show servers of a specific state, simply check the appropriate item.



You can quickly turn off the Server State Filter.

You can quickly toggle the filter on and off by clicking *Use Server State Filter* from the Context Menu of the main server list. This allows you to turn it off without changing your filter preferences. Additionally, the *Filter By State* checkbox is visible in the lower right of the server list, which can be used to toggle the filter as well.

Columns

The Columns tab allows you to define what columns appear in the main control. Checking a column will add it to the server list, and un-checking a column will hide a column from the list. You also have the option to always show all available columns.

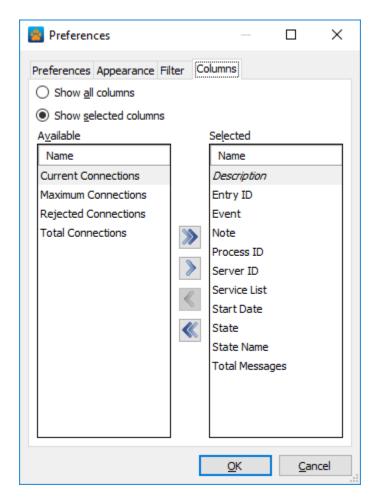


Figure 784: Servers Control Columns

11.17. Services Control

The Services control shows a list of all currently registered services. This view provides information such as current connections and messages. The Services control can be found in the Domain Explorer (Figure 785) under each node.

After selecting the *Services* item in the Domain Explorer, the Services control will be displayed in the Application Workspace (Figure 785).

<u>.</u>	hna	a	
	X	Configura	ations
	ā	Servers	
4	0	Services	
<u>+</u>		Message	Logs

Figure 785: Domain Explorer

Image	Meaning
N/A	Service (not shared)
•	Shared Service

Table 200: Service Images

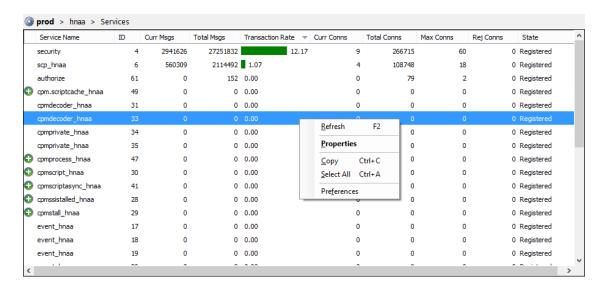


Figure 786: Services Control

Option	Description
Refresh	Refreshes the list of services and their associated information.
Properties	Allows you to view the properties of the selected service. This is the default menu item.
Сору	Copies the selected service rows to the clipboard in a tab-separated format.
Select All	Selects all of the currently displayed services.
Preferences	Allows you to customize the appearance and behavior of the control.

Table 201: Services Context Menu

11.17.1 Viewing Service Properties

Selecting *Properties* from the Context Menu or double-clicking on a service will display the Service Properties dialog (Figure 787).

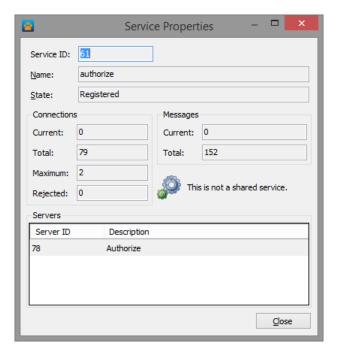


Figure 787: Service Properties

This allows an easier-to-read view of all the current information for the selected service. This dialog also provides a list of the servers. The servers list includes both the Server ID and Description.

11.17.2 Service Preferences

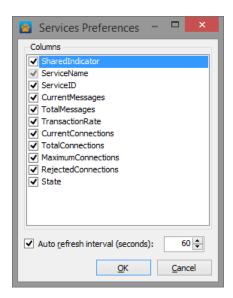


Figure 788: Service Preferences

Panther allows each user to customize how the Services control is displayed for them. Custom settings established from Preferences will only be applied for the user who sets them up.

You can select which columns you wish to display in the Services control. To show a column, check it in the list. To hide a column, un-check it in the list.

Additionally, the Services control allows the automatic refreshing of the data. You can turn auto-refresh on or off by checking or un-checking the checkbox at the bottom of the Preferences dialog. If you have Panther automatically refresh the service information, you can adjust the refresh rate.

12 Sensors

Panther provides an ever increasing catalog of Sensors across multiple technologies. The main purpose of the Panther sensors is to accurately identify anomalous behavior as quickly as possible to help reduce unplanned downtime.



All Panther sensors are AGENT-LESS.

This means that you do not have to install any executables on your back-end resources in order for Panther to work. All of the CPU intensive analysis is performed on the Panther server, freeing up your system from the burden of monitoring itself.

Panther currently provides sensors for the following technologies:

- BMDI
- · Chart Server
- EKS
- IBM WebSphere MQ
- IBM WebSphere Application Server
- Millennium
- NDC
- Open Engine
- Operations
- Oracle
- Remote Report Distribution
- XR

The following information summarizes the behavior of each available sensor. Keep in mind that some of the sensors described below may not be enabled at your organization. More detailed information about each sensor is included in that sensor's operational documentation, available through the Panther Support Site. To access these documents use the *Click here to learn more*... link in the sensor setup, for the sensor you wish to learn more about.

12.1. Functionality Summaries

12.1.1 BMDI Sensors

BMDI Discharged Association

This sensor monitors for BMDI devices that are still associated with discharged patients. This notice helps provide hospital staff with a chance to disassociate the device from the patient prior to further activity occurring on it.

12.1.2 Chart Server Sensors

Chart Job Backlog

By detecting a Chart Job Backlog, Panther can quickly identify key situations, which impact interactive clinical users. This early warning can give the IT team a head start in determining and correcting a problem

before the end users experience unacceptable response times, or the situation degrades to the point where there is an inability to use the system at all.

Chart Job Stalled

Some Chart jobs may take a long time to process or cause an error in the server. This sensor sends alerts when chart jobs remain in a "processing" state without being updated for a set amount of time. This allows IT staff to address the problem in a timely manner and avoid getting caught off-guard by a phone call. Settings can be overridden on a domain-wide level, or by request types.

Chart Job Unprocessed

This sensor monitors chart jobs that are in the queue waiting to be processed. After the job has been idle for longer than the specified duration (15 minutes, by default), an alarm notification is sent.

12.1.3 EKS Sensors

EKS Build

This sensor monitors EKS module audits each day for build issues. This notice helps hospital staff identify problem modules so they can make changes to correct missing author, missing purpose, or reconciliation errors.

EKS Dialog Configuration Change

This sensor monitors EKS dialogs on an hourly basis for configuration changes. This notice helps hospital staff stay apprised of changes made to EKS dialogs so they do not go unnoticed and potentially cause issues at a later date.

EKS Event Configuration Change

This sensor monitors EKS events on an hourly basis for configuration changes. This notice helps hospital staff stay apprised of changes made to EKS events so they do not go unnoticed and potentially cause issues at a later date.

EKS Failure

This sensor monitors EKS module audits each day for failures. This notice helps hospital staff identify problem modules so they can make corrections so future executions do not fail again.

EKS Module Configuration Change

This sensor monitors EKS modules on an hourly basis for configuration changes. This notice helps hospital staff stay apprised of changes made to EKS modules so they do not go unnoticed and potentially cause issues at a later moment such as a cycle or the end of a planned downtime.

EKS Performance

This sensor monitors EKS module audits each day for performance issues. This notice helps hospital staff identify problem modules so they can make corrections so future executions complete in a more timely manner.

EKS Request Configuration Change

This sensor monitors EKS requests on an hourly basis for configuration changes. This notice helps hospital staff stay apprised of changes made to EKS requests so they do not go unnoticed and potentially cause issues at a later date.

EKS Template Configuration Change

This sensor monitors EKS templates on an hourly basis for configuration changes. This notice helps hospital staff stay apprised of changes made to EKS templates so they do not go unnoticed and potentially cause issues at a later date.

12.1.4 IBM WebSphere MQ Sensors

IBM MQ Auto Replay

With this action you can enable automatic re-queuing of transactions that appear in the Exception queue. When enabled, transactions will be resubmitted to the originating queue, an audit record will be generated documenting this action, and (optionally) a notification will be sent. Additionally, Panther allows the administrator to control the maximum number of re-queue attempts. This prevents the endless re-queuing of transactions that are crashing their associated application server. If this condition is detected, and the maximum number of re-queue attempts is reached, a notification can be generated prompting corrective action.

IBM MQ Backlog

The IBM MQ Backlog sensor detects when a queue is backing up. Queues can back up due to batch processing, heavy system load, or by problematic messages that hang the receiving server. IT Staff can define mild, medium, and severe thresholds to signify the trigger points for sending a notification. By quickly identifying queues with backlogs, the IT staff can be made aware of the situation and proactively take action.

IBM MQ Configuration Change

A problem frequently cited by administrators occurs when someone makes a change to a queue configuration without their knowledge. If no change control processes were followed, and unexpected side effects occur, troubleshooting the issue can be particularly difficult. The administrator is left to determine what was changed, who changed it, and when.

This sensor proactively solves this problem by immediately notifying IT staff of IBM MQ configuration changes and providing an audit trail, regardless of who makes the changes. This sensor can be configured to ignore changes to specific properties of a queue's configuration. By default, the "Alteration Date" is automatically ignored.

IBM MQ Capacity

The IBM MQ Capacity sensor detects when a queue is nearing its maximum capacity. Queues can back up due to batch processing, heavy system load, or by problematic messages that hang the receiving server. When a queue reaches its maximum capacity, messages can be discarded by the system. IT Staff can define mild, medium, and severe thresholds to signify the trigger points for sending a notification. By quickly identifying queues nearing capacity, the IT staff can take action before data loss occurs.

IBM MQ Stalled

Occasionally when processing messages, a server will receive a message that causes it to stall. The message may simply take a long time to process, or may cause an error in the server. In either case, if left unchecked, the stall can lead to other problems such as excessive queue backlogs. The IBM MQ Stalled sensor analyzes queues over a period of time, prowling for situations where the servers processing the queue are not making forward progress on the queue. This allows IT staff to address the problem in a timely manner and avoid getting caught off-guard by a phone call.

12.1.5 IBM WebSphere® Application Server Sensors

Application Under-Overserviced

The Application Under-Overserviced detects when there are too many (overserviced), too few (underserviced), or no (absence of service) running servers hosting each application and notify IT staff when these situations occur.

12.1.6 Millennium Sensors

Configuration Change

A problem frequently cited by administrators occurs when someone makes a change to a configuration without their knowledge. If no change control processes were followed, the change goes unnoticed until the next reboot or cycling of that server, with possible unexpected side effects. The administrator is then left to determine what was changed, who changed it, and when.

This sensor proactively solves this problem by immediately notifying IT staff of server configuration changes and providing an audit trail of these changes, regardless of who makes them.

Connection Count Limit

The Connection Count Limit sensor is used to aid in the tuning of a system by alerting the IT Staff to services with a large number of connections. Starting additional instances of a server will have the effect of distributing the number of connections across them, reducing the number of connections any single service will receive. Among other things, this can increase performance by reducing server contention due to a heavy volume of transactions through a single server process.

Node Health

The Node Health sensor detects periods of unexpected loss of connectivity to a node. This can indicate network connectivity issues or failure to communicate with Millennium middleware.

Server Cycler

The Cycling Confirmation notification provides IT staff with notifications of both successful and unsuccessful Cycle attempts when servers are cycled by an interactive user, a scheduled cycling event in Panther, or a Cycle Group operation. By providing failure notifications with detailed information about the cycle event, IT staff can take appropriate action to correct the situation.

Server Instance Stalled

When IT staff starts or stops a server, they expect the server to reach its expected end-state. If a server fails to reach a running state and hangs indefinitely, the server is deviating from its normal behavior. This situation may not be identified until other system performance problems appear.

The Server Instance Stalled sensor detects Server Instances that remain in a starting state for longer than the configured amount of time, aiding IT staff by notifying them of server instances that are not behaving as expected.

This sensor also detects server instances that remain in a stopping state for longer than the configured amount of time, aiding IT staff by notifying them of server instances that are consuming unnecessary backend resources. By quickly identifying these stalled servers, the IT staff can be made aware of server instances that are in an indeterminate state and/or unnecessarily consuming system resources, and take appropriate action.

Server Life Cycle

During the course of operation, server processes are created and terminated throughout the week. Often times, this happens without the knowledge of the IT staff. This sensor analyzes server process and state information over a period of time, identifying situations where a server instance has been started, or a server instance has been stopped. This can aid the administrator in troubleshooting the system state leading up to a major problem with the system, as it provides some detail relating to what might have happened immediately preceding the problem.

Server Restart

During the course of operation, a server can terminate abnormally and depending on the configuration, automatically be restarted by the Millennium system.

For example, when a transaction (resulting in a CCL Script being executed) runs for a duration exceeding the allowable limit, the CPM Script server self-terminates. When the system detects this, it restarts the deceased instance. This can happen without the knowledge of the IT staff. The effect on the end user: their application hangs unexpectedly, and ultimately ends with a failure.

Having knowledge of this problem can aid the administrator in diagnosing such problems before users get frustrated with poor application behavior. Additionally, the CCL script can be checked for optimization, leading to overall system performance improvements.

Server Thrashing

The Server Thrashing sensor analyzes server process and state information over a user-defined period of time, prowling for situations where one or more instances of a server are crashing and are immediately restarted by the bus. This pattern is identified by the sensor as a server restart. If the server restarts too many times within a defined window of time, a notification is sent out indicating the server is thrashing.

Server Under/Overserviced

The Server Under/Overserviced sensor detects when there are too many (Overserviced), too few (Underserviced) or no (absence of service) server instances running on a given node in the domain based on the sensor's event detection setup. When these situations are detected, the IT staff can be notified.

- An Underserviced server can lead to unusual backlogs and slowdowns in system throughput.
- An absence of service indicates that there are no servers running on a given node, which may result in clients experiencing a denial of service.
- An Overserviced server can indicate that individuals have started additional server instances beyond
 the configured amount. This by itself is not an issue, except for the extra resources required from the
 system to run the additional instances.

