

# Web VNA User Guide

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## What is Web VNA?

Web VNA is a web-based program that provides administrators with tools to centrally manage medical information and systems across the enterprise. Web VNA includes the following modules.

#### Patient Explorer

View and edit patient demographics.

#### **Storage Management**

Configure storage and retrieval of digital assets.

#### **Route Management**

Create and configure routes between application entities (called AEs) and destinations.

#### Workflow

Manage move and store jobs between systems.

#### **Enterprise Reporting**

View analytics on VNA activity.

#### **XDS Explorer**

Browse XDS repositories.

#### Lifecycle Management

Create data retention policies and schedule their execution.

#### Auditing

View Acuo, IHE, user, and task audit logs.

## Navigating Web VNA

## Open a module

Web VNA comprises a set of modules and sub-modules in which you can perform a specific set of VNA functions. To open a module, complete one of the following steps.

- 1. On the Web VNA home screen, click the button of the module that you want to open. do one of the following.
- **2.** Optional. While in any module, in the upper left part of the screen, click the blue navigation arrow and select a module or sub-module.

### What is a system?

A system is a logical grouping of Acumen servers or an array of servers within Web VNA that simplifies navigation and data management. A system contains one or more domains, and a domain contains one or more databases.

Systems are displayed in the Systems pane, but in certain contexts the Systems pane displays navigational items instead of systems.

### Select a system

In most modules, you can display a list of systems in the left pane. To select a system, complete the following steps.

- 1. To display the Systems pane, on the menu bar, select Systems.
- 2. Optional. In the **Search Systems** box, type any part of the system or domain name.
- 3. In the Systems pane, select a system.

### Customize a list

If a module displays a list such as a list of patients, jobs, or activity, you can often customize the list by sorting or applying filtering criteria. The customization options available differ depending on module and context. The following are commonly used customization options. For other options, see topics on lists in specific modules. To customize a list, complete the following steps.

- 1. On the menu bar, select from the available categories, enter filtering criteria, and then click **Apply**. For more information, see Search Syntax.
  - **Example**. In Patient Explorer click **Patient**, type a patient name, and then click **Apply**. You can enter criteria in more than one category.
- 2. Optional. On the column header, click a column name to sort by that column.
- On the right side of the menu bar, select Results per Page and select a maximum number of results to display in the list.
- 4. On the right side of the menu bar, select **Columns** and then select a column to show or hide.

## **Patient Explorer**

## What is Patient Explorer?

Patient Explorer is a Web VNA module that administrators can use to view and manage patient records and their associated studies, series, and images.

Common tasks in Patient Explorer include editing, removing or deleting, moving, and merging patient information. You can also view images at the study level. With Patient Explorer you can edit most DICOM metadata, but not raw image data.

## Find information by patient

You can enter one or more criteria to display matching patient records on the Patients tab. You can then view detailed information (such as demographics, studies, series, and images) in a patient record. To find information by patient, complete the following steps.

- 1. In Patient Explorer, select a system and select the Patients tab.
- 2. Optional. To customize the list of patients, see Customize a list.
- **3.** To view patient studies, click the row containing the patient record. The studies appear under the patient row.
- 4. To view series within a study, click the row containing the study.
- 5. To view image metadata within a series, click the row containing the series.

## Find information by study

You can enter one or more criteria to display matching studies on the Studies tab. You can then view information (such as patient records, series, and images) in a particular study. To find information by study, complete the following steps.

- 1. In Patient Explorer, select a system and select the Studies tab.
- 2. Optional. To customize the list of studies, see Customize a list.
- **3.** To view series within a study, click the row containing the study.

The series appear under the study row.

4. To view image metadata within a series, click the row containing the series.

## Edit a patient record, study, or series

You can perform basic demographic editing tasks at the patient, study, or series level. For other quality control tasks, see "Quality Control." To edit a patient record, study, or series, complete the following steps.

- 1. In Patient Explorer, select a system.
- 2. On the Patients or Studies tab, find the patient, study, or series that you want to edit.

- 3. Click Actions and select Edit.
- 4. In the editing dialog box, make changes as necessary and click **Save**.

### **Delete information**

You can delete a patient record, study, series, or image from a system. For other quality control tasks, see "Quality Control." To delete information, complete the following steps.

- 1. In Patient Explorer, select a system.
- 2. On the Patients or Studies tab, find the patient record, study, series, or image that you want to delete.
- 3. Click Actions and select Delete.
- 4. In the confirmation dialog box, click Delete [item].

### Start quality control

You can perform quality control tasks including the following.

