Optum

Stratus Imaging Workflow and Reporting

Advanced Visualization Integration Guide

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Document and release information

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Products

Stratus Imaging Reporting
Stratus Imaging Workflow

Regulatory information

Manufactured for Change Healthcare Canada Company
10711 Cambie Road
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Support information

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Standard support includes software troubleshooting, software updates covered under your active Support and Maintenance Agreement, and assistance with issue triage and escalation. Software and hardware coverage levels and response expectations are defined in your Support and Maintenance Agreement.

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Reader comments

Comments or suggestions regarding this publication are welcome. Call the toll-free number for your region listed at https://enterpriseimaging-support.optum.com.

About this guide

The content in this guide is republished from *Advanced Visualization Integration Guide* (Version 2.0, Effective date: April 16, 2026) available on the Learning Center for Stratus Imaging Workflow and Stratus Imaging Reporting at https://help.pacs.stratus.optum.com.

Purpose

This guide provides an overview of the third-party advanced visualization applications that can be integrated with the Stratus Imaging Workflow and Reporting platform. The guide also describes how the advanced visualization viewers are launched and the required configuration to set up the integration.

Audience

This guide is written for Stratus Imaging Workflow and Reporting platform users who will set up and use the integrated applications.

Important product icons

The following important icons are used:

Icon	Label
	Manufacturer
	Consult instructions for use

About the screenshots

The names and any personal and medical information in the screenshots do not belong to real individuals. Any similarity or likeness to actual individuals is purely coincidental and not intentional.

The screenshots do not reflect release-specific details.

Overview

The Workflow and Reporting Platform supports integration with Advanced Visualization (AV) tools. The following software can be launched directly from the platform without manually switching applications or re-entering exam context:

- Vitrea® Advanced Visualization by Canon Medical Informatics, Inc.
- Intuition™ by TeraRecon

When an AV tool is enabled for a facility and a radiologist opens a study, a "Launch In" option becomes available in the reporting screen. Clicking it opens the selected AV tool in a separate window, pre-loaded with the correct patient and study context.

This guide covers two areas:

- End-to-end functional behavior of the AV integration (what happens when a radiologist launches a viewer)
- Gateway configuration required to enable DICOM connectivity between the platform and AV tools — including creating Targets, configuring routing Rules, and setting up Query/Retrieve (QR) folders

Note: The Gateway setup steps in this guide apply equally to any future AV tool integrations. While the specific DICOM parameters will differ by tool, the overall process — create targets, configure rules, set up QR folders — remains the same.

System Architecture

The diagram below illustrates the full integration architecture, showing how the on-prem Gateway, AV viewers, and the cloud platform interact with each other.

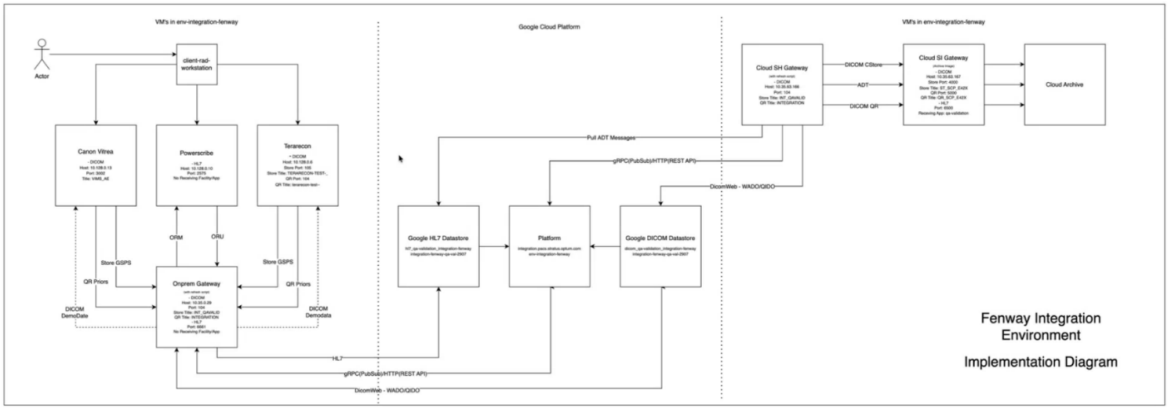

Figure 1: Integration architecture diagram — showing the on-prem Gateway, AV viewers (Canon Vitrea, TeraRecon), and Google Cloud Platform components

Key data flows in the architecture:

- AV viewers receive DICOM images first (pushed from the Gateway) and can also Query/Retrieve (QR) priors directly from the Gateway
- The on-prem Gateway acts as the DICOM broker — it routes images to viewers and receives GSPS/derived objects back from them
- Derived images created in the AV tool are sent back through the Gateway to the platform for storage
- The platform communicates with the Gateway via gRPC/REST API and DicomWeb (WADO/QIDO)

From the Gateway perspective, two types of connectivity must be configured for each AV tool:

- Store (C-STORE): so the Gateway can push images to the viewer
- Query/Retrieve (QR): so the viewer can query and retrieve studies from the Gateway

Facility Configuration

Advanced Visualization Setting

Administrators configure AV integration at the facility level. The Advanced Visualization Integration setting is a multi-select dropdown that controls which AV tools are available to users at a given facility.

Setting Option	Description
Canon Vitrea	Enables the Canon Vitrea launch option in the reporting screen.
TeraRecon	Enables the TeraRecon launch option in the reporting screen.
None (default)	No AV integration is enabled. No launch options are displayed.