Service Not Accepting Connections

Occasionally, services will cease to accept connections. The service will remain registered, and the servers bound to it will be running, but the service will refuse all attempts by clients to connect. Due to the lack of any strong, visible signs that something is wrong, the first indication that there is a problem usually comes in the form of a clinician calling in about a loss of service.

This sensor detects when services are no longer accepting connections, allowing IT staff to address the problem proactively, possibly before end users even know there is a problem.

Shared Service Queue Backlog

By detecting a Shared Service Queue Backlog, Panther can quickly identify two key situations, both of which impact interactive clinical users.

- 1. When the servers participating in the Shared Service queue hang and the queue rapidly builds, stranding users throughout the system.
- 2. When the sensor detects an increase in system load, it will aid the administrator in adjusting the number of running servers necessary to service the demand. A common example of this is the need to increase the number of CPM Script servers available to service the applications.

It can also aid the administrator in detecting periods of increased activity and backups in the system leading to degradation in application performance. This early warning can give the IT team a head start in determining and correcting a problem before the end users experience unacceptable response times, or the situation degrades to the point where there is an inability to use the system at all.

This sensor is not for MQ Shared Services.

Shared Service Queue Stalled

Occasionally when processing messages, a shared service queue will receive messages that cause it to stall. The messages may simply take a long time to process, or they may have caused an error in the server. In either case, if left unchecked, the stall can lead to other problems such as excessive queue depths.

The Shared Service Queue Stalled sensor analyzes published services over a period of time, prowling for situations where the servers participating in the service are not making forward progress on the Shared Service queue, allowing IT staff to address the problem in a timely manner and avoid getting caught offguard by a phone call.

12.1.7 NDC Sensors

Obsolete NDC Dispensed

The Obsolete NDC Dispensed sensor monitors for dispenses of drugs with NDC codes which have reached their obsoletion dates, and provides IT with a summary of these dispenses on a configured interval. This gives staff the heads up to remove remaining stock from dispensing machines or begin completing any special coding required for NDCs that recently became obsolete.

NDC Obsoleting

The NDC Obsoleting sensor monitors for NDC entries which are nearing their obsoletion dates, notifying IT when obsoletion dates are approaching or met. This gives staff the heads up to use remaining stock prior to obsoletion and inactivate products in Millennium® or begin completing any special coding required for NDCs that recently became obsolete.

12.1.8 OHPA® Sensors

OHPA® Unreachable

The Unreachable sensor detects situations where connectivity to the database is lost. Detecting an inability to connect or execute gueries as soon as possible allows IT staff to react guickly to minimize downtime.

12.1.9 Open Engine Sensors

ESI Failure

The ESI Failure sensor reports when records with a warning, failure, or terminate status are written to the ESI Logs. It groups the records based on the similarity of their messages, so as to detect ongoing ESI issues.

ESO Queue Backlog

The Queue Backlog sensor detects when a backlog of messages exists in the queue. Queues can back up due to batch processing, heavy system load, or by problematic messages that hang the queue. IT staff can define mild, medium, and severe thresholds to signify the trigger points for sending a notification. By quickly identifying queues with backlogs, the IT staff can be made aware of the situation and proactively take action.

ESO Queue Stalled

Occasionally when processing messages, a queue will receive a message that causes it to stall. The message may simply take a long time to process, or may cause an error to occur. In either case, if left unchecked, the stall can lead to other problems such as excessive queue backlogs.

The External Service Outbound (ESO) Queue Stalled sensor analyzes queues over a period of time, prowling for situations where the queues are not making forward progress. By quickly identifying stalled queues, the IT staff can be made aware of the situation and proactively take action.

Interface Activity

Unlike Shared Service queues or IBM WebSphere® queues, Interface queues are dependent on foreign systems that do not always behave as expected. It is frustrating to realize late in the game that a foreign system has stopped sending messages. This sensor monitors interface activity, verifying that the foreign system continues to send messages as expected. IT staff can tune this sensor to expect messages from a foreign system on a certain frequency.

Furthermore, since expectations change, you can tune the sensor to expect different frequencies of messages throughout the day using schedules. Some interface queues are active only during normal business hours and therefore can be tuned to only expect volumes during these times. During non-business hours, you can tell the sensor to ignore message inactivity.

Interface Backlog

The Interface Backlog sensor detects when a backlog of messages to be processed by an interface exist in the queue. Interfaces can back up due to batch processing, heavy system load, or by problematic messages that hang the interface. IT staff can define mild, medium, and severe thresholds to signify the trigger points for sending a notification. By quickly identifying interfaces with backlogs, the IT staff can be made aware of the situation and proactively take action.

Interface Configuration Change

Changes made to interface configurations without the knowledge of an administrator can cause unexpected side effects. To alert IT staff of these changes, this sensor will generate a notification based on the established parameters.

Notifications will be generated when interfaces or personalities are added, removed or modified. An interface is considered modified when its name, Entry ID or personality information is changed. These notifications will provide an audit trail of changes, regardless of who makes them.

Interface Orphan/Blacklist

This sensor detects when an interface skips one or more messages marked for processing ("pending"). Such messages are considered orphaned, and alerts for this sensor will inform the recipient about the interfaces that are currently exhibiting this behavior. Additionally, this sensor will send notifications when interfaces are added or removed from the Interface Blacklist.

The Blacklist exists to reduce the load on Oracle® due to orphaned messages, backlogged interfaces, and other situations that will cause an interface's queue to contain an exceptionally large number of unprocessed messages. Interfaces that have been blacklisted are not monitored by Panther.

Interface Serviced

Open Engine uses inbound and outbound interfaces to allow the Millennium system to communicate with foreign systems. Sometimes these foreign systems could be implemented in a different programming language than the Millennium system. This means that that some interfaces have to use a communication channel (ComChannel) to effectively communicate with both foreign systems and the Millennium system. Unfortunately, problems can arise and the ComChannel could close or even stop running completely. If left unchecked, end use applications and patient care could be affected.

This sensor is designed to monitor these interfaces, detecting closed ComChannels and stopped interfaces. This enables IT Staff to be proactive in responding to situations that may arise, resulting in timely resolution or prevention of potentially severe problems.

Interface Stalled

Occasionally when processing messages, an interface will receive a message that causes it to stall. The message may simply take a long time to process, or may cause an error to occur. In either case, if left unchecked, the stall can lead to other problems such as excessive interface backlogs.

The Open Engine Interface Stalled sensor analyzes interfaces over a period of time, prowling for situations where the interfaces are not making forward progress on their queues. By quickly identifying stalled interfaces, the IT staff can be made aware of the situation and proactively take action.

12.1.10 Operations (Ops) Sensors

Within the Millennium system, there may be thousands of scheduled jobs set up to perform a myriad tasks ranging from cycling servers to purging data from tables within Oracle[®]. These jobs may be a part of larger job groups or scheduled independently.

Ops Job Concurrency

The Ops system is comprised of many different jobs that interact with different parts of the Millennium system. There are charting jobs, database jobs, SCP jobs, etc. As a result, it is normal for many jobs to be running simultaneously. A job which purges a table in the database may have little or no effect on a job which Cycles a server, so there is little impact on the system in running both jobs together. However, when too many jobs touching the same part of the system are run at the same time, it can cause slowdowns and instability.

The Ops Job Concurrency sensor monitors the currently-running jobs, searching for multiple jobs using the same template. By identifying overlapping jobs quickly, IT staff can minimize or prevent impact on the system.

Ops Job Configuration Change

To define the behavior of a particular job, the ops system contains templates, job steps, jobs, scheduled parameters, and scheduling information. As many jobs are critical to the performance and stability of the Millennium system as a whole, it is important for IT staff to be keep tabs on any changes made.

The Ops Job Configuration Change sensor monitors for these changes. By identifying changes promptly, IT staff can be made aware of any unplanned modifications before they can cause problems

Ops Job Failure

While running, conditions may cause a single job or an entire group to fail. In the case of job groups, an individual job within the group may fail. In some cases, the group as a whole may continue to process. In others, the entire group may stop. Such failures can result in performance degradation or system downtime.

The Ops Job Failure sensor monitors currently-running jobs, searching for job failures. By identifying job failures quickly, IT staff can take action before the situation escalates.

Ops Job Overdue

Making sure jobs start and do so on time can be just as important as monitoring for failures. Late jobs can result in calls from users expecting output or expecting some task to be performed. They can also cause failures in other jobs, which may lead to performance issues or downtime.

The Ops Job Overdue sensor monitors currently-scheduled jobs, searching for jobs that have failed to start on time. By identifying late jobs guickly, IT staff can resolve problems before they occur.

Ops Job Stalled

Occasionally, jobs will take too long to process. A job that normally takes fifteen minutes to run may take an hour. The same job may take several hours, or simply not complete at all. As with failed and overdue jobs, stalled jobs can have an adverse affect on the system. Jobs within groups that stall can prevent the execution of other jobs appearing later in the group. This can cascade further into other jobs failing or never executing.

The Ops Job Stalled sensor monitors currently-executing jobs, searching for jobs that are taking longer than normal to run.

12.1.11 Oracle® Sensors

Oracle® Alerts

The Alerts sensor monitors the database, notifying IT when ORA- errors occur. This gives IT Staff the opportunity to respond quickly to the problem, before it escalates.

Oracle® Enhanced Tablespace

This sensor is very similar to the "Oracle® Tablespace" sensor used in earlier versions, but provides more flexibility in tuning. This sensor continually monitors the used space within tablespaces and their data files. When one or more tablespaces have exceeded any of the user defined thresholds, the sensor immediately notifies the IT staff, allowing them to take corrective action before the tablespace fills and downtime occurs. The thresholds for this sensor can be defined to use a percentage scheme or a file size scheme. Additionally, users may specify these settings differently for tablespaces of certain sizes, so that users may simply modify the behavior for tablespaces of similar size rather than each individual tablespace.

Oracle® Extent Activity

The Extent Activity sensor monitors the number of extents and determines how many times segments have extended over the sensitivity window. If a segment begins to extend more than the user specified limits, it sends a notification allowing IT staff to address the situation before it results in unplanned downtime.

Oracle® Lock Analysis

The Lock Analysis sensor monitors locks held in the database, notifying IT when a session has held a lock for too long. This gives IT Staff the opportunity to close the appropriate application or kill the appropriate session to free up the resource before the rest of the system is impacted too heavily.

Oracle® Max Extents

The Max Extents sensor monitors the number of times each database object has extended, along with the object's max extents setting, and calculating how many times the object can extend before reaching its limit. It notifies IT Staff immediately once an object's remaining number of extents drops below a user-specified number, giving them the opportunity to correct the issue before downtime results.

Oracle® Next Extent Failure

The Next Extent Failure monitors objects within the database, calculating how many times each object can extend, given the sizes and number of free extents within the tablespace. The sensor sends notifications that provide advanced warning when an object's remaining extents falls below a user-indicated threshold, allowing IT Staff to prevent the downtime that would inevitably occur if an object runs out of space and cannot extend.

Oracle® Next Extent Size

Within an Oracle[®] server, there may be thousands of tables used by various programs and people. As these tables fill, they grow in file size through the use of extents. If the size of an extent is too small, the table can become overly fragmented, and may reach the maximum number of extents quickly. Once the table has reached its maximum number of extents it can no longer grow and all attempts to insert to the table fail. The Next Extent Size sensor detects segments using an extent size below a user specified limit, and when an extent size becomes smaller than it used to be.

Oracle® Orphan Process

This sensor detects when a process continues to run for an Oracle[®] session that has already been closed. By default, Panther waits for only one minute from detection before it sends an alarm notification.

Oracle® Tablespace Projection

The Tablespace Projection sensor keeps a history of the used space within tablespaces and generates estimated fill times for them. When one or more tablespaces exceed any of the user defined thresholds, the sensor notifies IT staff, allowing them to take corrective action before the tablespace fills and downtime occurs.

Oracle® Unreachable

The Unreachable (previously labeled Absence of Service) sensor detects situations where connectivity to the listener or to the database itself is lost. Inability to connect to the listener indicates that any new process attempting to connect to Oracle® will fail, ultimately resulting in unplanned downtime. Inability to execute a simple query in Oracle® indicates that any other process connected to the database will experience query failures, ultimately resulting in unplanned downtime of the dependent applications. Detecting an inability to

connect or execute queries as soon as possible allows IT staff to react quickly to minimize downtime.

12.1.12 Remote Report Distribution Sensors

RRD Port Disabled

The RRD Port Disabled sensor notifies any subscribed users when it detects that an RRD COM port has been disabled. This enables the IT staff to re-enable unintentionally disabled RRD ports before it begins to cause issues.

RRD Report Failure

The Report Failure sensor detects when reports have failed due to entering an error state. Reports will enter an error state when a problem occurs during conversion or transmission of the report. By quickly identifying failures, the IT staff can be made aware of the problem and proactively take action.

RRD Report Queue Backlog

The Report Queue Backlog Sensor detects when there is a backlog of converted and unconverted reports. Reports are unconverted if they have just entered the RRD system and have not yet been converted to an image file, otherwise, they are converted. The report queue can back up due to batch processing, heavy system load, or by reports that are stalled. IT staff can define mild, medium, and severe thresholds for unconverted and converted reports to signify the trigger points for sending a notification. By quickly identifying backlogs, the IT staff can be made aware of the situation and proactively take action.

RRD Report Stalled

Occasionally when processing reports, an RRD server will receive a report that causes it to stall. The report may simply take a long time to process or may cause an error in the server. The RRD Report Stalled sensor performs analysis over a period of time, notifying about reports that have become stuck while processing. By quickly identifying stalls, the IT staff can be made aware of the situation and proactively take action.

12.1.13 XR Sensors

XR Backlog

By detecting an XR job backlog, Panther can quickly identify key situations which impact interactive clinical users. This early warning can give the IT team a head start in determining and correcting a problem before the end users experience unacceptable response times, or the situation degrades to the point where there is an inability to use the system at all.