- Modifying DICOM attributes
- Masking, shuttering, and labeling images
- Splitting series

For detailed instructions, see the Nil QC user's manual. To start quality control, complete the following steps.

- 1. In Patient Explorer, select a system.
- 2. On the Patients or Studies tab, find a patient, study, or series.
- 3. Click Actions and select Start Quality Control.

Nil QC launches and opens the associated patient record.

### Work with patient records

#### Move a patient record

You can move (copy with a DICOM C-MOVE request) a patient record to one or more destinations through a previously configured route. To move a patient record, complete the following steps.

**Prerequisite** Configure at least one route in the Route Builder module, and a corresponding move route map. For more information, see Create a move route map.

- 1. In Patient Explorer, select a system and select the Patients tab.
- 2. In the row of the patient that you want to move, click Actions and select Move.
- 3. In the Move Patient dialog box, in the Move to Route list, select a route.
- 4. Optional. Modify the Priority and Scheduled Run Time settings.
- 5. Click Move Patient.

#### Merge patient records

You can merge one patient record (the source patient) with another patient record (the destination patient). This can be useful, for example, when a database contains more than one record for a patient, and you cannot delete either record because they contain non-identical information. To merge patient records, complete the following steps.

- 1. In Patient Explorer, select a system and select the Patients tab.
- 2. In the row containing the source patient, click Actions and select Merge to Patient.

- 3. To find a destination patient, complete the following substeps.
  - 1. In the **Patient Merge** dialog box, in the right pane, type a complete patient ID number in the **Patient ID** box, or type any part of the patient's first or last name in the **Patient Name** box, and then click **Search**.
  - 2. On the Patients tab, click the patient record that you want to be the destination patient.

The name and ID of the patient record that you clicked appear in the left pane under Destination, and the Studies tab displays studies for the patient record. This is for reference only, and clicking a study, series, or image does not affect the patient merge operation.

#### 4. Click Merge Patient.

The patient records merge, and Web VNA deletes the source patient.

#### Merge a study with a patient record

You can merge a study from one patient record (the source study) with another patient record (the destination patient). To merge a study with a patient record, complete the following steps.

- 1. In Patient Explorer, select a system and select the Studies tab.
- 2. In the row containing the source study, click Actions and select Merge to Patient.
- **3.** To find a destination patient record, complete the following substeps.
  - 1. In the **Study Merge** dialog box, type a complete patient ID in the **Patient ID** box, or type any part of the patient's first or last name in the **Patient Name** box, and then click **Search**.
  - 2. On the **Patients** tab, click the patient record that you want to be the destination patient.

The name and ID of the patient record that you clicked appear in the left pane under Destination, and the Studies tab displays studies for the patient record. This is for reference only, and clicking a study, series, or image does not affect the study merge operation.

#### 4. Click Merge Study.

The source study merges with the destination patient, and Web VNA deletes the source study.

## Work with studies

#### Move a study

You can move (copy with a DICOM C-MOVE request) a study to one or more destinations through a previously configured route. To move a study, complete the following steps.

**Prerequisite** Configure at least one route by using the Route Builder module, and create a corresponding move route map. For more information, see Create a move route map.

- 1. In Patient Explorer, select a system and select the Studies tab.
- 2. In the row containing the study to move, click Actions and select Move.
- 3. In the Move Study dialog box, in the Move to Route list, select a route.
- 4. Optional. Modify the **Priority** and **Scheduled Run Time** settings.
- 5. Click Move Study.

### Merge a series with a study

You can merge a series from one study (the source series) with another study (the destination study). To merge a series with a study, complete the following steps.

- 1. In Patient Explorer, select a system and select the Studies tab.
- 2. Find a source series, click Actions, and then select Merge to Study.

- **3.** To find a destination study, complete the following substeps.
  - 1. In the **Series Merge** dialog box, type a complete patient ID in the **Patient ID** box, or type any part of the patient's first or last name in the **Patient Name** box, and then click **Search**.
  - On the Patients tab, click the patient record whose study you want to be the destination study. The name and ID of the patient record that you clicked appear in the left pane under Destination, and the Studies tab displays studies for the patient.
  - 3. On the **Studies** tab, click the study that you want to be the destination study.

The UID of the study that you clicked appears in the left pane under Destination, and the Series tab displays series within the study. This is for reference only, and clicking a series or image does not affect the series merge operation.

4. Click Merge Series.

The source series merges with the destination study, and Web VNA deletes the source series.

#### Work with images

## Open a study in the NilRead viewer

You can open a study in the NilRead viewer that comes with Web VNA. To open a study in the viewer, complete the following steps.

- 1. In Patient Explorer, select a system and select the Studies tab.
- 2. In the row containing the study to open, click Actions and select Launch in Viewer.