Workstation Requirements

AV tools are desktop applications that run locally on the radiologist's workstation. The integration is supported on Windows workstations and requires local installation of the following:

- The relevant AV application
- The Workflow and Reporting Native application (Vault)
- The Chrome browser extension "Stratus Imaging Display Manager" on the user's workstation. Contact Support for details.

Notes:

- The installed software must be running on the workstation for the integration to be functional. If the software is not running, the auto-launch will be unavailable or will return an error. Contact your system administrator if this occurs.
- Vitrea Advanced Visualization and Intuition are optional, separately purchased third-party applications that can be integrated with the Workflow and Reporting platform. Available Vitrea Advanced Visualization and Intuition features and workflows depend on the application license and options you purchase.
- The Workflow and Reporting Native Application is used to connect the integrated applications with the platform.
- The Stratus Imaging Display Manager detects monitor setup and positions the browser windows for the viewer.

Gateway Configuration

This section covers the full Gateway setup required to enable DICOM connectivity between the platform and AV tools. These steps are performed by an integration specialist in the Gateway administration interface.

The overall process for any AV tool integration consists of three steps:

1. Create DICOM Targets for the AV tool (one or two, depending on the viewer)
2. Create a Routing Rule to forward incoming images to those targets
3. Configure the Query/Retrieve (QR) folder so the viewer can pull priors from the Gateway

In this section

Navigating the Gateway

Access the Gateway administration interface in a browser (typically at localhost:8000). The left navigation panel contains the primary sections used during setup:

Section	Purpose
Targets	Define DICOM endpoints (AV viewers, platform store). Each target represents a DICOM server the Gateway can communicate with.
Rules	Define routing and filtering logic. Rules determine which incoming images are forwarded to which targets.
Sources	File Storage Sources (bidirectional queue configuration). Used when configuring precache or on-arrival delivery flows.

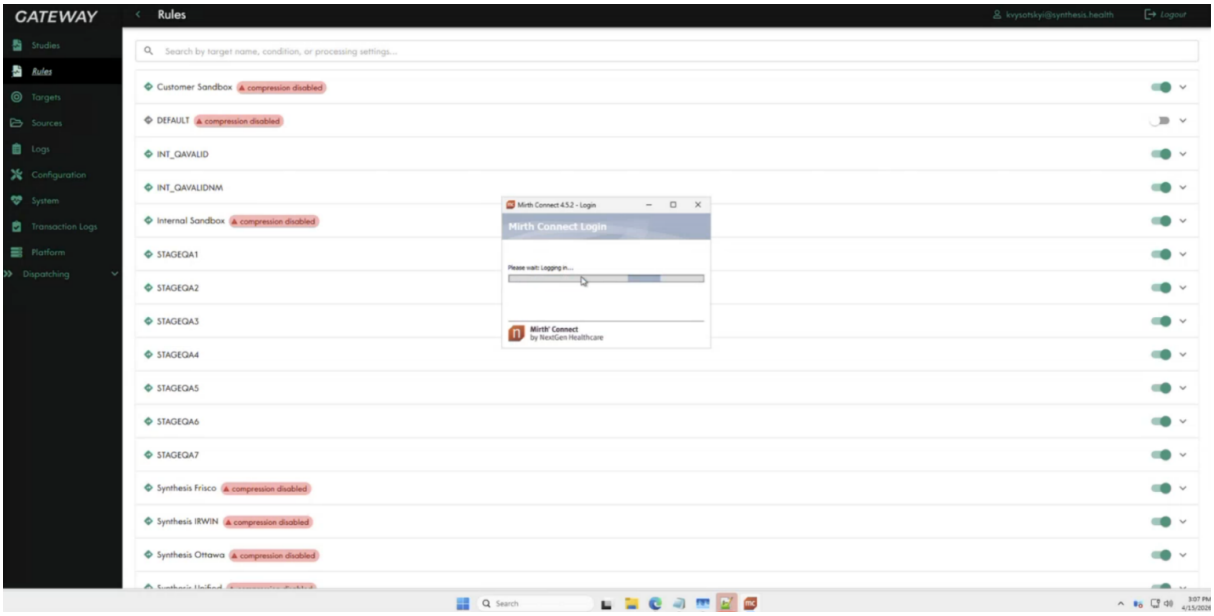

Figure 2: Gateway Rules page — overview of the administration interface

Step 1 — Create DICOM Targets

Overview

A Target defines a DICOM endpoint — specifically the IP address, port, and AET (Application Entity Title) of a DICOM server. The Gateway uses targets to know where to send (C-STORE) data and where to direct Query/Retrieve (C-FIND/C-MOVE) operations.

The number of targets required depends on the AV tool:

AV Tool	Targets Required	Reason
TeraRecon	Two (2)	TeraRecon supports two separate DICOM servers — one for QR (port 104) and one for Store-In/inbound storage (port 105)
Canon Vitrea	One (1)	Canon Vitrea uses a single DICOM server for both Store and QR operations

Note: For any new AV tool integration, check with the vendor to confirm whether the tool uses one or two DICOM servers before creating targets.

TeraRecon Targets

TeraRecon requires two DICOM targets in the Gateway:

Target 1 — TeraRecon (QR / Query-Retrieve)

This target is used by TeraRecon to query and retrieve studies from the Gateway. The Gateway's QR AET title (INT_QAVALID) is stored inside TeraRecon so it knows who to query.