XR Failure

This sensor monitors XR jobs and alerts upon detecting any have reached a failure state so IT Staff can resolve problems and optionally resubmit them.

XR Stalled

Some XR jobs may take a long time to process or cause an error in the server. This sensor sends alerts when chart jobs remain in a "processing" state without being updated for a set amount of time. This allows IT staff to address the problem in a timely manner and avoid getting caught off-guard by a phone call. Settings can be overridden on a domain-wide level, or by request types.

XR Unprocessed

This sensor monitors XR jobs that are in the queue waiting to be processed. After the job has been idle for longer than the specified duration (15 minutes, by default), an alarm notification is sent.

12.2. Sensor Setup

Setting up sensor settings is done within Panther under each domain. Additionally, sensors are split into groups.

To modify the settings of a specific sensor:

- 1. Select the domain the sensor operates on in the Domain Explorer (Chapter 5, Figure 5.1-1).
- 2. Select Sensor Setup.
- 3. Select the technology the sensor interacts with.
- 4. Select the sensor.

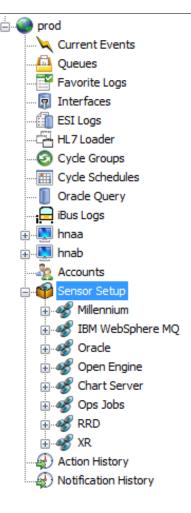


Figure 789: Domain Explorer

12.2.1 Main Screen

The main sensor setup screen includes general information about the sensor and links to finer controls. The top of the page includes the sensor name and the current domain. The control includes a brief description of the sensor and a link to any documentation that may be available. The links that appear depend upon the sensor's capabilities.

The following figures illustrate the various links that are available:

Server Cycler

The Cycling Confirmation notification provides IT staff with notifications of both successful and unsuccessful cycle attempts when servers are cycled by an interactive user, or as a scheduled event. By providing failure notifications with detailed information about the cycle event, IT staff can take appropriate action to correct the

Hide Description

Click here to learn more about the Server Cycler sensor.





Notification Setup

Figure 790: Server Cycler main page



Figure 791: IBM MQ Auto Replay main page

Option	Description
Event Detection	Provides settings for analysis. On this page, users define parameters which dictate what conditions must exist to open and close events.
Notification Setup	Provides settings for notifications. On this page, users define which events will send emails and/or pages, and which items should be specifically included/excluded from notification.
Proactive Actions	Provides settings for actions. On this page, users define parameters which dictate the actions a sensor will take once an event has occurred.
Operational Behavior	Provides access to cycle history.

Table 202: Operational setting options

12.2.2 Event Detection

The Event Detection page allows a user to modify parameters that determine when a sensor should alert about issues for a given system (Millennium, Oracle, etc.). In most cases, a list of monitored items will appear on the left, providing the ability to create overrides for a particular item or a group of items. For a more detailed look at what parameters and override items are available, refer to the sensor documentation for the sensor you are curious about.

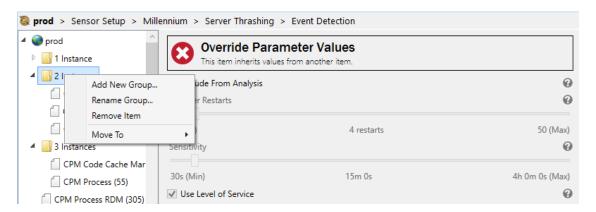


Figure 792: Event Detection page

Option	Description
Add New Group	Adds a group under the selected item. This can only be done for items that contain children.
Rename Group	Changes the name of the selected group.
Remove Item	Removes the selected item. This can only be done for items that were created by a user. Removing an item will cause its children to move up a level.
Move To	Moves the selected item(s) to the group chosen from the sub-menu.

Table 203: Monitored items context menu

Using Monitored Item Groups

The figure below shows the Event Detection screen for the Server Thrashing sensor. In this case, a group has been created with monitored items as members, which contain a collection of items that are to be monitored using the same settings. This way the desired values can be set once for the group rather than many times for each of its members.

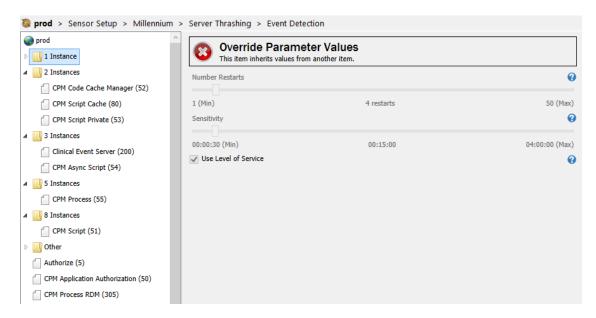


Figure 793: Groups in Server Thrashing

Image	Meaning
@	The domain and all descendents use default values.
	The domain uses default values, but at least one descendent has overridden values.
②	The domain is overridden, but no descendents have overridden values.
@	The domain is overridden. At least one descendent has overridden values.
	This group and all descendents use the same values as its parent.
	This group uses the same values as its parent. At least one descendent has overridden values.
②	This group is overridden, but no descendents have overridden values.
8	This group is overridden. At least one descendent has overridden values.
	This item and all descendents use the same values as its parent.
	This item uses the same values as its parent. At least one descendent has overridden values.
6	This item is overridden, but no descendents have overridden values.
⊗	This item is overridden. At least one descendent has overridden values.

Table 204: Event Detection Images

12.2.3 Scheduling

Some of the sensors in Panther support scheduling. Setting up a schedule allows you to change the event detection settings depending on the time of day and the day of the year. Sensors that support this feature will display the *Schedule* option at the bottom of their Event Detection screen (Figure 794).



Figure 794: Event Detection page

The default behavior of schedulable sensors is to not use a schedule. In order for you to setup and use scheduling for one of these sensors, you need to override its default parameter values (Figure 795). This enables the *Schedule* field and *Manage* button.

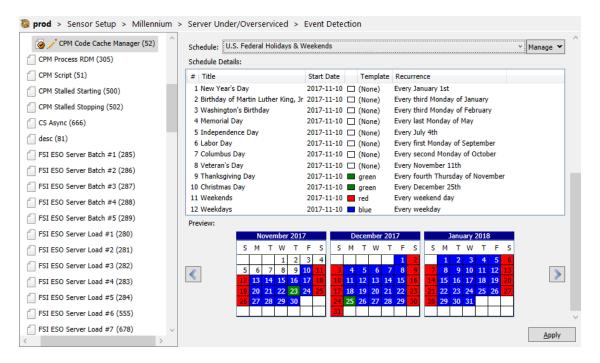


Figure 795: Event Detection - override set

Manage Schedules

After overriding the default parameter values for the monitored items, you would like to create a schedule for, click the *Manage* button to access the Manage Schedules screen. When you click the button, two options will expand from it: *Manage Schedules* and *Manage 24-Hour Templates*.

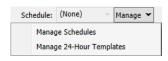


Figure 796: Manage Schedules

Managing templates is covered in the next section. For now, select the Manage Schedules option.

Selecting *Manage Schedules* will open the Manage Schedules dialog (Figure 797) which allows addition, removal, and modification of schedules that all sensors can. When defining a schedule, a description may be included along with a set of recurrences to use.

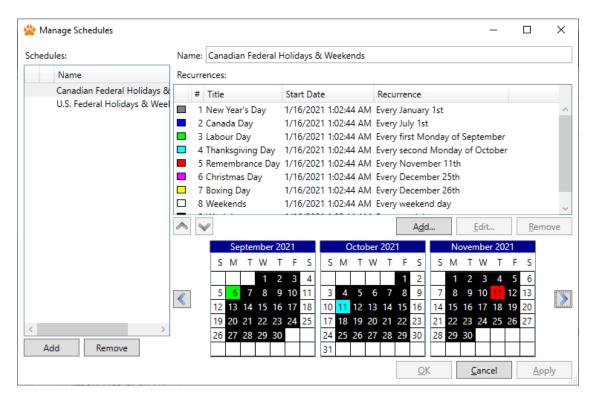


Figure 797: Manage Schedules dialog

Recurrences are markers in the schedule for special events. In Figure 797, there are New Year's Day and Weekends recurrences. The order of recurrences is important. When the sensor is looking for what sensitivities to use, it will start at the top of the list and use the first sensitivity that applies to the current day. For example, if it is Christmas Day and Saturday, both the Christmas Day and Weekends recurrences apply, but because Christmas Day comes before Weekends in the list, the sensor will use the sensitivities for Christmas Day.

The order of recurrences can be modified by selecting a recurrence and either clicking the up or down arrow to move it accordingly, or right-clicking and selecting the *Move Up* or *Move Down* options from the Context Menu.

12.2.4 Managing Recurrences

Clicking the *Add...* or *Edit* buttons on the Manage Schedules dialog, the Template Recurrence (Figure 798) dialog will open. This is where you can either create a new recurrence or modify an existing one.

The days this recurrence applies to are determined by your selections in the Recurrence Pattern section. To make sure that your selection is what you expect, you can check the small calendars at the bottom of the dialog. The days that match your selections in the Recurrence Pattern section will be highlighted in bright green (Example: the fifteenth of January in Figure 798).

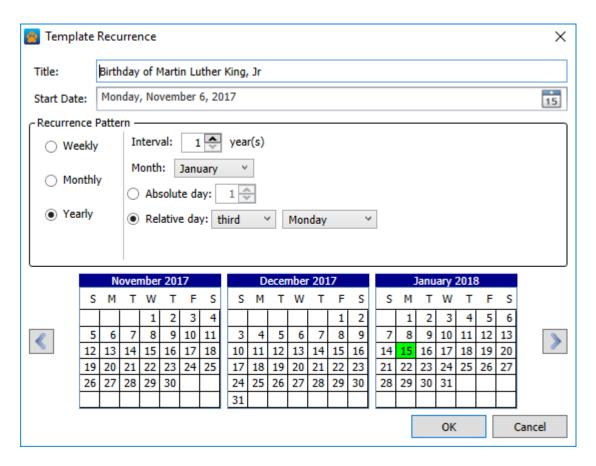


Figure 798: Template Recurrence dialog



Figure 799: Weekly Recurrence



Use "Weekly" to create daily recurrences

To create a daily recurrence, you should select Weekly and check every day of the week.

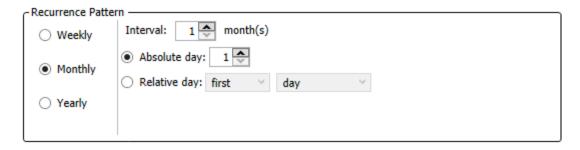


Figure 800: Monthly Recurrence

12.2.5 24-Hour Templates

So, you have a schedule, now it's time to use it. Click the *Schedule* field's drop-down arrow to see the list of all available schedules. There are two by default: *Canadian Federal Holidays & Weekends* and *U. S. Federal Holidays & Weekends*.

Select the schedule that you would like to use. This will open the Schedule Details for the selected schedule (Figure 801). In this section you will see a column labeled *Template* with a default of *(None)*. This is where the 24-Hour Templates come into play. Before you can assign a template to your schedule recurrences, you have to create one. To do this, click the *Manage* button and select the *Manage 24-Hour Templates* option (Figure 802) his will open the Manage 24-Hour Templates dialog (Figure 803).

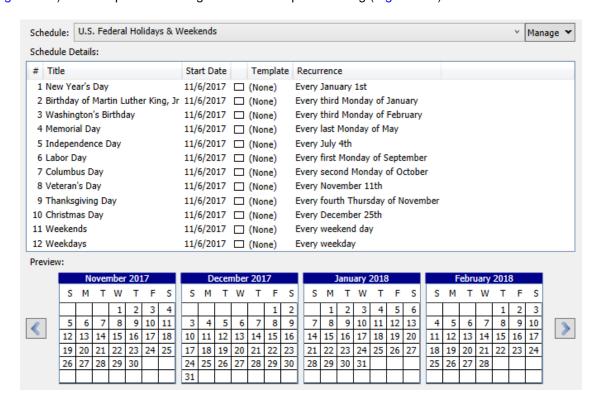


Figure 801: Schedule Details

Managing 24-Hour Templates

If no 24-Hour Templates have been created for your environment yet, when the Manage 24-Hour Templates dialog opens it will be pretty empty (Figure 803).