#### Merge an image with a series

You can merge an image from one series with another series. To merge an image with a series, complete the following steps.

- 1. In Patient Explorer, select a system and select the Studies tab.
- 2. Find a source image, click Actions, and then select Merge to Series.
- **3.** To find a destination series, complete the following substeps.
  - 1. In the **Image Merge** dialog box, type a complete patient ID in the **Patient ID** box, or type any part of the patient's first or last name in the **Patient Name** box, and then click **Search**.
  - On the Patients tab, click the patient record whose series you want to be the destination series. The name and ID of the patient record that you clicked appear in the left pane under Destination, and the Studies tab displays studies for the patient.
  - On the Studies tab, click the study containing the series that you want to be the destination series.

The UID (unique identifier) of the study that you clicked appears in the left pane under Destination, and the Series tab opens.

4. On the Series tab, click the series that you want to be the destination series.

The UID of the series that you clicked appears in the left pane under Destination, and the Images tab displays images within the series. This is for reference only, and clicking an image does not affect the image merge operation.

#### 4. Click Merge Image.

The source image merges with the destination study, and Web VNA deletes the source image.

## Search syntax

## Search syntax

The following table describes the information that you can enter for each type of patient record or study search criterion.

#### Table of search syntax

Menu Bar	Item	Syntax
Patient	Patient ID	The exact patient ID.
	Issuer of Patient ID	Exact name of issuer.
	Patient Name	Any part of the patient's name. Case insensitive.
	Birth Date	YYYY-MM-DD. Enter beginning or ending date only, or both to specify a range.
Study	Accession Number	Exact accession number.
	Modality	Two-letter acronym, or multiple two-letter acronyms separated by backslashes. Case insensitive.
	Study UID	Exact study UID.
	Study Date	YYYY-MM-DD. Enter beginning or ending date only, or both to specify a range.

Searches also support the asterisk (\*) and question mark (?) wildcard characters.

- Gr?y matches Gray and Grey.
- 4\*8 matches 48, 408, 4018, etc.

## Storage Management

## What is Storage Management?

Storage Management is a Web VNA module that administrators can use to configure storage and retrieval of digital assets. The module provides four areas of configuration: storage applications, managed shares, archive devices, and storage instances. You must configure these areas to enable subscriber clients such as AcuoMed to access the storage functionality of Web VNA.

## What are archives, instances, and shares?

In the Storage Management module, you map your real-world storage systems to Web VNA by configuring archive devices, storage instances, and managed shares. You must configure these before configuring a storage application.

#### Archive device

An archive device is a mapping to a large-scale storage system.

#### Managed share

A managed share is a mapping to a server or other machine-level storage space. You can assign multiple managed shares to a single machine.

#### Storage instance

A storage instance is a mapping to a database instance on a managed share that stores images and other content. You can assign a storage instance to multiple managed shares.

## What is a storage application?

A storage application is a configuration that defines one storage instance, one archive device, or one of each. A storage application serves as the interface through which client applications such as AcuoMed access the storage functions of Web VNA.

When you add a storage application for a managed share, you assign the managed share by selecting a storage instance. You must add a storage application for each storage instance or archive that you want to be available to clients.

Storage applications are also available for use in other modules of Web VNA. For example, in Route Builder you can create an Acuo Destination node that points to a storage application.

## Add an archive device

You must add an archive device for each real-world archive that you want to be available in Web VNA. To add an archive device, complete the following steps.

- 1. In Storage Management, in the left pane, select Archive Devices.
- 2. On the Archive Devices page, click Add New Archive Device and select a system in the list.
- 3. In the dialog box that appears, configure the archive device settings.

Note: For a description of the available settings, see Archive device settings.

4. Click Add New Archive Device.

### Add a storage instance

A storage instance identifies a database and its host machine to Web VNA for purposes of image storage. You define the path to the storage instance when you add a managed share. To add a storage instance, complete the following steps.

- 1. In Storage Management, in the left pane, click Storage Instances.
- 2. On the Storage Instances page, click Add Extended Storage Instance.
- 3. In the Add Extended Storage Instance dialog box, in the Data Source box, type the name of the machine to host the database instance.

- 4. Under Database Name, do one of the following:
  - Type the name of a database that exists on the data source.
  - To create a new database, type a name for the database and select the **Create a New Database** check box.
- 5. Click Add Extended Storage Instance.

### Add a managed share

You must add a managed share for each storage area on a machine that you want to use in Web VNA. To add a managed share, complete the following steps.