Parameter	Description / Example Value
Target Type	DICOM
Name	TeraRecon
IP	10.128.0.6 (TeraRecon server IP)
Port	104 (QR port on TeraRecon)
AET Source	terarecon-test-- (AET the Gateway uses to identify itself)
AET Target	terarecon-test-- (AET the Gateway uses to address TeraRecon)
AET Move	terarecon-test-- (AET used for C-MOVE operations)
Request Type	c_move

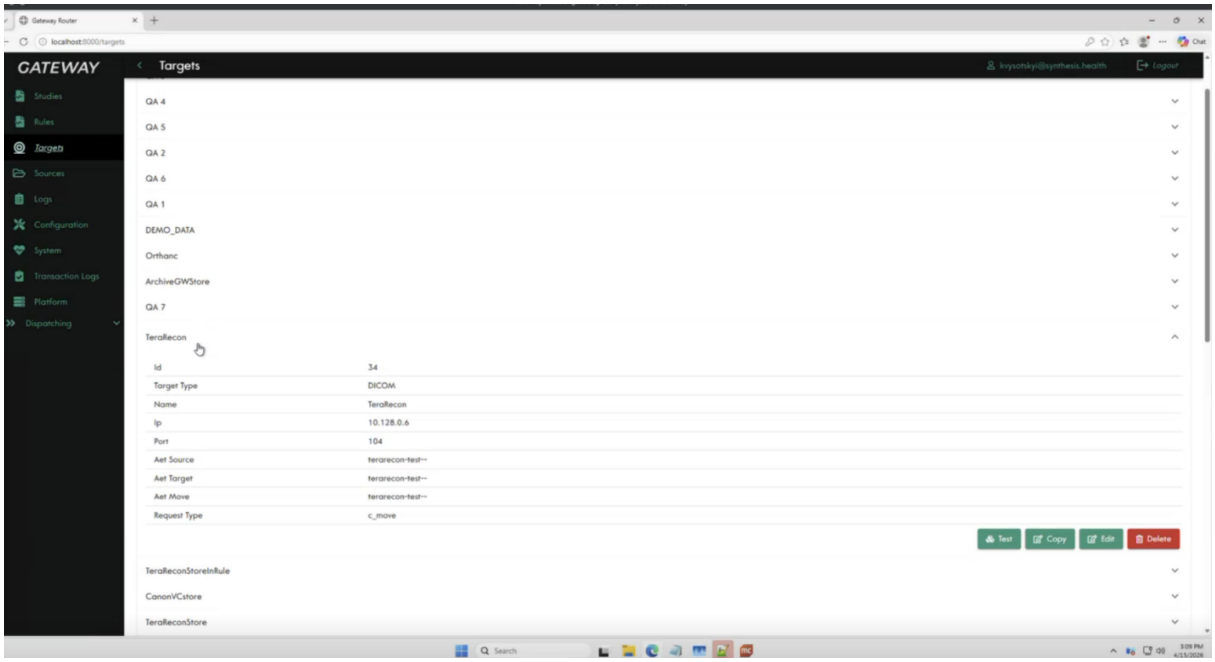

Figure 3: Targets page — TeraRecon QR target expanded showing DICOM configuration

Target 2 — TeraReconStoreInRule (Store-In)

This target is used to receive GSPS objects and derived images sent from TeraRecon back to the Gateway. It uses a different port and AET.

Parameter	Description / Example Value
Target Type	DICOM
Name	TeraReconStoreInRule
IP	10.128.0.6 (same TeraRecon server IP)
Port	105 (Store-In port on TeraRecon)
AET Source	INT_QAVALID (the Gateway's own AET title)
AET Target	TERARECON-TEST-- (AET on TeraRecon's Store port)
AET Move	TERARECON-TEST--
Request Type	c_move