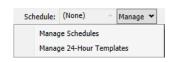


Figure 802: Manage Schedules

Image	Meaning
	Template has Unsaved Changes
•	Template is Flagged for addition
×	Template is Flagged for removal

Table 205: 24-Hour Template Images

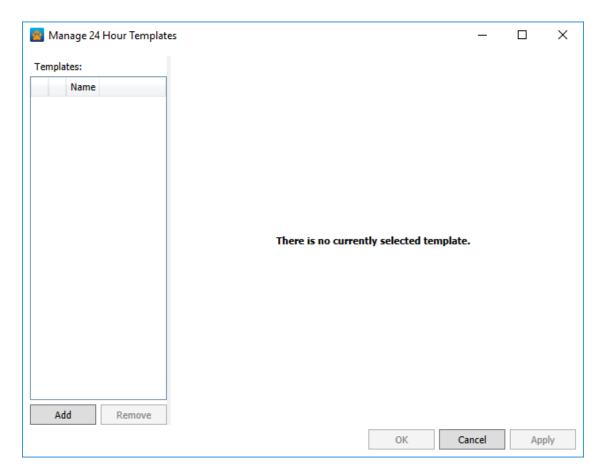


Figure 803: Manage 24-Hour Templates dialog

Adding New Templates

1. Click the *Add* button under the empty 24 Hr Templates list. This will place a new template in the list (Figure 804).

2. Give the template a name.

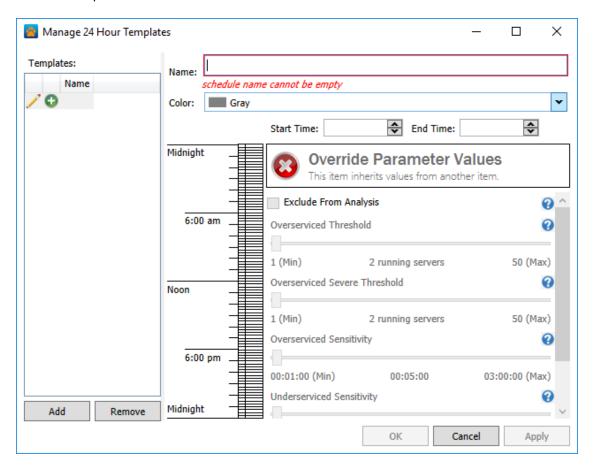


Figure 804: Manage 24-Hour Templates: add template

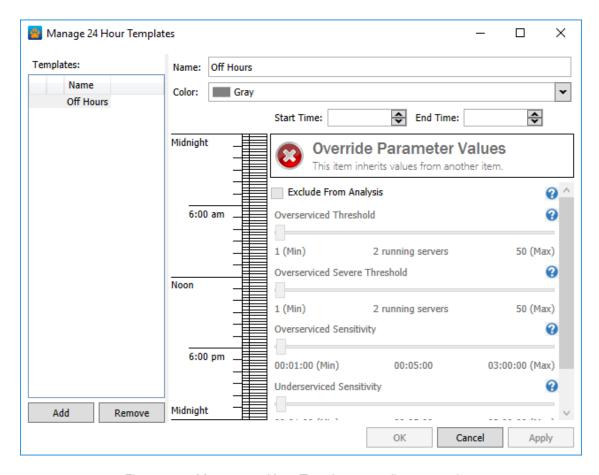


Figure 805: Manage 24-Hour Templates: configure template

- 3. (Optional) Select a color for this template by clicking the colored square to the right of the *Color* label. This will open the system color palette and allow you to select a color. This color will be used to identify schedule recurrences that are using this template.
- 4. (Optional) Provide a description for the template. This is to make it easier for other users on the system to quickly identify the purpose of the template in the event that they desire more detail than is provided in the name.
- 5. Set up the times that apply to this template.
 - (a) Either click in the time bar on the left, or enter the desired times into the *Start Time* and *End Time* fields. For this example (Figure 806), we will be using Midnight to 8AM.
 - (b) Click the *Override Parameter Values* panel to set up custom settings for this period of time. (Figure 806).

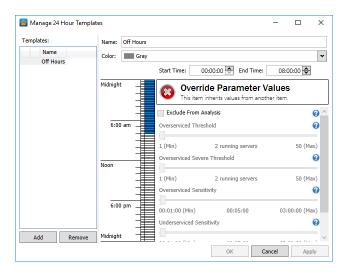


Figure 806: Selecting a time range

(c) Select the customized sensitivities you desire and click the Apply button (Figure 805). This will close the custom settings for this part of the schedule and allow you to select another time range if you wish (Figure 807).

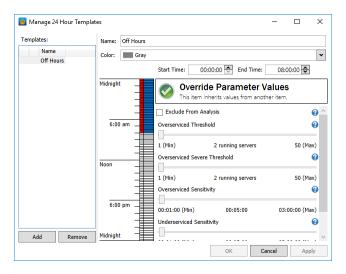


Figure 807: Overriding parameters within a range

- 6. Add an additional Time-Range.
 - (a) Click in a different part of the time bar than was previously selected. For this example, we are setting up a workday where different settings should be used during the lunch hour. To finish this template, we select 1PM to 5PM for the second time span (see the figure to the right).

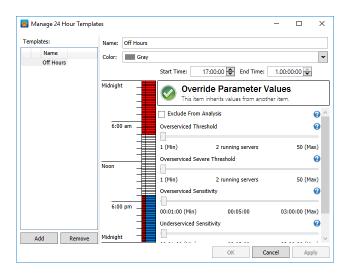


Figure 808: Creating additional time ranges

(b) From here repeat steps 5.b and 5.c. If you need to alter the overrides for an existing range, double-click inside a cell within that range on the timeline to highlight all cells that are part of that range.

Using 24-Hour Templates

Once one or more 24-Hour Templates have been created, they can be applied to a selected schedule by clicking the template cell associated with the recurrence the template should apply to (Figure 809). This expands a list of all available templates for the current sensor. To apply the template, select it from the list.

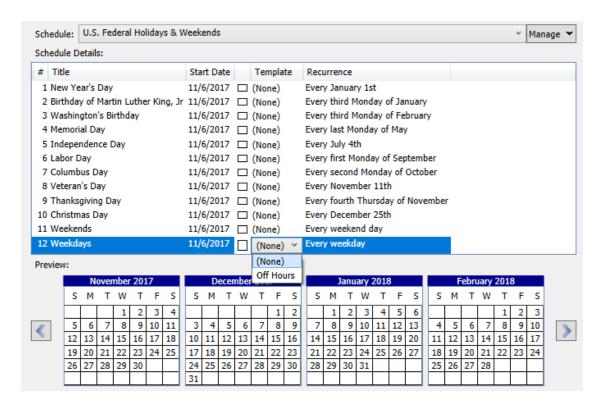


Figure 809: Setting a template for a recurrence

Parameter Groups

Some sensors provide logical groupings of parameters to aid in manageability. In these cases, each group will appear with a name and a short description, and they can be collapsed or expanded (Figure 810).

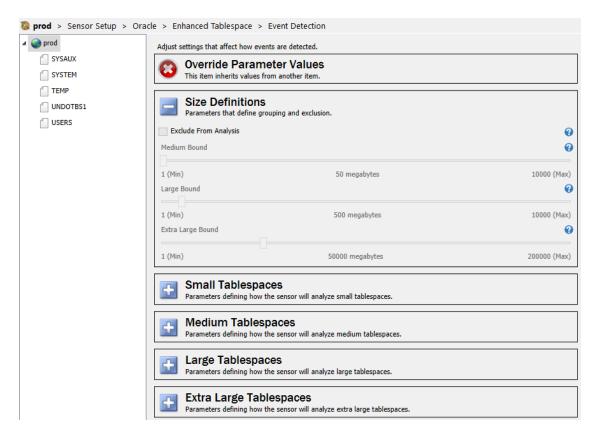


Figure 810: Event Detection Parameter Groups

Parameter Help

Each parameter will include a help button (3) that will display a dialog explaining the parameter's function. For more complex parameters, the impact of changing value will be explained as well.

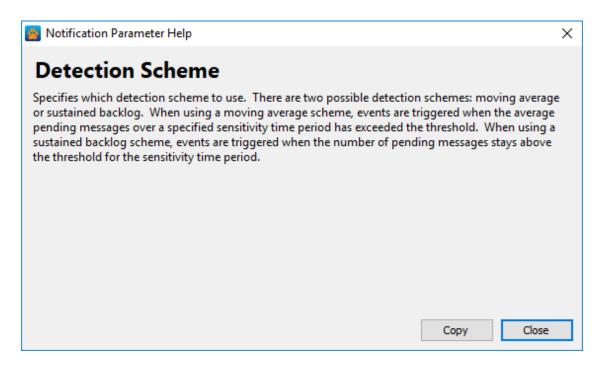


Figure 811: Parameter help dialog

12.2.6 Notification Setup

The Notification Setup page (Figure 812) provides users with the ability to sign up for email or pager notifications per notification topic. For example, in the figure below, the Team Interfaces group and the logonly user are subscribed to the Resonance notification topic. Because no descendents have overrides, the Resonance topic contains all items beneath it.

To sign up for notifications here, a user must first have an email address and the *May Receive Notifications* checkbox checked in *Email Preferences* under the *Tools* menu.

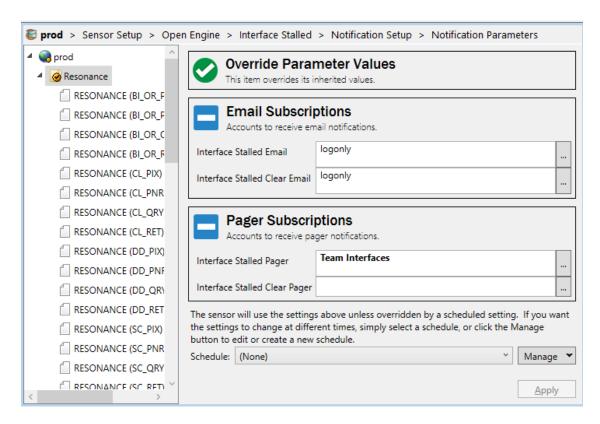


Figure 812: Notification Setup page

The Icons used to describe the tree on the left are helpful to understand how notifications and subscriptions are grouped. This is very similar to how Event Detection parameters are configured.

Image	Meaning
@	The domain and all descendents use default values.
	There are no topics at any level for this domain.
@	The domain uses default values, but at least one descendent has overridden values.
	This is not a topic, but at least one descendent is.
0	The domain is overridden, but no descendents have overridden values.
	This is a topic including all descendent items.
@	The domain is overridden. At least one descendent has overridden values.
	This is a topic. Descendent items not part of another topic are included in this one.
[] .	This group and all descendents use the same values as its parent.
	Descendent items included in the nearest ancestor topic.
	This group uses the same values as its parent. At least one descendent has overridden values.
	Descendent items not part of another topic are included in the nearest ancestor topic.
3	This group is overridden, but no descendents have overridden values.
	This is a topic including all descendent items.
	The name of this group is included in email subjects.
8	This group is overridden. At least one descendent has overridden values.
	This is a topic. Descendent items not part of another topic are included in this one.
	The name of this group is included in email subjects.
	This item and all descendents use the same values as its parent.
	This and all descendent items are part of the nearest ancestor topic.
	This item uses the same values as its parent. At least one descendent has overridden values.
	This and descendent items not part of another topic are included in the nearest ancestor topic.
@	This item is overridden, but no descendents have overridden values.
	This is a topic including all descendent items.
	The (id) of this item is included in email subjects as the topic name.
6	This item is overridden. At least one descendent has overridden values.
	This is a topic. Descendent items not part of another topic are included in this one.
	The (id) of this item is included in email subjects as the topic name.

Table 206: Notification Setup Images

Subscribing to Notifications

To change the subscriptions for a notification, click the "..." button adjacent to an *Email* or *Pager* cell.

This will open the *Manage Email Notifications* or *Manage Pager Notifications* dialog, depending on which option you chose (Figure 812).

If you have a list of account names you wish to use for another subscription, you can copy it with the *Copy* menu item or ctrl+C and paste it with the *Paste* menu item or ctrl+V.

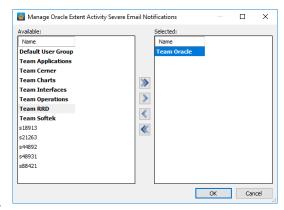


Figure 813: Manage subscriptions dialog

- A Notification Topic is a group of items (e.g. OPS Jobs, OEN Interfaces, etc.). Each item may only be in a single topic. Instead of subscribing to notifications for all items, you can think of each topic as a more focused notification and sign up users and groups to receive the ones they want.
- In the Notification Setup tree, any item or group where the "override" checkbox is checked is a separate topic representing its own stream of notifications.
- Each topic may have its own subscription list.
- Each sensor has its own set of topics. For example, the set of topics for Server Cycler is different than Server Under/Over Serviced. If these sensors both coincidentally have a topic named "Script servers", the list of configs would be independent for each.
- The Inclusion/Exclusion lists from earlier Panther versions have been replaced with notification topics. When upgrading, any items from the exclusion list are automatically moved into a topic named "Migrated Excluded Items". This topic has an empty list of accounts for all subscriptions so no one is notified. Similarly, items from an inclusion list are moved to a topic named "Migrated Included Items."
- Tips:
 - Give topic groups a nice, short name because it will appear in the email subject.
 - Make topics that group items by their team ownership or another logical grouping so interested people see related items together.
 - If you override SCP Config 51, the topic is named "51", not "CPM Script" as you might reasonably think. You can get a more descriptive topic name by adding it to a new topic group with the name of your choice.
 - When a bunch of related items are next to each other in the tree, you can select them all at once and right-click to move them into a new or existing group.
 - It can be helpful to add a group for "Excluded" items that no one is interested in, and clear out
 the list of subscribers or set it to "logonly." Then, you can select one or more items and right-click
 on the item to move them to the excluded group.
 - Inbox rules from your email application can be used to perform operations specific to topic names.
 For example, you could make some items more important or worth interrupting your sacred quiet hours on your phone.

Notification Analysis: History

History shows notifications that have been generated by the current sensor over time. These notifications will be opened in a dialog identical to the Notification History control. For details on using this history dialog,

see the section on the Notification History Control.

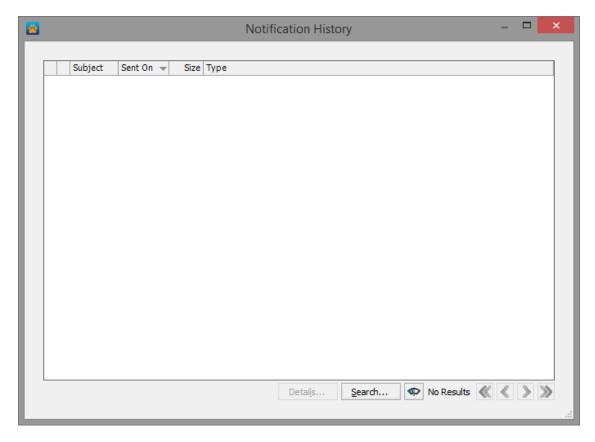


Figure 814: Notification History dialog

12.2.7 Proactive Actions

Within the Proactive Actions page, the behavior a sensor will take while performing actions on the system can be defined. Additional pages are provided to manage parameters, exceptions, and history.