- 1. In Storage Management, in the left pane, select Managed Shares.
- 2. On the Managed Shares page, click Add New Managed Share.
- 3. In the Add New Managed Share dialog box, complete the following substeps.
  - 1. In the Name box, type a name to identify the managed share in Web VNA.
  - 2. In the Path box, type the path to the storage area in the format \\[server name]\[directory].
  - 3. In the Storage Instance list, select a storage instance for the managed share.

Note: Storage Management locates the storage instance in the path that you specify.

4. Click Add New Managed Share.

### Add a storage application

Prerequisite Add a storage instance and managed share, or an archive.

You must add a storage application to make managed shares and archives available to Web VNA clients. To add a storage application, complete the following steps.

- 1. In Storage Management, in the left pane, select Storage Applications.
- 2. On the Storage Applications page, click Add New Storage Application.
- 3. In the Add New Storage Application dialog box, complete the following substeps.
  - 1. In the Application Name box, type a name to identify the storage application in Web VNA.
  - 2. Under Type, click the button that corresponds to the type of data that the application stores.

Note: Generic refers to non-DICOM images.

- 3. In the Storage Instance and Archive lists, select a storage instance, archive, or both.
- 4. Click Add New Storage Application.

## Change the managed shares of a storage application

You can assign additional managed shares to an existing storage application, or remove its assigned shares. To change the managed shares of a storage application, complete the following steps.

- 1. In Storage Management, in the left pane, select Storage Applications.
- 2. In the right pane, in the row containing a storage application, click Shares.
- In the Shares dialog box, in the list of available shares, select a managed share to switch its status between unassigned and assigned.

Note: Assigned shares appear in blue with a white check mark.

- 4. In the Active Share list, select the managed share in which you want to store new files.
- 5. Click Update Shares.

## Edit or delete a configuration

You can edit or delete the configuration of an archive device, storage instance, managed share, or storage application. To edit or delete a configuration, complete the following steps.

- 1. In Storage Management, in the left pane, select a system.
- 2. In the right pane, in the row containing the configuration that you want to edit or delete, do one of the following:
  - To delete the configuration, click **Delete**.
  - To edit the configuration, click **Edit**, edit the configuration as needed, and then click the update button.

## Archive device settings

The following tables describe the settings, by vendor, that are available when you add an archive device. See "Add an archive device" for the configuration procedure.

#### Atmos

The following settings are available for an Atmos archive device.

Property Type	Property Value	Property Description
Archive Device Settings	Name	A name to identify the archive device in Storage Management.
	Connection String	The IP address of the archive device
	Port	The port number on which Web VNA can communicate with the archive device.
	Use SSL	Identifies whether archive device uses SSL encryption.
Security Settings	Username and Password	The login credentials for the archive device.
Archive Writer Options	Writer Interval	The time interval during which Storage Management continuously writes files to the archive device.
	Writer Launch Time	The time at which Storage Management starts storing data to the archive device. Set this time so that it does not overlap with your SQL maintenance job schedule.

Property Type	Property Value	Property Description
	Maximum Threads	The total number of threads to the archive device that can be open simultaneously.
Tuning Parameters	Days Old	The number of days to wait before storing files to the archive device.
	Days on Cache	The number of days after which Storage Management removes files from the cache. This setting must be greater than the Days Old setting.
	Maximum Clip Size	The maximum container size, in megabytes.
Advanced Options	Writer Retry Count	The number of times Storage Management attempts to write data.
	Writer Retry (Minutes)	The length of time between writer retries.
	Maximum Addresses	The maximum number of addresses.

## Azure

The following settings are available for an Azure archive device.

Property Type	Property Value	Property Description
Archive Device Settings	Name	A name to identify the archive device in Storage Management.
	Connection String	The IP address of the archive device
	Port	The port number on which Web VNA can communicate with archive device.
	Use SSL	Identifies whether the archive device uses SSL encryption.
Security Settings	Account Name and Account Key	The login credentials for the archive device.
Archive	Writer	The time interval during which Storage Management continuously writes

Property Type	Property Value	Property Description
Writer Options	Interval	files to the archive device.
	Writer Launch Time	The time at which Storage Management starts storing data to the archive device. Set this time so that it does not overlap with your SQL maintenance job schedule.
	Maximum Threads	The total number of threads to the archive device that can be open simultaneously.
Tuning Parameters	Days Old	The number of days to wait before storing files to the archive device.
	Days on Cache	The number of days after which Storage Management removes files from the cache. This setting must be greater than the Days Old setting.
	Maximum Clip Size	The maximum container size, in megabytes.
Advanced Options	Writer Retry Count	The number of times Storage Management attempts to write data.
	Writer Retry (Minutes)	The length of time between writer retries.
	Maximum Addresses	The maximum number of addresses.