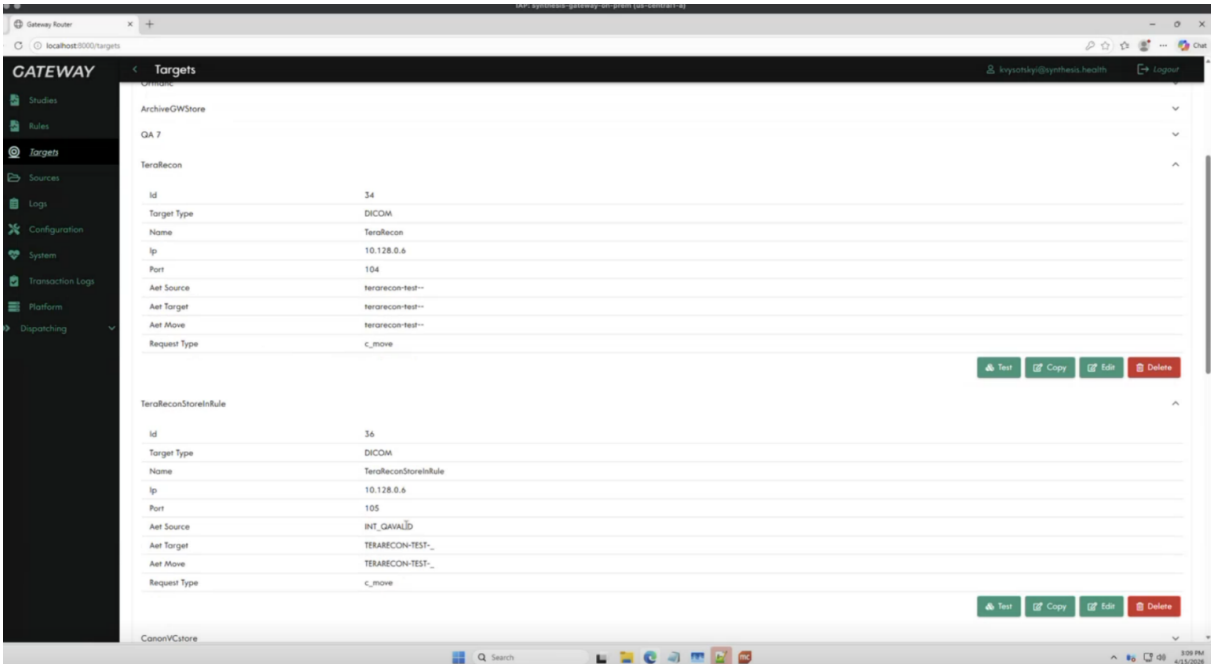

Figure 4: Targets page — TeraReconStoreInRule target and TeraRecon QR target both visible

Canon Vitrea Target

Canon Vitrea uses a single DICOM server. Only one target is required — CanonVCStore — which handles both image delivery and QR.

Parameter	Description / Example Value
Target Type	DICOM
Name	CanonVCStore
IP	Canon Vitrea server IP address
Port	Canon Vitrea DICOM port (confirm with vendor)
AET Source	Gateway AET title (e.g. INT_QAVALID)
AET Target	Canon Vitrea AET title (confirm with vendor)
Request Type	c_move

Full Target List Overview

The screenshot below shows all AV-related targets as they appear in the Gateway Targets page. Targets can be organised into folders (e.g. INTEGRATION) which contain the platform data store targets used for QR folder configuration.

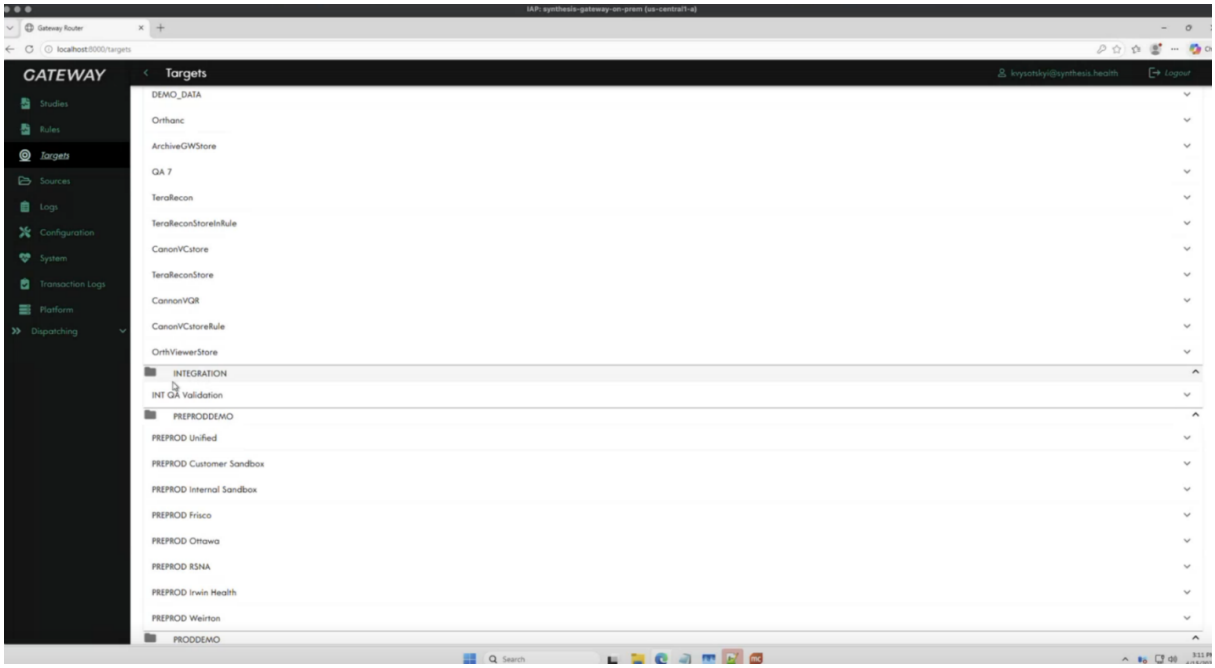

Figure 5: Targets page — full list showing TeraRecon, TeraReconStoreInRule, CanonVCStore, TeraReconStore, CanonVQR, CanonVCStoreRule, and the INTEGRATION folder containing INT QA Validation

Step 2 — Configure Routing Rules

Overview

Rules define how the Gateway routes incoming DICOM studies to destinations. For AV tool integration, a rule must be created (or an existing one updated) to include the AV viewer targets as destinations.

Each rule consists of:

- A condition — which studies the rule applies to (e.g. by AET, modality, study description)
- An action — Processing & Routing
- Targets — the list of destination targets the matching study will be sent to

Example: INT_QAVALID Rule

The INT_QAVALID rule is an example of a rule configured for AV tool integration. When a study arrives with AET matching INT_QAVALID, it is routed to multiple targets including CanonVCStoreRule and TeraReconStoreInRule.