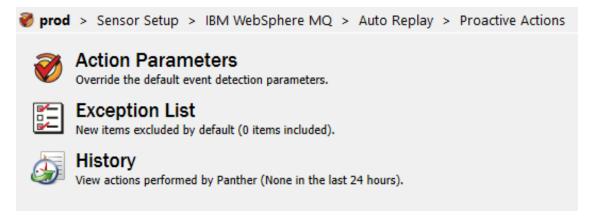


Figure 815: Auto Replay Actions page

Advanced Setup Options: Action Parameters

Similar to Event Detection, the Action Parameters page provides a set of parameters defining sensor behavior and a list of monitored items on the left, allowing for overrides to be set per item. This page provides identical functionality to Event Detection.

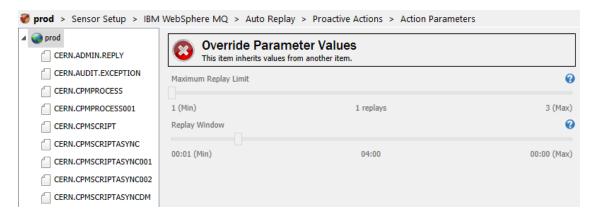


Figure 816: Auto Replay Action Parameters

Advanced Setup Options: Exception List

The exception list provides users a way to define which items the sensor will act upon and which will be ignored. It also defines how new items added later will be treated.

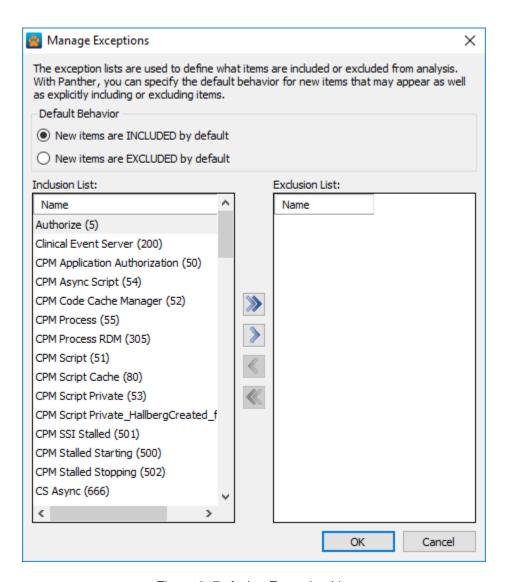


Figure 817: Action Exception List

Action Analysis: History

The history link brings up a dialog containing a history of actions performed by the current sensor. This dialog provides search capability, allowing users to see what actions the sensor may have taken for a target time period. It behaves exactly like the Action History control, so if you would like to learn more about the behavior of this dialog, see the section on the Action History Control.

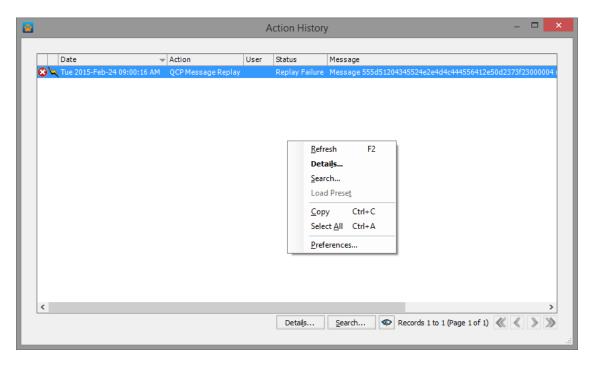


Figure 818: Action History

12.2.8 Operational Behavior

The Operational Behavior page includes a link to Action History that filters down to cycle actions, displaying all cycling operations performed by Panther. At the bottom of the page, there is a reminder that cycling behavior is defined within Configuration Properties.

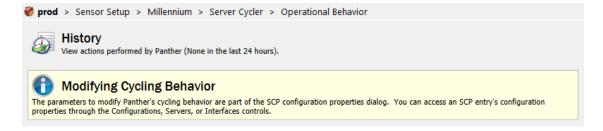


Figure 819: Server Cycler Operational Behavior page

Action Analysis: History

The history link brings up a dialog containing a history of actions performed by the current sensor. This dialog provides search capabilities, allowing users to see what actions the sensor may have taken for a target time period. It behaves exactly like the Action History control, so if you would like to learn more about the behavior of this dialog, see the section on the Action History Control.

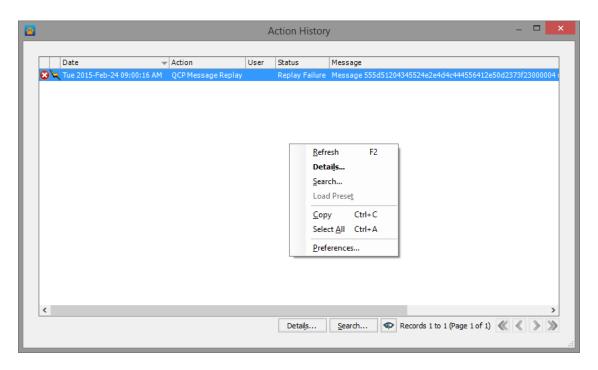


Figure 820: Action History

A View Management

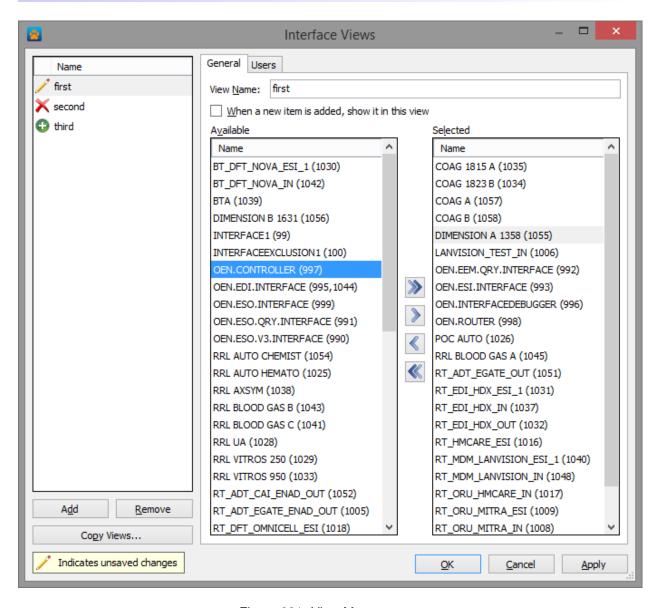
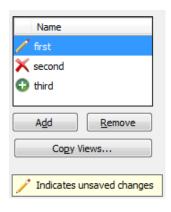


Figure 821: View Management

The view management dialog is composed of two sections - a section to manage the list of views and a section to manage the details for the selected view.

A.1. View List



The view list portion of the dialog provides a list of current views and allows a user to perform the following:

- Managing views
 - Update a view
 - Add a view
 - Remove a view
- Copy views

Figure 822: View List

A.1.1 Managing Views

The basic management operations for views include updating, adding, and removing a view. These options are saved locally and persisted as a batch upon clicking the *OK* or *Apply* button.

Update a View

To update a view, simply select an existing view in the view list and make changes in the view details section of the dialog. Once a change has been made, an icon will appear next to the view in the list indicating unsaved changes are present.

Adding a View

Adding a view is done by clicking the Add button, selecting the Add item in the context menu, or hitting the Insert key on the keyboard. A new view will appear with an add icon in the list, and it will be immediately selected for modification. Once this occurs, simply update the view's details in the same manner as modifying an existing view.

Removing a View

Removing a view is done by clicking the *R*emove button, selecting the *R*emove item in the context menu, or hitting the *D*elete key on the keyboard. If a non-persisted, recently-added view is selected when *R*emove is clicked, it will immediately disappear from the list. Otherwise, the view will display a deleted icon and remain until changes are persisted.

A.1.2 Copying Views

Sometimes there may be an occasion to copy views from one domain to another. The *Copy Views* button accomplishes this task. Once clicked, it launches the copy views dialog.

Copy Views Dialog

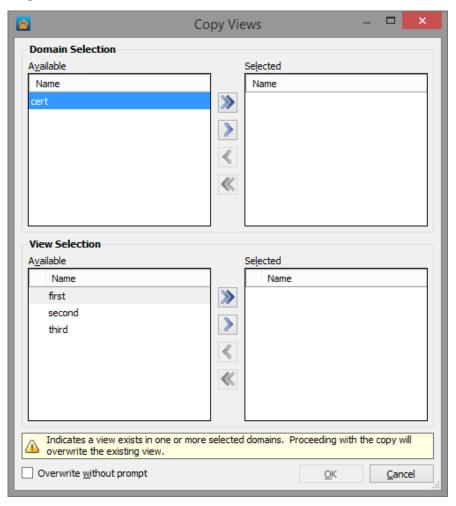


Figure 823: View Copy Dialog

This dialog allows a user to select the target views and domains for copy. As domains are selected, views which have name conflicts in the selected domain will display warning icons (Figure 824).

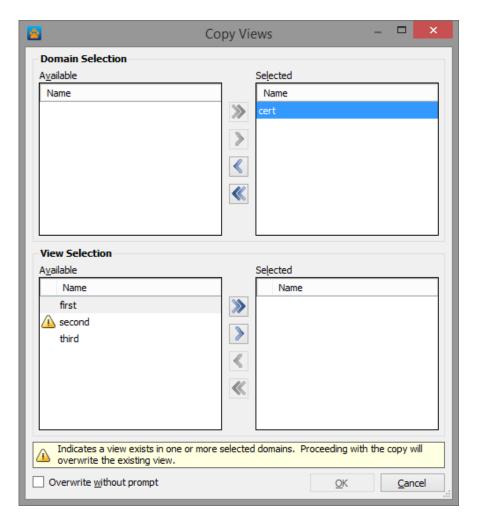


Figure 824: View Copy Dialog With Conflicts

There are two options to deal with conflicts:

- · Overwrite any views in the selected domains with name conflicts
- · Resolve the conflicts within another dialog

If the overwrite option is checked, clicking *O*K will issue the copy request and close the copy dialog. If it is not checked, and one or more selected views have conflicts, the resolve conflicts dialog will appear.

Resolve Conflicts Dialog



Figure 825: Resolve View Conflicts Dialog

This dialog displays the views with conflicts and provides several options for resolving view conflicts:

- · Overwrite views with conflicts
- · Skip views with conflicts
- · Rename views to avoid conflicts

Overwrite works similarly to the overwrite option in the main copy dialog. It will replace the view on a target domain with the view which was selected for copy.

Skip is a little different - it will modify the copy request such that only non-conflicting views are copied rather than the complete list of selected views.



Figure 826: Renaming a Conflict View

The rename function will alter the name of the view sent in the copy request. This can be initiated by clicking the Rename context menu item or hitting F2 on the keyboard. Doing so will select the view's name and allow the user to type in the new name directly.

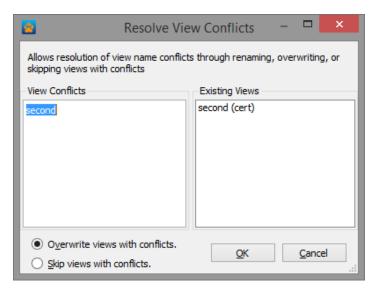


Figure 827: Editing a View Name

To aid in selecting a new view name which does not conflict with views on the target domains, a list of existing views is displayed on the right side of the resolve view conflicts dialog along with the domains on which that name resides.



View renames do not persist to the current domain.

The rename option in the Resolve View Conflicts dialog only modifies the name of the view which ends up on the target domains. Renaming a view on the current domain must be done from the main view management dialog.

Clicking the OK button will close both the resolve view conflicts and the copy views dialogs and issue the copy request.

A.2. View Details

The view detail portion of the dialog provides General and Users tabs which allow users to define the behavior and accessibility of a view.

A.2.1 General Tab

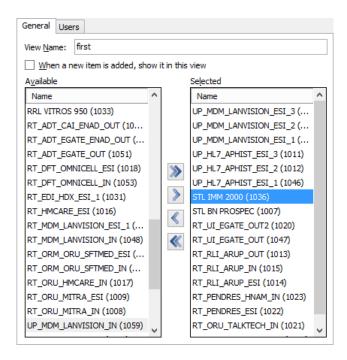


Figure 828: General Tab

Within the General tab, users can update the name of the view, determine if the view should include new items by default, and select which of the current items should be included or excluded from the view.



View names must be unique.

To avoid confusion when selecting views within Panther controls, names must be unique. View names are case-insensitive.

A.2.2 Users Tab

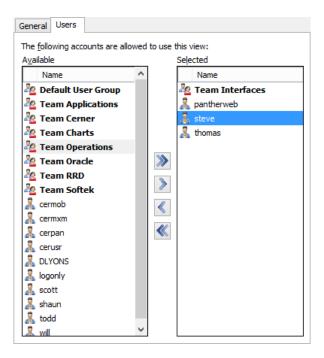


Figure 829: Users Tab

The users tab allows a user to define which Panther users and groups have access to the view. Providing access to new users is as simple as granting access to a group which includes users by default.

B Oracle® Account Creation

Panther utilizes connections to Oracle[®] for monitoring several aspects of a Millennium system. These include general Oracle[®] health items such as remaining tablespace and lock contention to Millennium components which utilize Oracle[®] such as Open Engine, Ops Jobs, RRD, Chart, and XR. It is recommended to set up a dedicated user account on the Oracle[®] system for Panther to use for this purpose.

Run the following commands with an account that has DBA privileges:

```
CREATE USER oracle_read IDENTIFIED BY oracle_read DEFAULT TABLESPACE misc GRANT CREATE SESSION TO oracle_read GRANT SELECT ANY DICTIONARY TO oracle_read GRANT SELECT ANY TABLE TO oracle_read
```

The username, password, and tablespace listed above are defaults and can be substituted with other values as needed.

Once an account is created, it can be added to Panther using the Foreign System Setup control.

C Alerts Trigger Creation

C.1. Account Setup

These steps must be performed as a user with SYSDBA privileges.

In order to place the trigger within a particular schema, it must be created by the user who owns said schema. Before doing that, the user needs a certain set of privileges in the database. These privileges can be revoked once the trigger creation process is completed (see Clean-up).