## Bycast

The following settings are available for a Bycast archive device.

Property Type	Property Value	Property Description
Archive Device Settings	Name	A name to identify the archive device in Storage Management.
	Connection String	The IP address of the archive device
	Port	The port number on which Web VNA can communicate with the archive device.
	Query	The port number on which Web VNA can receive queries and retrieve results

Property Type	Property Value	Property Description
	Retrieve Port	from the archive device.
	Use SSL	Identifies whether the archive device uses SSL encryption.
Archive Writer Options	Writer Interval	The time interval during which Storage Management continuously writes files to the archive device.
	Writer Launch Time	The time at which Storage Management starts storing data to the archive device. Set this time so that it does not overlap with your SQL maintenance job schedule.
	Maximum Threads	The total number of threads to the archive device that can be open simultaneously.
Tuning Parameters	Days Old	The number of days to wait before storing files to the archive device.
	Days on Cache	The number of days after which Storage Management removes files from the cache. This setting must be greater than the Days Old setting.
	Maximum Clip Size	The maximum container size, in megabytes.
Advanced Options	Writer Retry Count	The number of times Storage Management attempts to write data.
	Writer Retry (Minutes)	The length of time between writer retries.
	Maximum Addresses	The maximum number of addresses.

## Centera

The following settings are available for a Centera archive device.

Property Type	Property Value	Property Description
Archive Device Settings	Name	A name to identify the archive device in Storage Management.

Property Type	Property Value	Property Description
	Connection String	The IP address of the archive device
Archive Writer Options	Writer Interval	The time interval during which Storage Management continuously writes files to the archive device.
	Writer Launch Time	The time at which Storage Management starts storing data to the archive device. Set this time so that it does not overlap with your SQL maintenance job schedule.
	Maximum Threads	The total number of threads to the archive device that can be open simultaneously.
Tuning Parameters	Days Old	The number of days to wait before storing files to the archive device.
	Days on Cache	The number of days after which Storage Management removes files from the cache. This setting must be greater than the Days Old setting.
	Maximum Clip Size	The maximum container size, in megabytes.
Advanced Options	Writer Retry Count	The number of times Storage Management attempts to write data.
	Writer Retry (Minutes)	The length of time between writer retries.
	Maximum Addresses	The maximum number of addresses.

## DellCloud

The following settings are available for a DellCloud archive device.

Property Type	Property Value	Property Description
Archive Device Settings	Name	A name to identify the archive device in Storage Management.
	Connection	The IP address of the archive device

Property Type	Property Value	Property Description
	String	
	Port	The port number on which Web VNA can communicate with archive device.
	Use SSL	Identifies whether the archive device uses SSL encryption.
Archive Writer Options	Writer Interval	The time interval during which Storage Management continuously writes files to the archive device.
	Writer Launch Time	The time at which Storage Management starts storing data to the archive device. Set this time so that it does not overlap with your SQL maintenance job schedule.
	Maximum Threads	The total number of threads to the archive device that can be open simultaneously.
Tuning Parameters	Days Old	The number of days to wait before storing files to the archive device.
	Days on Cache	The number of days after which Storage Management removes files from the cache. This setting must be greater than the Days Old setting.
	Maximum Clip Size	The maximum container size, in megabytes.
Advanced Options	Writer Retry Count	The number of times Storage Management attempts to write data.
	Writer Retry (Minutes)	The length of time between writer retries.
	Maximum Addresses	The maximum number of addresses.

## DellDx

The following settings are available for a DellDx archive device.

Property Type	Property Value	Property Description
Archive Device	Name	A name to identify the archive device in Storage Management.

Property Type	Property Value	Property Description	
Settings			
	Connection String	The IP address of the archive device	
	Port	The port number on which Web VNA can communicate with archive device.	
	Use SSL	Identifies whether the archive device uses SSL encryption.	
Archive Writer Options	Writer Interval	The time interval during which Storage Management continuously writes files to the archive device.	
	Writer Launch Time	The time at which Storage Management starts storing data to the archive device. Set this time so that it does not overlap with your SQL maintenance job schedule.	
	Maximum Threads	The total number of threads to the archive device that can be open simultaneously.	
Tuning Parameters	Days Old	The number of days to wait before storing files to the archive device.	
	Days on Cache	The number of days after which Storage Management removes files from the cache. This setting must be greater than the Days Old setting.	
	Maximum Clip Size	The maximum container size, in megabytes.	
Advanced Options	Writer Retry Count	The number of times Storage Management attempts to write data.	
	Writer Retry (Minutes)	The length of time between writer retries.	
	Maximum Addresses	The maximum number of addresses.	