Key fields visible in the Gateway:

- Rule: @AET@ == 'INT_QAVALID' — matches all studies arriving on this AET
- Action: Processing & Routing
- ORM DICOM Index Key: @AccessionNumber@
- Processing Steps: 1. compression
- Targets: INT QA Validation, CanonVCStoreRule, TeraReconStoreInRule
- Status: Enabled

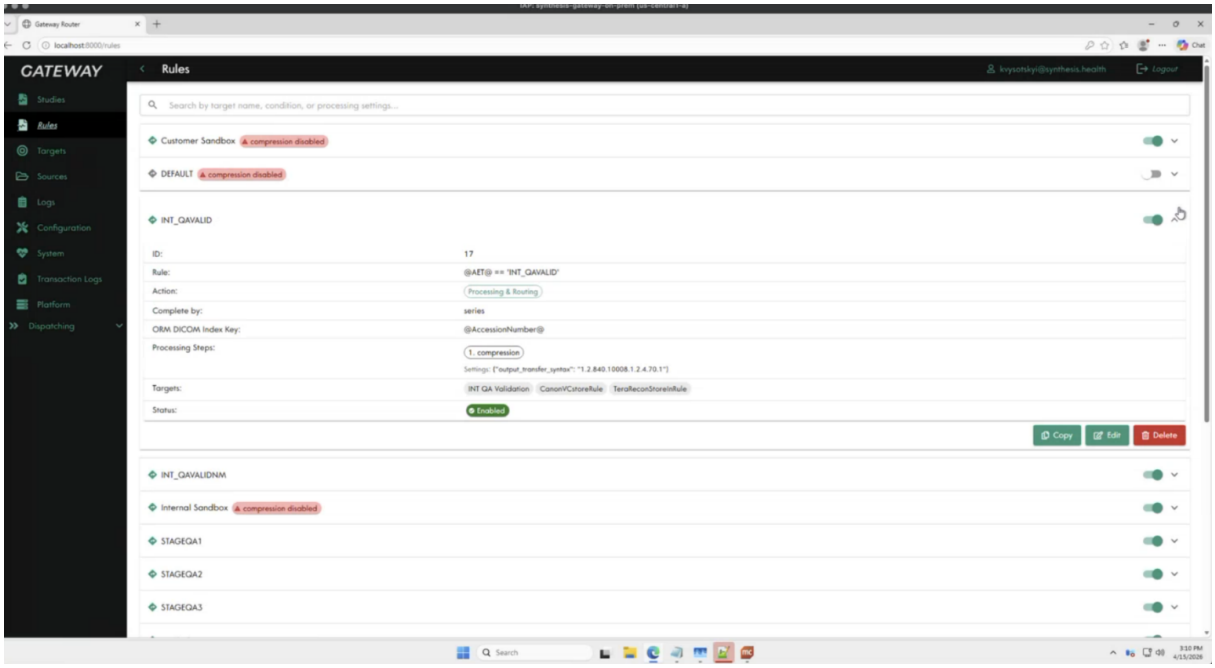

Figure 6: Rules page — INT_QAVALID rule showing routing to CanonVCStoreRule and TeraReconStoreInRule targets

Creating a New Rule

To add a new routing rule for an AV tool:

1. Navigate to Rules in the left navigation panel
2. Click + Add New at the bottom of the rules list

3. Enter a Rule Name in the dialog (e.g. TeraReconForwardRule)
4. Click Create to open the rule editor
5. Configure the Filtering, Processing, and Routing tabs