Modify the oracle_read Oracle® account using the instructions below:

```
    GRANT CREATE TABLE TO oracle_read
    GRANT DROP ANY TABLE TO oracle_read
    GRANT CREATE SEQUENCE TO oracle_read
    GRANT CREATE TRIGGER TO oracle_read
    GRANT ADMINISTER DATABASE TRIGGER TO oracle_read
    GRANT SELECT ON SYS.V_$SESSION TO oracle_read
    ALTER USER oracle_read QUOTA UNLIMITED ON MISC
```

C.2. Trigger Creation

These steps must be performed as the user whose schema the trigger will reside in. In this example, the user is oracle_read.

The following steps will perform all the operations required to create the alerts trigger and its dependent objects in the database.

Check for trigger existence

```
SELECT
OWNER

FROM
DBA_TRIGGERS
WHERE
TRIGGER_NAME = 'AUD_ORA_ERROR'
AND OWNER = 'ORACLE_READ'
```

Disable the trigger if it exists

If the trigger already exists, it will prevent some of the operations performed in later steps of this document. It must be disabled to continue.

```
ALTER TRIGGER AUD_ORA_ERROR DISABLE
```

Check for sequence existence

```
SELECT
SEQUENCE_OWNER

FROM
DBA_SEQUENCES
WHERE
SEQUENCE_NAME = 'AUD_ORA_ERROR_SEQ'
AND SEQUENCE_OWNER = 'ORACLE_READ'
```

Create sequence if necessary

The table used to store alerts information uses an auto-numbering column to identify its rows. Unlike a database like SQL Server, however; there is no concept of an auto-incrementing identity column.

Instead, sequences are used. When a row is inserted, the calling statement must obtain the next value from the sequence and use it for the identity value.

```
CREATE SEQUENCE
AUD_ORA_ERROR_SEQ
INCREMENT BY 1
MINVALUE 1
MAXVALUE 100000000
CYCLE
CACHE 2000
```

Check for table existence

```
SELECT
OWNER

FROM
DBA_ALL_TABLES
WHERE
TABLE_NAME = 'AUD_ORA_ERROR_TB'
AND OWNER = 'ORACLE_READ'
```

Drop the table

If the table already exists, it must be dropped before re-creating it. This step is necessary to ensure that the table's schema matches the version of the trigger created by this document.

```
DROP TABLE AUD_ORA_ERROR_TB
```

Create table

The table can be placed in any available tablespace. Misc is used below as a default tablespace.

```
CREATE TABLE AUD_ORA_ERROR_TB
   ID
                   NUMBER,
                   NUMBER,
   error
   tstamp
                TIMESTAMP,
                NUMBER,
  SID
  serial NUMBER,
machine VARCHAR2(64),
process VARCHAR2(12),
program VARCHAR2(48),
orauser VARCHAR2(30),
osuser VARCHAR2(30),
   error_msg VARCHAR2(4000),
   sql_text
                   CLOB
   )
TABLESPACE misc
STORAGE (INITIAL 4M NEXT 4M MAXEXTENTS UNLIMITED)
```

Create trigger

To capture Oracle® alerts, a trigger is created which fires after SERVERERROR events. This trigger pulls information about the error, the SQL text, and the session under which it occurred. It then places this information into the table created in a prior step so that it can be analyzed later.

Data older than 24 hours is automatically purged when the trigger executes.

Certain error numbers (seen in the WHEN clause) are filtered at the trigger level rather than the Panther sensor. These errors have demonstrated exceptionally high volume and are excluded to prevent I/O issues from excess writes to the alerts table.

```
CREATE OR REPLACE TRIGGER
   AUD_ORA_ERROR
AFTER SERVERERROR ON DATABASE
WHEN (ora_server_error (1) NOT IN
      (00001, 00054, 01400, 01401, 01722, 01841, 01873, 06550, 20100, 25228, 25254))
DECLARE
  v_sql_stmt
                       CLOB;
  v_sql_text
                       ora_name_list_t;
  v_tmp_counter
                     PLS_INTEGER;
  v_tmp_sql_chunks PLS_INTEGER;
                      NUMBER;
  v_sid
  v_serial
                      NUMBER;
  v_machine
                     VARCHAR2(64);
  v_process
                     VARCHAR2(12);
  v_program
                       VARCHAR2(48);
   v_osuser
                      VARCHAR2(30);
BEGIN
  BEGIN
      v_tmp_sql_chunks := ora_sql_txt (v_sql_text);
      IF v_tmp_sql_chunks > 0 THEN
         FOR v_tmp_counter IN 1..v_tmp_sql_chunks LOOP
           v_sql_stmt := v_sql_stmt || v_sql_text (v_tmp_counter);
        END LOOP;
         v_sql_stmt := 'SQL Not Available';
     END IF;
  EXCEPTION
      WHEN OTHERS THEN
         v_sql_stmt := 'SQL Not Available';
  END;
  DELETE FROM
         aud_ora_error_tb
   WHERE
         tstamp <= SYS_EXTRACT_UTC (systimestamp)</pre>
                    - TO_DSINTERVAL ('1 00:00:00');
   SELECT
     SID,
     serial#,
     NVL (terminal, machine),
     process,
     program,
     osuser
   INTO
     v_sid,
```

```
v_serial,
      v_machine,
      v_process,
      v_program,
      v_osuser
   FROM
      v$session
   WHERE
      audsid = userenv ('sessionid');
   INSERT INTO aud_ora_error_tb (
      ID,
      error,
      tstamp,
      SID,
      serial,
      machine,
      process,
      program,
      orauser,
      osuser,
      error_msg,
      sql_text)
   VALUES (
      aud_ora_error_seq.nextval,
      ora_server_error (1),
      SYS_EXTRACT_UTC (systimestamp),
      v_sid,
      v_serial,
      v_machine,
      v_process,
      v_program,
      ora_login_user,
      v_osuser,
      ora_server_error_msg (1),
      v_sql_stmt);
END;
```

Enable the trigger

Now that the trigger creation steps are complete, it can be re-enabled.

ALTER TRIGGER AUD_ORA_ERROR ENABLE

C.3. Clean-up

These steps must be performed as a user with SYSDBA privileges.

Revoke privileges from the user

Perform the following steps to remove the special privileges granted earlier to the user:

- 1. REVOKE CREATE TABLE FROM oracle_read
- 2. REVOKE DROP ANY TABLE FROM oracle_read

- 3. REVOKE CREATE SEQUENCE FROM oracle_read
- 4. REVOKE CREATE TRIGGER FROM oracle_read
- 5. REVOKE ADMINISTER DATABASE TRIGGER FROM oracle_read

Check for duplicates in other schema

In case these steps have been run against a different schema in the past, it is a good idea to check for the existence of the trigger, table, and sequence within other schemas. Any duplicates found should be removed.

First, check for duplicate triggers. It has a dependency on the table, so it must be removed first.

```
SELECT
OWNER

FROM
DBA_TRIGGERS
WHERE
TRIGGER_NAME = 'AUD_ORA_ERROR'
AND OWNER <> 'ORACLE_READ'
```

Next, check for duplicate tables. It has a dependency on the sequence.

```
SELECT
OWNER

FROM
DBA_ALL_TABLES
WHERE
TABLE_NAME = 'AUD_ORA_ERROR_TB'
AND OWNER <> 'ORACLE_READ'
```

Finally, check for duplicate sequences.

```
SELECT
SEQUENCE_OWNER

FROM
DBA_SEQUENCES
WHERE
SEQUENCE_NAME = 'AUD_ORA_ERROR_SEQ'
AND SEQUENCE_OWNER <> 'ORACLE_READ'
```

D Reply Queue Creation

By default, when monitoring the IBM MQ system, Panther uses temporary dynamic queues. Occasionally, this can result in messages appearing in the dead-letter queue with a reply queue of the format AMQ.*. This is most often a result of the MQ system replying to a request after Panther's connection has been interrupted and its temporary queue removed.

To mitigate this issue, Panther now has the ability to use a permanent reply queue when performing MQ queries. The default reply queue name used by Panther is MQSERIES.ADMIN.REPLY. When configured to use a permanent reply queue, Panther will automatically create the queue on startup. Should it be preferable to define the queue beforehand, queue creation steps are given below:

Run the following command from a RUNMQSC session:

```
DEFINE QLOCAL (MQSERIES.ADMIN.REPLY) +
BOQNAME (' ') +
GET (ENABLED) +
MAXDEPTH (5000) +
MAXMSGL (4194304) +
PUT (ENABLED)
```

E Rules Engine Columns

The Rules Engine control executes rules against a data set composed of data from several charge-related tables in the Millennium[®] database. The shape of the data is as follows:

Column Name	Scope	Data Type	Notes
ORGANIZATION_NAME	Group	String	
COST_CENTER	Group	String	
FIN_NBR	Group	String	Group Identifier
ENCOUNTER_TYPE	Group	String	
DISCHARGED	Group	Number	
DISCHARGE_DT_TM	Group	Date	
ACTIVITY_TYPE	Record	String	Department Identifier
CHARGE_ITEM_ID	Record	Number	Record Identifier
CHARGE_DESCRIPTION	Record	String	
SERVICE_DT_TM	Record	Date	Service Date Identifier
ITEM_QUANTITY	Record	Number	
ITEM_PRICE	Record	Number	
ITEM_EXTENDED_PRICE	Record	Number	Price Identifier
CDM	Record	String	
CPT	Record	String	
HCPCS	Record	String	
NDC	Record	String	
QCF	Record	Number	
PROCESS_FLG	Record	Number	
CHARGE_TYPE	Record	String	
BILL_ITEM_ID	Record	Number	
DEFAULT_BILL_ITEM_ID	Record	Number	
ALPHA_BILL_ITEM_ID	Record	Number	
REVENUE_CODE	Record	Number	
ADMIT_TYPE	Group	String	
FINANCIAL_CLASS	Group	String	
GENDER	Group	String	
MAX_CHARGE_DATE	Record	Date	Represents the latest date allowed for a charge on the encounter, calculated by adding the standard delay to the discharge date.
DISCHARGE_DT	Group	Date	
SERVICE_DT	Record	Date	_

Table 207: Rules Engine Columns (1 of 2)

Column Name	Scope	Data Type	Notes
ENCNTR_FINANCIAL_CLASS	Group	String	
LOCATION	Group	String	
FACILITY	Group	String	
BUILDING	Group	String	
NURSE_UNIT	Group	String	
ROOM	Group	String	
BED	Group	String	
ENCNTR_ADMIT_TYPE	Group	String	
ENCNTR_MEDICAL_SERVICE	Group	String	
ENCOUNTER_TYPE_CLASS	Group	String	
TIER_GROUP	Group	String	
MEDICAL_SERVICE	Group	String	
DEPARTMENT	Group	String	
SECTION	Group	String	
SUBSECTION	Group	String	
LEVEL5	Group	String	
ORD_LOC	Group	String	
PERF_LOC	Group	String	
HEALTH_PLAN	Group	String	
ENCNTR_STATUS	Group	String	

Table 208: Rules Engine Columns (2 of 2)

F Pharmacy Integrity Column Definitions

The Pharmacy Integrity control does a lot of calculations. Here are explanations for the different columns you may see in the control, grouped by the grid or dialog you may see them on.

F.1. Pharmacy Summary

Drug Class - The DEA Schedule of Classes of Drugs. Only those classes which have drugs with discrepancies will be shown.

Charge Discrepancy Count - The number of drugs within that Drug Class which have charge discrepancies

Charge Discrepancy - The total Charge Discrepancy of the drugs in that Drug Class.

Documentation Discrepancies - The number of drugs within that Drug Class which have documentation discrepancies.

Shrinkage Count - The number of drugs within that Drug Class which have shrinkage.

Shrinkage Cost - The Unaccounted Cost plus the Wasted Cost.

F.2. Charge Discrepancy Summary

(Has Administration(s) from Ignored Funding Sources) - Whether the mnemonic has any administrations within the search range with entries in the IMMUNIZATION_MODIFIER table with funding sources on the list of ignored funding sources. Panther Support can help configure this list.

Encounters with Discrepancies - The number of encounters for that drug which have charge discrepancies.

Expected Charges - The control counts the number of product dispenses for the following:

- non-offset dispenses associated with an administration (where the administration is not marked as being from an ignored funding source)
- · non-offset dispenses with a charge indicator of 1
- any other non-offset, non-return dispense table entries with a charge indicator of 1, that are not associated with administrations from ignored funding sources.

However, if there are no product dispenses on a given dispense, the control uses the number of order ingredients in the first action sequence.

The control subtracts any returns with no residual doses, likewise counting the number of product dispenses on a return or the order ingredients.

Actual Charges - The Actual Charges value is calculated by counting the number of CHARGE records associated with an order which satisfy the following conditions:

- has an OFFSET_CHARGE_ITEM_ID of 0
- · the CHARGE is active
- · has a PROCESS_FLG that is not 998
- has a CHARGE_TYPE_CD that is not "NO CHARGE", "WORKLOADONLY", or "PHARMNC"

Expected Charge Total - Sums the product dispense history prices for the following:

- non-offset dispenses associated with an administration (where the administration is not marked as being from an ignored funding source)
- · non-offset dispenses with a charge indicator of 1
- any other non-offset, non-return dispense table entries with a charge indicator of 1, that are not associated with administrations from ignored funding sources.

If the product dispense history does not have a price, then we sum the EVENT_TOTAL_PRICE. If that is 0 or not present, we sum the OD_ORDER_PRICE_VALUE.

Then we subtract the return price. We find the return price by summing the product dispense history prices of any return-type entries in the dispense table, that are not offset and have a charge indicator of 1.

If the product dispense history does not have a price for the return, then we sum the EVENT_TOTAL_PRICE or the OD_ORDER_PRICE_VALUE, whichever is found first.

Actual Charge Total - Sums the ITEM_EXTENDED_PRICE for the CHARGE records that are not offset.

Charge Discrepancy - The difference between the Expected Charge Total and the Actual Charge Total.

F.3. Charge Details

FIN - Financial number for an encounter.