## FileStore

The following settings are available for a FileStore archive device.

Property Type	Property Value	Property Description	
Archive Device Settings	Name	A name to identify the archive device in Storage Management.	
	NAS Node Name	The name of the NAS node that Storage Management can use.	
Archive Writer Options	Writer Interval	The time interval during which Storage Management continuously writes files to the archive device.	
	Writer Launch Time	The time at which Storage Management starts storing data to the archive device. Set this time so that it does not overlap with your SQL maintenance job schedule.	
	Maximum Threads	The total number of threads to the archive device that can be open simultaneously.	
Tuning Parameters	Days Old	The number of days to wait before storing files to the archive device.	
	Days on Cache	The number of days after which Storage Management removes files from the cache. This setting must be greater than the Days Old setting.	
	Maximum Clip Size	The maximum container size, in megabytes.	
Advanced Options	Writer Retry Count	The number of times Storage Management attempts to write data.	
	Writer Retry (Minutes)	The length of time between writer retries.	
	Maximum Addresses	The maximum number of addresses.	

## Hitachi

The following settings are available for a Hitachi archive device.

Property Type	Property Value	Property Description
Archive Device Settings	Name	A name to identify the archive device in Storage Management.
	Connection String	The IP address of the archive device
	Port	The port number on which Web VNA can communicate with archive device.
	Use SSL	Identifies whether the archive device uses SSL encryption.
Security Settings	Username and Password	The login credentials for the archive device.
Archive Writer Options	Writer Interval	The time interval during which Storage Management continuously writes files to the archive device.
	Writer Launch Time	The time at which Storage Management starts storing data to the archive device. Set this time so that it does not overlap with your SQL maintenance job schedule.
	Maximum Threads	The total number of threads to the archive device that can be open simultaneously.
Tuning Parameters	Days Old	The number of days to wait before storing files to the archive device.
	Days on Cache	The number of days after which Storage Management removes files from the cache. This setting must be greater than the Days Old setting.
	Maximum Clip Size	The maximum container size, in megabytes.
Advanced Options	Writer Retry Count	The number of times Storage Management attempts to write data.
	Writer Retry (Minutes)	The length of time between writer retries.
	Maximum Addresses	The maximum number of addresses.

## Scality

The following settings are available for a Scality archive device.

Property Type	Property Value	Property Description	
Archive Device Settings	Name	A name to identify the archive device in Storage Management.	
	Connection String	The IP address of the archive device	
	Port	The port number on which Web VNA can communicate with archive device.	
	Use SSL	Identifies whether the archive device uses SSL encryption.	
Security Settings	Account Name and Account Key	The login credentials for the archive device.	
	Bucket Name	The name of the bucket that is indexed for file storage.	
Archive Writer Options	Writer Interval	The time interval during which Storage Management continuously writes files to the archive device.	
	Writer Launch Time	The time at which Storage Management starts storing data to the archive device. Set this time so that it does not overlap with your SQL maintenance job schedule.	
	Maximum Threads	The total number of threads to the archive device that can be open simultaneously.	
Tuning Parameters	Days Old	The number of days to wait before storing files to the archive device.	
	Days on Cache	The number of days after which Storage Management removes files from the cache. This setting must be greater than the Days Old setting.	
	Maximum Clip Size	The maximum container size, in megabytes.	
Advanced Options	Writer Retry Count	The number of times Storage Management attempts to write data.	
	Writer Retry (Minutes)	The length of time between writer retries.	
	Maximum Addresses	The maximum number of addresses.	

## **Route Management**

## What is Route Builder?

Route Builder is a sub-module of the Route Manager Web VNA module that administrators can use to configure routes for sending data from a called AE to one or more destinations.

Route Builder graphically depicts routes as a series of connected nodes representing called AEs, route names, and destinations. Displaying routes in this way makes it easier to understand the flow of information in a route, and to modify settings for each of its devices.

## Work with routes

## What is a route?

When you perform a move operation in Patient Explorer, information flows along a route from a called AE to one or more destinations. Route Builder displays the route as a series of connected nodes representing the called AE, the route name, and the destinations.

There are four types of routes.

#### **Basic route**

Also referred to as a primary route, this is a standard route between an AE and one or more destinations. Move jobs on a basic route remain in a queue until reconciliation, so there may be a delay until the jobs arrive at the destinations.

#### Stat route

An expedited route that bypasses reconciliation so that jobs arrive at their destinations immediately.

#### Tag failure route

A conditional route that move jobs take when they satisfy user-defined rules.

#### Auto Change Dest.

A special type of route in which Route Builder can re-route store jobs in the case of a UID failure. You can only create one route of this type.