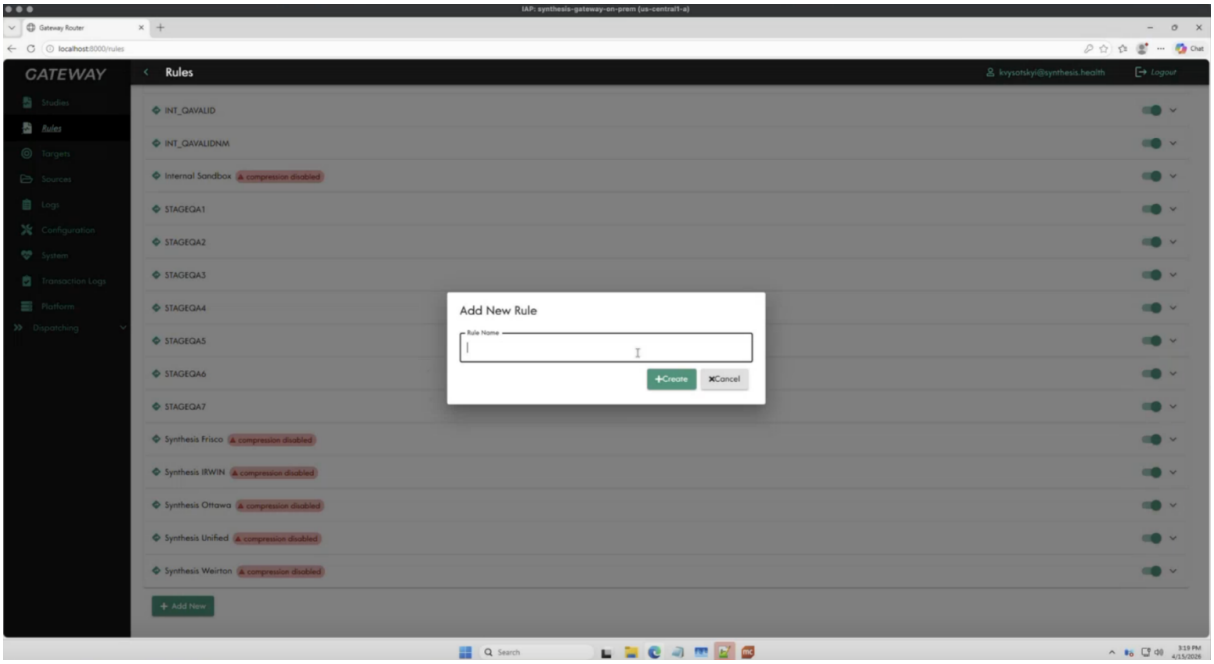

Figure 7: Adding a New Rule — the dialog for entering a rule name before the rule editor opens

Filtering Tab — Rule Conditions

The Filtering tab defines which studies the rule applies to. The condition is expressed as a logical expression using DICOM tag variables.

Examples:

- Match by AET: @AET@ == 'INT_QAVALID'
- Match by AET and study description: @AET@ == 'PACS' and 'MG' in @StudyDescription@
- Match by AET, study description, and modality: @AET@ == 'PACS' and 'MG' in @StudyDescription@ and @Modality@ == 'MG'

To filter by study description only (forward mammography studies, for example):

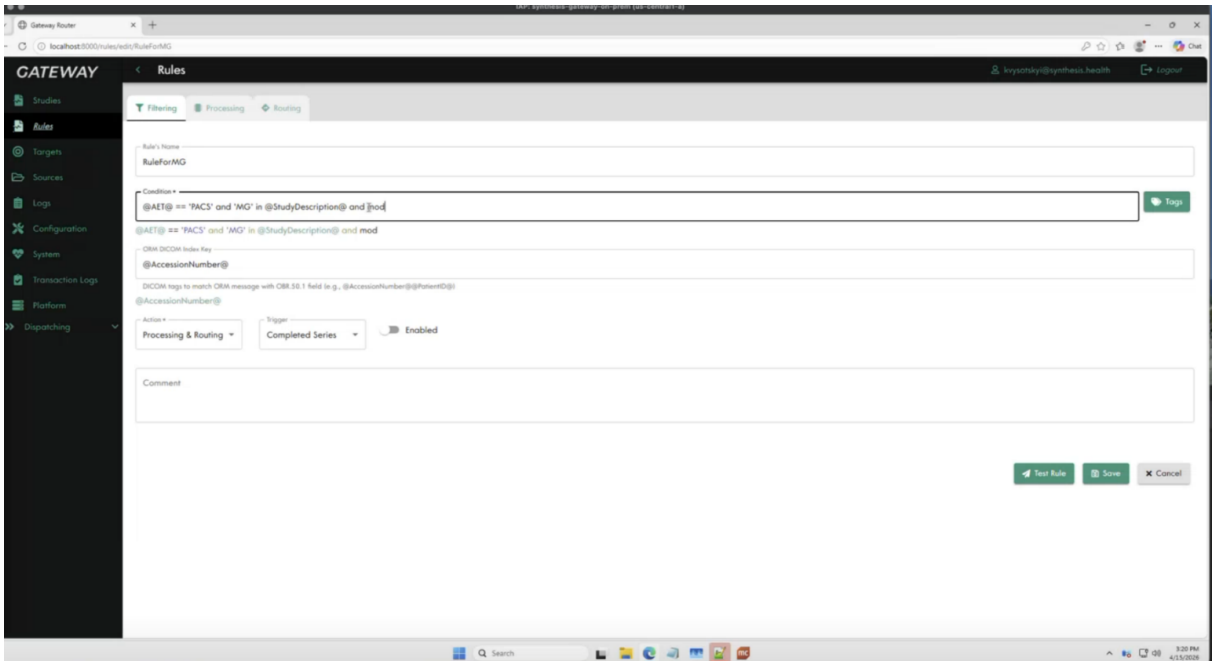

Figure 8: Rule Filtering tab — condition matching by AET and study description (e.g. for mammography)

To also filter by modality in addition to study description:

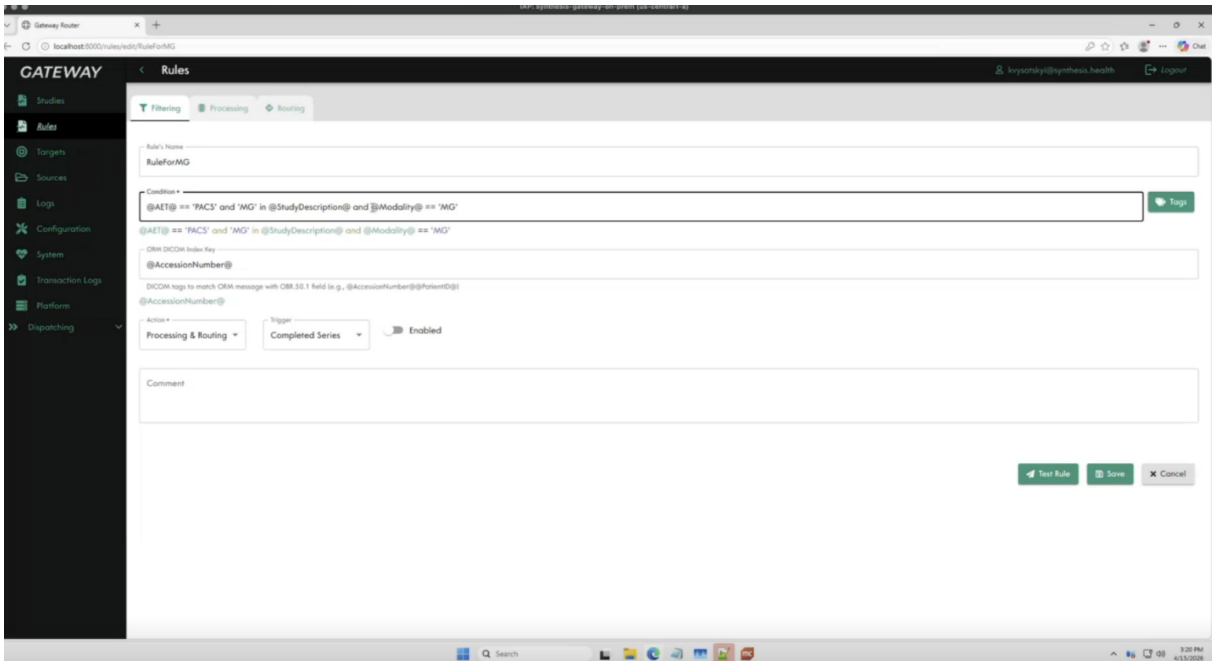

Figure 9: Rule Filtering tab — condition matching by AET, study description, and modality

> **Note:** Filtering by modality or study description allows selective routing — only studies matching the condition will be forwarded to the AV viewer. This is useful when a viewer should only receive specific exam types (e.g. MRI prostate, mammography).

Image Delivery Timing

Currently, images are delivered to the AV viewer on arrival at the platform — that is, as soon as DICOM images are received by the Gateway, the routing rule fires and forwards them to the configured AV tool targets.

An alternative pre-cache flow is also available using Sources (bidirectional automation queues). This flow allows images to be staged from GCP buckets to a viewer destination when a study is assigned to a radiologist. The Sources page is accessed from the left navigation in the Gateway.

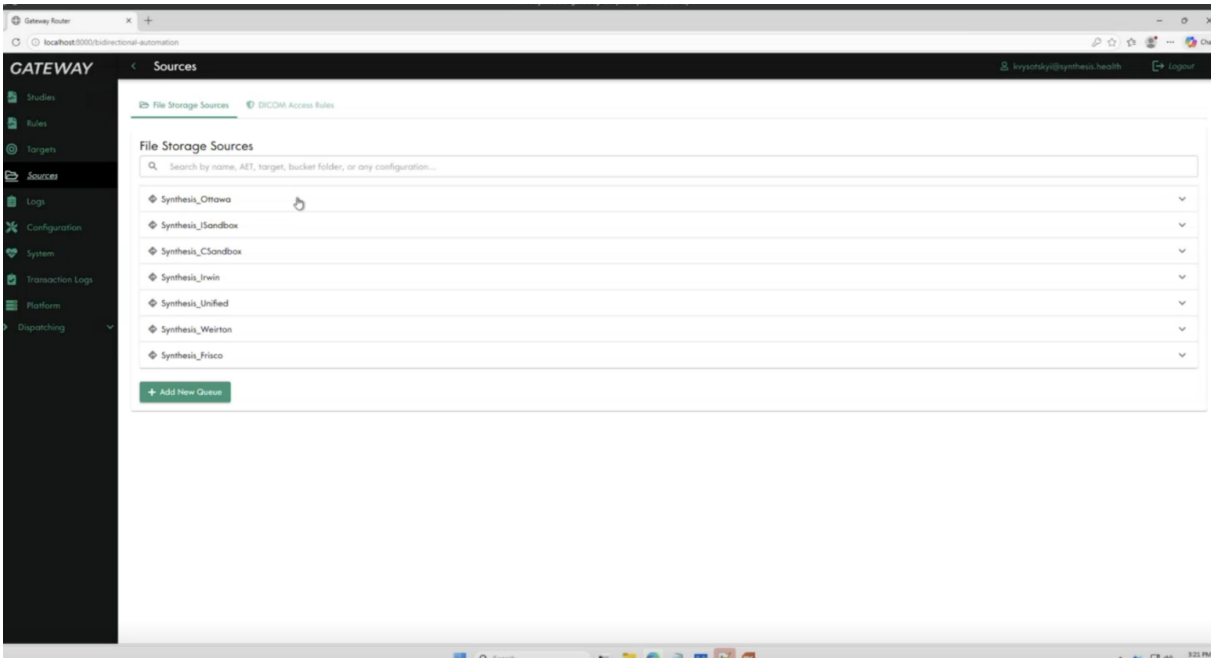

Figure 10: Gateway Sources page — File Storage Sources (bidirectional queue configuration for pre-cache flows)

Note: There is currently no mechanism to trigger image push from the platform at the moment the radiologist clicks to open the viewer. Images must either already be present in the viewer (via on-arrival routing) or be pre-staged via the precache queue.

Step 3 — Configure Query/Retrieve (QR) Folder

Overview

After creating Targets, you must configure the Gateway so that the AV viewer can query and retrieve priors directly. This is done by creating a QR folder in the Targets section that contains the platform's data store target.