(Has Administration(s) from Ignored Funding Sources) - Whether the encounter has any administrations within the search range with entries in the IMMUNIZATION_MODIFIER table with funding sources on the list of ignored funding sources. Panther Support can help configure this list.

Expected Charges - The control counts the number of product dispenses for the following:

- non-offset dispenses associated with an administration (where the administration is not marked as being from an ignored funding source)
- · non-offset dispenses with a charge indicator of 1
- any other non-offset, non-return dispense table entries with a charge indicator of 1, that are not associated with administrations from ignored funding sources.

However, if there are no product dispenses on a given dispense, the control uses the number of order ingredients in the first action sequence.

The control subtracts any returns with no residual doses, likewise counting the number of product dispenses on a return or the order ingredients.

Actual Charges - The Actual Charges value is calculated by counting the number of CHARGE records associated with an order which satisfy the following conditions:

- has an OFFSET_CHARGE_ITEM_ID of 0
- · the CHARGE is active
- has a PROCESS_FLG that is not 998
- has a CHARGE_TYPE_CD that is not "NO CHARGE", "WORKLOADONLY", or "PHARMNC"

Expected Charge Total - Sums the product dispense history prices for the following:

- non-offset dispenses associated with an administration (where the administration is not marked as being from an ignored funding source)
- · non-offset dispenses with a charge indicator of 1

• any other non-offset, non-return dispense table entries with a charge indicator of 1, that are not associated with administrations from ignored funding sources.

If the product dispense history does not have a price, then we sum the EVENT_TOTAL_PRICE. If that is 0 or not present, we sum the OD_ORDER_PRICE_VALUE.

Then we subtract the return price. We find the return price by summing the product dispense history prices of any return-type entries in the dispense table, that are not offset and have a charge indicator of 1.

If the product dispense history does not have a price for the return, then we sum the EVENT_TOTAL_PRICE or the OD_ORDER_PRICE_VALUE, whichever is found first.

Actual Charge Total - Sums the ITEM_EXTENDED_PRICE for the CHARGE records that are not offset.

Charge Discrepancy - The difference between the Expected Charge Total and the Actual Charge Total.

F.4. Encounter Details

Expected Charges - The control counts the number of product dispenses for the following:

- non-offset dispenses associated with an administration (where the administration is not marked as being from an ignored funding source)
- · non-offset dispenses with a charge indicator of 1
- any other non-offset, non-return dispense table entries with a charge indicator of 1, that are not associated with administrations from ignored funding sources.

However, if there are no product dispenses on a given dispense, the control uses the number of order ingredients in the first action sequence.

The control subtracts any returns with no residual doses, likewise counting the number of product dispenses on a return or the order ingredients.

Actual Charges - The Actual Charges value is calculated by counting the number of CHARGE records associated with an order which satisfy the following conditions:

- has an OFFSET_CHARGE_ITEM_ID of 0
- · the CHARGE is active
- has a PROCESS_FLG that is not 998
- has a CHARGE_TYPE_CD that is not "NO CHARGE", "WORKLOADONLY", or "PHARMNC"

Expected Charge Total - Sums the product dispense history prices for the following:

- non-offset dispenses associated with an administration (where the administration is not marked as being from an ignored funding source)
- · non-offset dispenses with a charge indicator of 1
- any other non-offset, non-return dispense table entries with a charge indicator of 1, that are not associated with administrations from ignored funding sources.

If the product dispense history does not have a price, then we sum the EVENT_TOTAL_PRICE. If that is 0 or not present, we sum the OD_ORDER_PRICE_VALUE.

Then we subtract the return price. We find the return price by summing the product dispense history prices of any return-type entries in the dispense table, that are not offset and have a charge indicator of 1.

If the product dispense history does not have a price for the return, then we sum the EVENT_TOTAL_PRICE or the OD_ORDER_PRICE_VALUE, whichever is found first.

Actual Charge Total - Sums the ITEM_EXTENDED_PRICE for the CHARGE records that are not offset.

Charge Discrepancy - The difference between the Expected Charge Total and the Actual Charge Total.

Dispense Cost - The cost of the drugs dispensed, less the cost of the drugs returned.

Dispense Price - The price that might have been charged for the drugs dispensed, less the price that might have been charged for the drugs returned.

Dispensed - The quantity of drug dispensed, calculated from the product dispenses associated with each DISPENSE_HX record for the encounter orders with a DISP_EVENT_TYPE_CD configured in the "Dispense Event Id" list.

Returned - The quantity of drug returned, calculated from the product dispenses associated with each DISPENSE_HX record for the encounter orders with a DISP_EVENT_TYPE_CD configured in the "Return Event Id" list.

Net Dispensed - The Dispensed quantity less the Returned quantity.

Administered - The quantity of drugs administered in MED_ADMIN_EVENT entries associated with the given order which have an EVENT_TYPE_CD on the configured "Administered Event Id" list, and don't have a ResultStatusCd of 31 or an EventTag of "InError".

Administered on Dispense - The quantity of drugs dispensed where the charge indicator is 1, or the Order's Charge Point is Charge On Dispense.

Total Administered - The sum of the Administered quantity of drugs and the Administered on Dispense quantity of drugs.

Not Administered - The quantity of drugs recorded as not administered in MED_ADMIN_EVENT entries associated with the given order which have an EVENT_TYPE_CD on the configured "Not Administered Event Id" list, and don't have a ResultStatusCd of 31 or an EventTag of "InError".

Unaccounted - If there is only one type of unit used across all the quantities, or all the quantities have the same ratio, dispensed - (administered + notAdministered + (administeredOnDispense - notAdministeredOnDispense)).

If there is more than one type of unit or different ratios, then it does roughly the same thing, but only where the order IDs match. So, order #1 with 5mg/10ml dispensed and order #2 with 5mg/20ml administered has an unaccounted quantity of 5mg/10ml, because the ratios are different and they are on different orders. (Though, really, it would likely run into a calculation issue first.)

Administered and Not Administered may or may not include values for ChargeOnDispense orders depending on configuration.

Unaccounted Cost - If the previously calculated Unaccounted Quantity, Net Dispensed Quantity, or Dispense Cost is 0, the cost is 0. Otherwise, it takes the strength of the net dispensed quantity, or the volume if there is no strength, and the matching unit of strength/volume from the unaccounted quantity. It then divides that amount by the dispensed amount, and multiplies by the dispense cost.

Invalid - If there is only one type of unit used across all the quantities, or all the quantities have the same ratio, (administered + notAdministered + (administeredOnDispense - notAdministeredOnDispense)) - dispensed

Parenthesis matter, as negatives are not allowed in these quantity calculations.

If there is more than one type of unit or different ratios, then it does roughly the same thing, but only where the order IDs match. So, order #1 with 5mg/10ml administered and order #2 with 5mg/20ml dispensed has an invalid quantity of 5mg/10ml, because the ratios are different and they are on different orders. (Though, really, it would likely run into a calculation issue first.)

Administered and Not Administered may or may not include values for ChargeOnDispense orders depending on configuration.

Order ID - The Millennium Order ID.

Mnemonic - The order mnemonic.

Original Order Date - The date the order was placed.

Contributor - The application that originated the order.

Charge Point - If there is no associated dispense or PRN_IND for the order, it is NotDefined. If the PRN_IND is 1, it is the value of the dispense's CHARGE_PT_PRN_IND. If the PRN_IND is not 1, it is the value of the dispense's CHARGE_PT_SCH_IND.

Charge Count - The number of non-offset charges associated with the order.

Charge Total - Sums the ITEM_EXTENDED_PRICE for the non-offset charges.

Anesthesia Dispense - Whether the drug administered is marked as being anesthesia.

(Has Ignored Funding Source) - Whether the drug administered has a funding source (pulled from the IM-MUNIZATION_MODIFIER table) on the list of ignored funding sources. Panther Support can help configure this list.

Dispense Count - Count of the DISPENSE_HX records for an order with a DISP_EVENT_TYPE_CD configured in the "Dispense Event Id" list.

Dispensed - The quantity of drug dispensed, calculated from the product dispenses associated with each DISPENSE_HX record for the encounter orders with a DISP_EVENT_TYPE_CD configured in the "Dispense Event Id" list.

Administered on Dispense - The quantity of drugs dispensed where the charge indicator is 1, or the Order's Charge Point is Charge On Dispense.

Administration Event Count - The number of MED_ADMIN_EVENT entries associated with the given order which have an EVENT_TYPE_CD on the configured "Administered Event Id" list, and don't have a ResultStatusCd of 31 or an EventTag of "InError".

Administered - The quantity of drugs administered in MED_ADMIN_EVENT entries associated with the given order which have an EVENT_TYPE_CD on the configured "Administered Event Id" list, and don't have a ResultStatusCd of 31 or an EventTag of "InError".

Not Administered Event Count - The number of MED_ADMIN_EVENT entries associated with the given order which have an EVENT_TYPE_CD on the configured "Not Administered Event Id" list, and don't have a ResultStatusCd of 31 or an EventTag of "InError".

Not Administered - The quantity of drugs recorded as not administered in MED_ADMIN_EVENT entries associated with the given order which have an EVENT_TYPE_CD on the configured "Not Administered Event Id" list, and don't have a ResultStatusCd of 31 or an EventTag of "InError".

Returned Event Count - Count of the DISPENSE_HX records for an order with a DISP_EVENT_TYPE_CD configured in the "Return Event Id" list.

Returned - The quantity of drug returned, calculated from the product dispenses associated with each DISPENSE_HX record for the encounter orders with a DISP_EVENT_TYPE_CD configured in the "Return Event Id" list.

Not Administered On Dispense - The quantity of drugs in the order's DispenseHistory, where the DISP_EVENT_TYPE_CD is in the defined list of return event types, and either CHARGE_IND == 1, or the order is ChargeOnDispense.

F.5. Order Details

Process Flag - The charge table's process flag. (Examples: 100 - the charge is sent to Millennium's Revenue Cycle application, and 1 is a suspended charge.)

Charge Description - Description of the medication charge.

Price - The price of a single dose of this medication.

Posted Date - The date the charge was entered in the charge table.

Service Date - The date of service for the charge.

HCPCS - Healthcare Common Procedure Coding System, if defined for this medication.

Dispense History ID - DISPENSE_HX.DISPENSE_HX_ID

Dispense Type - Whether the record is for a Dispense or a Return.

Dispense Event Type - DISPENSE_HX.DISP_EVENT_TYPE_CD

Date - DISPENSE_HX.DISPENSE_DT_TM

Quantity - The quantity of drug dispensed, calculated from the product dispenses associated with the DISPENSE_HX record.

Location - The display value corresponding with DISPENSE_HX.DISP_LOC_CD.

Source - The display value corresponding with DISPENSE_HX.DISP_SRC_CD.

Dispensed By - The user who triggered the dispense.

Mnemonic - The order mnemonic.

Sequence - The sequence of the products in the dispense.

NDC - National Drug Code

Inner NDC - National Drug Code of the inner package.

Pyxis ID - The pharmacy robot ID for the NDC.

Med Admin Event ID - MED_ADMIN_EVENT.MED_ADMIN_EVENT_ID

Administration Type - Whether the administration record is Administered or Not Administered.

Begin Date - CLINICAL_EVENT.EVENT_START_DT_TM

End Date - CLINICAL_EVENT.EVENT_END_DT_TM

Event Tag - CLINICAL_EVENT.EVENT_TAG

Quantity - The quantity that was administered or not administered.

Nurse Unit - The display value associated with MED_ADMIN_EVENT.NURSE_UNIT_CD.

Administered By - The NAME_FULL_FORMATTED associated with CLINICAL_EVENT.PERFORMED_PRSNL_ID.

(Has Ignored Funding Source) - Whether the drug administered has a funding source (pulled from the IM-MUNIZATION_MODIFIER table) on the list of ignored funding sources. Panther Support can help configure this list.

F.6. Documentation Discrepancy Summary

Mnemonic - The Millennium order mnemonic.

(Has Administration(s) from Ignored Funding Sources) - Whether the mnemonic has any administrations within the search range with entries in the IMMUNIZATION_MODIFIER table with funding sources on the list of ignored funding sources. Panther Support can help configure this list.

Drug Class - The FDA drug classification schedules organize drugs into groups based on risk of abuse or harm.

Encounters with Unaccounted for Dispenses - The number of encounters for each drug which have been determined to have an amount of drug dispensed that is not accounted for by return, administration, or wastage.

Encounters with Invalid Administrations - The number of encounters for each drug which have been determined to have a greater quantity administered than dispensed.

Encounters with Undocumented Returns - The number of encounters for each drug which have been determined to have a return with no matching record of Not Administered.

Encounters with Calculation Issues - The number of encounters for each drug where we have been unable to perform our calculations. A common cause for this is if there is an inconsistency within the encounter of the unit the administrations are recorded in.

F.7. Encounters with Unaccounted

FIN - Financial number for an encounter.

(Has Administration(s) from Ignored Funding Sources) - Whether the encounter has any administrations within the search range with entries in the IMMUNIZATION_MODIFIER table with funding sources on the list of ignored funding sources. Panther Support can help configure this list.

Dispensed - The quantity of drug dispensed, calculated from the product dispenses associated with each DISPENSE_HX record for the encounter orders with a DISP_EVENT_TYPE_CD configured in the "Dispense Event Id" list.

Returned - The quantity of drug returned, calculated from the product dispenses associated with each DISPENSE_HX record for the encounter orders with a DISP_EVENT_TYPE_CD configured in the "Return Event Id" list.

Net Dispensed - The quantity of drug dispensed, less the quantity of drug returned.

Administered - The quantity of drugs administered in MED_ADMIN_EVENT entries associated with the given order which have an EVENT_TYPE_CD on the configured "Administered Event Id" list, and don't have a ResultStatusCd of 31 or an EventTag of "InError".

Administered on Dispense - The quantity of drugs dispensed where the charge indicator is 1, or the Order's Charge Point is Charge On Dispense.

Total Administered - The sum of the Administered quantity of drugs and the Administered on Dispense quantity of drugs.