## Create a new called AE

You can create a new called AE for use in creating routes. To create a new called AE, complete the following steps.

- 1. In Route Builder, on the menu bar, select Create New Called AE.
- 2. In the Create New Called AE dialog box, complete the following substeps.
  - 1. In the **Called AE Title** box, type the AE title of the device.
  - 2. In the Local SCP list, select an IP address and port number of a service class provider.
  - 3. Click Create New Called AE.

## Create an Acuo destination node

You can create an Acuo destination node for use in creating routes. For more information, see What is a destination? To create an Acuo destination node, complete the following steps.

- 1. In **Route Builder**, on the menu bar, select **Showing**, select the **Routes** tab, and then select a route on which to create the destination.
- 2. In the route display area, click the route to which you want to add the destination.
- 3. In the settings area, under Acuo Destinations, click Create a New Destination.
- 4. In the Create New Acuo Destination dialog box, type a name for the destination, and then do one of the following:
  - To use an existing database for the destination, click Choose an Existing DicomDb.
  - To configure a new database for the destination, click **Create a New DicomDb**, and then enter settings for the new database.
- 5. In the **DicomDb** list, select a database.
- 6. In the Acuo Store Application Name list, select your Acuo Store application, and then click Add Destination.

## Create an external destination node

You can create an external destination node for use in creating routes. For more information, see What is a destination? To create an external destination node, complete the following steps.

- 1. In **Route Builder**, on the menu bar, select **Showing**, select the **Routes** tab, and then select a route on which to create the destination node.
- 2. In the route display area, click the route to which you want to add the destination.
- 3. In the settings area, under External Destinations, click Create a New Destination.
- 4. In the Create New External Destination dialog box, complete the following substeps.
  - 1. In the **Destination Name** box, type a name.
  - In the Called AE and Calling AE boxes, type the called AE title and calling AE title of the destination device.
  - 3. In the **Host** and **Port** boxes, type the host name and port number of the destination device.
  - 4. Click Create New External Destination.

## Create a route node

You can create a route node for use in creating complete routes. To create a route node, complete the following steps.

- 1. In Route Builder, on the menu bar, select Create New Route.
- 2. In the **Create New Route** dialog box, type a name for the route node and select the route type.
- 3. Click Create New Route.

**Note:** The route node appears in the route display area. You can add destination nodes to the route node here, but to create a complete route, see Create a complete route.

## Create a complete route

The main purpose of Route Builder is to create a complete route that includes nodes for called AEs, routes, and destinations. To create a complete route, complete the following steps.

Prerequisite Create at least one new called AE node, one route node, and one destination node.

- 1. In **Route Builder**, on the menu bar, select **Showing**, select the **Called AEs** tab, and then select an AE to be the first node in the complete route.
- 2. Under Primary Route, Stat Route, or Tag Routing, click Assign an Existing Route.
- 3. In the Select Route dialog box, select a route, and then click Select Route.
- 4. In the route display area, select the route node.
- 5. In the settings area, click Add Existing Destinations.
- 6. In the Add Destinations dialog box, select one or more destinations and then click Add Destinations.

## Create a move route map

By default, routes you create in Route Builder are store routes. If you want to move records on a route, you must create a move route map. To create a move route map, complete the following steps.

- 1. In Route Builder, in the Systems pane, select Move Route Maps.
- 2. On the menu bar, select Create Move Route Map.
- 3. In the Create Move Route Map dialog box, complete the following substeps.
  - 1. In the Map Name box, type a name for the move route map.
  - 2. In the **Destination AE** box, type the destination for move jobs.

Note: This corresponds to the DICOM Move AE.

- 3. In the **Route** list, select the route that you want to be the move route.
- 4. Click Create Move Route Map.

### Edit route move and store options

Administrators can edit advanced move and store options for a route. To edit route move and store options, complete the following steps.

- 1. In Route Builder, in the main viewing area, click a route node.
- 2. In the settings area, click Move and Store Options.
- 3. In the **Route Options** dialog box, complete the following substeps.
  - 1. Under **Move Level**, select whether AcuoMed performs move operations at the patient, study, series, or image level.
  - 2. To prevent unnecessary move operations, select the **Only move assets not found at target destinations** check box.
  - 3. To issue a C-FIND prior to a move operation if the move levels of the source and route are the same, select the **Query sources when move and route levels are the same** check box.
  - 4. To prevent issuing of C-STORE operations, such as when an archive is present, and to bring offline images online, select the **Do not issue C-STOREs from Local DBs** check box.
  - 5. To limit the number of responses to a find request, in the Find Response Limit box, type a

number.