The QR folder tells the Gateway: "when this viewer sends a C-FIND or C-MOVE request using AET [INTEGRATION], respond using the contents of this folder as the source."

TeraRecon QR Setup

For TeraRecon, the QR folder is named INTEGRATION and contains the INT QA Validation target (the platform's data store). Inside TeraRecon, the Gateway is configured with:

Parameter	Description / Example Value
Store AET title (in TeraRecon)	INT_QAVALID — TeraRecon sends derived images / GSPS to this AET
QR AET title (in TeraRecon)	INTEGRATION — TeraRecon uses this AET to query the Gateway for priors
Store Port (Gateway-side)	104 — Gateway listens for incoming C-STORE on this port
QR Port (Gateway-side)	104 — Gateway listens for C-FIND/C-MOVE on this port

The INTEGRATION folder visible in the Targets list (Figure 5) contains the INT QA Validation target. This is the platform target that TeraRecon is actually retrieving studies from when it performs a QR.

Note: This two-AET design (INT_QAVALID for store, INTEGRATION for QR) is specific to TeraRecon's dual-server architecture. Canon Vitrea uses a single AET for all operations.

Canon Vitrea QR Setup

Canon Vitrea supports only one DICOM server, so a single target and a single AET handle both store and QR. Configure the Gateway with:

Parameter	Description / Example Value
Store AET title (in Canon Vitrea)	INT_QAVALID (or the Gateway's AET — confirm with vendor)
QR AET title (in Canon Vitrea)	Same as Store AET — Canon Vitrea uses one server
Port	Canon Vitrea DICOM port (confirm with vendor)

Launching an Advanced Visualization Tool

How to Launch

Once the Gateway is configured and the facility setting is enabled, radiologists can launch AV tools from the platform:

1. Open a study in the reporting screen
2. Locate the "Launch In" menu (appears when at least one AV tool is enabled for the facility)
3. Select the desired AV tool (Canon Vitrea or TeraRecon)
4. The selected AV tool opens in a separate window, pre-loaded with the correct patient and study context

What Launches in Context

When an AV tool is launched from the platform, the correct study and patient context is passed automatically. The AV tool opens directly to the relevant study — there is no need to search for or manually load the patient.

Login to the AV Tool

When the AV tool is launched for the first time, users will be prompted to log in using their Windows workstation credentials. On subsequent launches, the AV tool will typically use the existing Windows session and not require re-entry of credentials.

Image Access and Transfer

How Images Are Accessed

When a study is opened in an AV tool, the AV application retrieves DICOM images from the Gateway. This happens in the background — the radiologist does not need to manually transfer or send images before launching.

The AV tool queries the Gateway (using the QR AET configured in Step 3 above) for the relevant study and retrieves the images from the platform archive. This supports the full study as well as individual series.

Derived Images

When a radiologist creates derived images or secondary captures within the AV tool (such as reconstructions, MPR views, or measurements), those results are sent back to the platform Gateway and stored against the exam record.

> **Note:** Automatic attachment of derived images to the original exam is planned functionality. Confirm current behavior with your administrator during rollout.

Context Management

Changing Study Context

When a radiologist changes the active study in the platform — for example by opening a different exam — the AV tool is notified and its context updates accordingly. This keeps the AV tool synchronized with what is active in the platform.

Closing a Study

When a study is closed in the platform, a close signal is sent to the AV tool. The AV tool clears the currently displayed study, preventing stale patient data from remaining visible.

Availability and Status Indicators

The Launch In menu in the reporting screen dynamically reflects which AV tools are available on the current workstation and configured for the current facility:

State	What the User Sees
AV tool enabled and available	Launch In menu is visible with the tool listed as a selectable option.
Both tools enabled	Both Canon Vitrea and TeraRecon appear as options.
No AV tool configured for facility	Launch In menu is not displayed.
AV tool configured but not installed	Option is unavailable or an error is shown on launch attempt.

Error Handling

AV Tool Fails to Launch

If the AV tool does not open after the user clicks the launch option, the platform will display an error message. This may occur if:

- The AV application is not installed on the workstation
- The platform native application (Vault) is not running
- The workstation configuration does not support the integration

The radiologist should contact their system administrator. The platform will continue to function normally.

Study Not Found in AV Tool

If the AV tool launches but cannot locate the requested study, the AV application will display an error. This may indicate a Gateway connectivity issue or a QR configuration problem. The radiologist should close the study in the AV tool manually and contact their administrator if the issue persists.

Disabling the Integration

If the AV integration needs to be disabled for a facility, an administrator can update the Advanced Visualization Integration setting to remove the relevant tool. The Launch In menu will no longer appear for users at that facility.

Key Behaviors Summary

Scenario	Expected Behavior
Radiologist opens a study with AV integration enabled	Launch In menu appears in the reporting screen
Radiologist selects Canon Vitrea or TeraRecon	AV tool launches in a separate window with study context loaded
First-time launch on a workstation	User is prompted to log in with Windows credentials
Subsequent launches	AV tool opens without re-prompting for credentials
Radiologist changes active study in the platform	AV tool context updates to match the newly active study
Radiologist closes a study in the platform	AV tool clears the displayed study
Radiologist creates derived images in AV tool	Derived images sent back and stored against the exam
No AV tool configured for the facility	Launch In menu is not displayed
AV tool not installed on workstation	Launch option unavailable or error shown
AV integration disabled by administrator	Launch In menu is removed for users at that facility