Not Administered - The quantity of drugs recorded as not administered in MED_ADMIN_EVENT entries associated with the given order which have an EVENT_TYPE_CD on the configured "Not Administered Event Id" list, and don't have a ResultStatusCd of 31 or an EventTag of "InError".

Unaccounted - If there is only one type of unit used across all the quantities, or all the quantities have the same ratio, dispensed - (administered + notAdministered + (administeredOnDispense - notAdministeredOnDispense)).

If there is more than one type of unit or different ratios, then it does roughly the same thing, but only where the order IDs match. So, order #1 with 5mg/10ml dispensed and order #2 with 5mg/20ml administered has an unaccounted quantity of 5mg/10ml, because the ratios are different and they are on different orders. (Though, really, it would likely run into a calculation issue first.)

Administered and NotAdministered may or may not include values for ChargeOnDispense orders depending on configuration.

Unaccounted Cost - Looks at the previously calculated unaccounted quantity. If it, the net dispensed quantities, or the dispense cost is 0, the cost is 0. Otherwise, it takes the strength of the net dispensed quantity, or the volume if there is no strength, and the matching unit of strength/volume from the unaccounted quantity.

It then divides that amount by the dispensed amount, and multiplies by the dispense cost.

Charge Discrepancy - The difference between the Expected Charge Total and the Actual Charge Total.

F.8. Encounters with Invalid Administrations

FIN - Financial number for an encounter.

(Has Administration(s) from Ignored Funding Sources) - Whether the encounter has any administrations within the search range with entries in the IMMUNIZATION_MODIFIER table with funding sources on the list of ignored funding sources. Panther Support can help configure this list.

Dispensed - The quantity of drug dispensed, calculated from the product dispenses associated with each DISPENSE_HX record for the encounter orders with a DISP_EVENT_TYPE_CD configured in the "Dispense Event Id" list.

Returned - The quantity of drug returned, calculated from the product dispenses associated with eac DISPENSE_HX record for the encounter orders with a DISP_EVENT_TYPE_CD configured in the "Return Event Id" list.

Net Dispensed - The quantity of drug dispensed, less the quantity of drug returned.

Administered - The quantity of drugs administered in MED_ADMIN_EVENT entries associated with the given order which have an EVENT_TYPE_CD on the configured "Administered Event Id" list, and don't have a ResultStatusCd of 31 or an EventTag of "InError".

Administered on Dispense - The quantity of drugs dispensed where the charge indicator is 1, or the Order's Charge Point is Charge On Dispense.

Total Administered - The sum of the Administered quantity of drugs and the Administered on Dispense quantity of drugs.

Not Administered - The quantity of drugs recorded as not administered in MED_ADMIN_EVENT entries associated with the given order which have an EVENT_TYPE_CD on the configured "Not Administered Event Id" list, and don't have a ResultStatusCd of 31 or an EventTag of "InError".

Invalid - The quantity of drugs Administered less the quantity Dispensed.

Charge Discrepancy - The difference between the Expected Charge Total and the Actual Charge Total.

F.9. Encounters with Undocumented Returns

FIN - Financial number for an encounter.

(Has Administration(s) from Ignored Funding Sources) - Whether the encounter has any administrations within the search range with entries in the IMMUNIZATION_MODIFIER table with funding sources on the list of ignored funding sources. Panther Support can help configure this list.

Dispensed - The quantity of drug dispensed, calculated from the product dispenses associated with each DISPENSE_HX record for the encounter orders with a DISP_EVENT_TYPE_CD configured in the "Dispense Event Id" list.

Returned - The quantity of drug returned, calculated from the product dispenses associated with each DISPENSE_HX record for the encounter orders with a DISP_EVENT_TYPE_CD configured in the "Return Event Id" list.

Net Dispensed - The quantity of drug dispensed, less the quantity of drug returned.

Administered - The quantity of drugs administered in MED_ADMIN_EVENT entries associated with the given order which have an EVENT_TYPE_CD on the configured "Administered Event Id" list, and don't have a ResultStatusCd of 31 or an EventTag of "InError".

Administered on Dispense - The quantity of drugs dispensed where the charge indicator is 1, or the Order's Charge Point is Charge On Dispense.

Total Administered - The sum of the Administered quantity of drugs and the Administered on Dispense quantity of drugs.

Not Administered - The quantity of drugs recorded as not administered in MED_ADMIN_EVENT entries associated with the given order which have an EVENT_TYPE_CD on the configured "Not Administered Event Id" list, and don't have a ResultStatusCd of 31 or an EventTag of "InError".

Charge Discrepancy - The difference between the Expected Charge Total and the Actual Charge Total.

F.10. Encounters with Calculation Issues

FIN - Financial number for an encounter.

(Has Administration(s) from Ignored Funding Sources) - Whether the encounter has any administrations within the search range with entries in the IMMUNIZATION_MODIFIER table with funding sources on the list of ignored funding sources. Panther Support can help configure this list.

Dispensed - The quantity of drug dispensed, calculated from the product dispenses associated with each DISPENSE_HX record for the encounter orders with a DISP_EVENT_TYPE_CD configured in the "Dispense Event Id" list.

Returned - The quantity of drug returned, calculated from the product dispenses associated with each DISPENSE_HX record for the encounter orders with a DISP_EVENT_TYPE_CD configured in the "Return Event Id" list.

Administered - The quantity of drugs administered in MED_ADMIN_EVENT entries associated with the given order which have an EVENT_TYPE_CD on the configured "Administered Event Id" list, and don't have a ResultStatusCd of 31 or an EventTag of "InError".

Not Administered - The quantity of drugs recorded as not administered in MED_ADMIN_EVENT entries associated with the given order which have an EVENT_TYPE_CD on the configured "Not Administered Event Id" list, and don't have a ResultStatusCd of 31 or an EventTag of "InError".

Charge Discrepancy - The difference between the Expected Charge Total and the Actual Charge Total.

F.11. Shrinkage Summary

Mnemonic - The Millennium order mnemonic.

(Has Administration(s) from Ignored Funding Sources) - Whether the mnemonic has any administrations within the search range with entries in the IMMUNIZATION_MODIFIER table with funding sources on the list of ignored funding sources. Panther Support can help configure this list.

Drug Class - The FDA drug classification schedules organize drugs into groups based on risk of abuse or harm.

Encounters with Shrinkage - The number of encounters for that drug which have a non-zero Shrinkage quantity.

Shrinkage Cost - The Unaccounted Cost plus the Wasted Cost.

Shrinkage - If there is only one type of unit used across all the quantities, or all the quantities have the same ratio, dispensed - (administeredOnDispense - notAdministeredOnDispense) - administered.

If there is more than one type of unit or different ratios, then it does roughly the same thing, but only where the order IDs match. So, order #1 with 5mg/10ml dispensed and order #2 with 5mg/20ml administered has a shrinkage quantity of 5mg/10ml, because the ratios are different and they are on different orders. (Though, really, it would likely run into a calculation issue first.)

Administered may or may not include values for ChargeOnDispense orders depending on configuration.

Wasted Cost - Looks at the previously calculated wasted quantity. If it, the net dispensed quantities, or the dispense cost is 0, the cost is 0. Otherwise, it takes the strength of the net dispensed quantity, or the volume if there is no strength, and the matching unit of strength/volume from the wasted quantity. It then divides that amount by the dispensed amount, and multiplies by the dispense cost.

Wasted - The Shrinkage quantity less the Unaccounted quantity.

Unaccounted Cost - Looks at the previously calculated unaccounted quantity. If it, the net dispensed quantities, or the dispense cost is 0, the cost is 0. Otherwise, it takes the strength of the net dispensed quantity, or the volume if there is no strength, and the matching unit of strength/volume from the unaccounted quantity. It then divides that amount by the dispensed amount, and multiplies by the dispense cost.

Unaccounted - If there is only one type of unit used across all the quantities, or all the quantities have the same ratio, dispensed - (administered + notAdministered + (administeredOnDispense - notAdministeredOnDispense)).

If there is more than one type of unit or different ratios, then it does roughly the same thing, but only where the order IDs match. So, order #1 with 5mg/10ml dispensed and order #2 with 5mg/20ml administered has an unaccounted quantity of 5mg/10ml, because the ratios are different and they are on different orders. (Though, really, it would likely run into a calculation issue first.)

Administered and NotAdministered may or may not include values for ChargeOnDispense orders depending on configuration.

F.12. Shrinkage Details

FIN - Financial number for an encounter.

(Has Administration(s) from Ignored Funding Sources) - Whether the encounter has any administrations within the search range with entries in the IMMUNIZATION_MODIFIER table with funding sources on the list of ignored funding sources. Panther Support can help configure this list.

Shrinkage Cost - The Unaccounted Cost plus the Wasted Cost.

Shrinkage - If there is only one type of unit used across all the quantities, or all the quantities have the same ratio, dispensed - (administeredOnDispense - notAdministeredOnDispense) - administered.

If there is more than one type of unit or different ratios, then it does roughly the same thing, but only where the order IDs match. So, order #1 with 5mg/10ml dispensed and order #2 with 5mg/20ml administered has a shrinkage quantity of 5mg/10ml, because the ratios are different and they are on different orders. (Though, really, it would likely run into a calculation issue first.) Administered may or may not include values for ChargeOnDispense orders depending on configuration.

Wasted Cost - Looks at the previously calculated wasted quantity. If it, the net dispensed quantities, or the dispense cost is 0, the cost is 0. Otherwise, it takes the strength of the net dispensed quantity, or the volume if there is no strength, and the matching unit of strength/volume from the wasted quantity. It then divides that amount by the dispensed amount, and multiplies by the dispense cost.

Wasted - The Shrinkage quantity less the Unaccounted quantity.

Unaccounted Cost - Looks at the previously calculated unaccounted quantity. If it, the net dispensed quantities, or the dispense cost is 0, the cost is 0. Otherwise, it takes the strength of the net dispensed quantity, or the volume if there is no strength, and the matching unit of strength/volume from the unaccounted quantity. It then divides that amount by the dispensed amount, and multiplies by the dispense cost.

Unaccounted - If there is only one type of unit used across all the quantities, or all the quantities have the same ratio, dispensed - (administered + notAdministered + (administeredOnDispense - notAdministeredOnDispense)). If there is more than one type of unit or different ratios, then it does roughly the same thing, but only where the order IDs match. So, order #1 with 5mg/10ml dispensed and order #2 with 5mg/20ml administered has an unaccounted quantity of 5mg/10ml, because the ratios are different and they are on different orders. (Though, really, it would likely run into a calculation issue first.)

Administered may or may not include values for ChargeOnDispense orders depending on configuration.

Glossary

- **Blacklist** Refers to a collection of interfaces not being monitored by Panther due to exceptionally large numbers of unprocessed or pending messages in their queues. Monitoring such interfaces increases the load on Oracle[®] significantly. 640
- **Breadcrumbs** The location and scope of a Panther Control displayed at the top of the Control in the toolstrip. The breadcrumbs are useful for distinguishing between similar desktop controls that are from different domains or different nodes. 32
- Context Menu A context menu is any list of options that can be opened by right-clicking an item in the user interface. All major controls in Panther have a context menu associated with their main data table. Because the context of the right-click determines the contents of the menu, where you right-click is important. Depending on where you right-click on the user interface, context menus may change. Changes can include small things like graying out or enabling options in the list or significant changes such as the entire contents of the menu changing. 59, 84, 85, 91, 93, 102, 127–133, 135, 136, 139–141, 146–148, 173, 175–178, 180–185, 187–189, 197, 204, 217–220, 224, 248, 261–263, 265–279, 281, 282, 284, 322, 323, 325–327, 487, 499, 505, 523, 528, 542, 602, 607, 619, 622, 625, 628, 631, 649
- **CSV** Comma-Separated Value. 125, 155, 160, 173, 191, 202, 229, 242, 261, 262, 290, 291, 320, 345, 346, 377, 381, 395, 399, 403, 407, 412, 416, 420, 424, 428, 431, 435, 570
- **Cycle** The process of restarting one or more server processes in such a manner that end users do not experience a denial of service. 45, 80, 636, 641
- **Dead Server** A server with no running instances but configured to have more than zero running instances. 615
- **Device Identifier** A mandatory, fixed portion of a UDI that identifies the labeler and the specific version or model of a device. 192, see Universal Device Identifier
- **DNFB** Discharged Not Final Billed. 341
- **ESI** External Service Inbound A foreign system is using this interface to send messages to Millennium. 505
- **ESO** External Service Outbound Millennium is using this interface to send messages to a foreign system.
- GL General Ledger. 355, 358
- Los Level Of Service a property in Panther that is used to describe the number of server instances that should be running for a particular Server. This value determines how many instances are started when Panther cycles a Server as well as how Panther determines if a Server is under or overserviced. 616
- **Overserviced** Describes a server that has a greater number of running instances than the number of instances listed in its server configuration. 614, 638
- **Production Identifier** A conditional, variable portion of a UDI that identifies one or more of the following when included on the label of a device:

- · Lot or batch number within which a device was manufactured
- · Serial number of a specific device
- · Expiration date of a specific device
- · Date a specific device was manufactured
- Distinct identification code for a human cell, tissue, or cellular and tissue-based product (HCT/P) regulated as a device

. 192, see Universal Device Identifier

SCP Server Control Panel. 55, 530, 538, 626, 627, 641

Sensor A process that runs on Panther that is designed to identify anomalous behaviors or situations on foreign systems such as Oracle® or Millennium. 11, 633

Server Instance A specific instance of a running server representing a single process on a node. 616, 637

Underserviced Describes a server that has a smaller number of running instances than the number of instances listed in its server configuration. 120, 614, 638

Universal Device Identifier UDI – A unique numeric or alphanumeric code used to identify a device.

For more information, refer to UDI Basics. 192, 696

User1 Millennium account set up for Panther with similar privileges to *system*. This is typically pantherweb. 13, 21

User2 Millennium account set up for Panther with similar privileges to *systemoe*. This is typically panther-cycler. 13, 21, 494