6. Click Save.

## View all routes of a destination

To anticipate the system-wide impact that changing a destination might have, you can display all routes that include a specific destination. To view all routes of a destination, complete the following step.

- 1. In Route Builder, on the menu bar, select Showing.
- 2. Select the **Destinations** tab, and then select a destination.

Result All routes containing the destination appear in the route display area.

### Work with nodes

#### Edit node settings

You can edit settings for any called AE, route, or destination node on a route. To edit node settings, complete the following steps.

- 1. In Route Builder, on the route display area, click a node.
- 2. In the settings area, click Edit [node] Settings.
- 3. In the settings dialog box for the node, edit settings and then click Save.

#### Remove or delete a node

Removing a node removes it from the current route. Deleting a node deletes it from all routes, and makes it unavailable for future use. You can only delete, and not remove, a called AE node. To remove or delete a node, complete the following steps.

- 1. In **Route Builder**, in the route display area, click a node.
- 2. In the settings area, do one of the following:
  - To remove the node, select Remove [Node Type] from [Parent Node].
  - To delete a node, select Delete [Node Type].

## Work with destinations

### What is a destination?

A destination is a DICOM device that you assign to a route for receiving information from a called AE.

You can configure two types of destinations.

#### Acuo destination

An AE on the local network, or a local DICOM destination that you previously configured on the current system.

#### **External destination**

A non-local DICOM device such as another Acumen system, PACS, VNA, viewer, archive, or laptop.

## Edit destination settings

You can edit the settings that you configured when creating a destination node. To edit destination settings, complete the following steps.

- 1. In Route Builder, in the route display area, click the destination node whose settings you want to edit.
- 2. In the settings area, select Edit Destination Settings.
- 3. In the dialog box that appears, edit settings and click Save.

## Edit destination tuning parameters

You can edit destination tuning parameters to adjust the number of database commands available for DICOM C-STORE and C-FIND operations. To edit tuning parameters, complete the following steps.

- 1. In **Route Builder**, in the route display area, click the destination whose tuning parameters you want to edit.
- 2. In the settings area, select Tuning Parameters.
- 3. In the tuning parameters dialog box, under C-STORE Options or C-FIND Options, complete the following substeps.
  - 1. In the **Maximum Connections** box, type the maximum number of commands that the database can receive.
  - 2. In the **Minimum Free Connections** box, type a number. When the number of free connections falls to this number, the system creates new free connections, up to the maximum.
  - 3. In the **Maximum Free Connections** box, type the maximum number of free connections that the system can create.
  - 4. Click Save.

## Workflow

## What is Workflow?

Workflow Management (Workflow) is a Web VNA module that administrators can use to manage move and store jobs that are queued by other Web VNA modules. Workflow contains two sub-modules, Move Manager and Store Manager.

#### **Move Manager**

Displays lists of active and completed move jobs, and enables you to pause, restart, or reschedule them.

#### **Store Manager**

Displays aggregate statistics on active and completed store jobs. It also displays system-specific lists that provide various job management functions including prioritization, hold, pause, cancel, destination change, and conflict resolution.

## View a list of workflow jobs

You can monitor workflow activity by displaying lists of workflow jobs.

- 1. To view a list of workflow jobs, do one of the following:
  - To view move jobs, in Move Manager, select a system.

- To view store jobs, in **Store Manager**, select a system other than a top-level system (such as the default system).
- 2. Optional. Customize the list. For more information, see Customize a list.

## View a summary of store jobs

You can view a summary of active and completed store jobs that includes status, average queue and run times, and exceptions and conflicts. To view a summary of store jobs, complete the following steps.

1. In Store Manager, select a top-level system such as the default system.

Note: On the summary screen, you can move the pointer over graphs to view details.

- 2. Optional. Do one or more of the following:
  - To view a list of jobs by status or other attributes, in the Active Jobs or Recently Completed Patients header, click a number under a column.
  - To view a list of jobs by error type, under Action Center, select an error type.

## About performing actions on jobs

When you select a system in a Workflow module, the name of the actions menu on the menu bar changes accordingly. For example, depending on which system you select the menu could be Queue Actions, Destination Actions, or Patient Actions. Additionally, the actions available in the menu change depending on the selected system and the types of job currently displayed.

Depending on context, workflow actions available for multiple jobs may also be available for individual jobs on their Actions menus.

## Perform an action on jobs

You can perform actions on jobs such as changing their status, schedule, or destinations. To perform an action on jobs, complete the following steps.

- 1. In Move Manager or Store Manager, select a system.
- **2.** Do one of the following:
  - To modify multiple jobs, on the menu bar, select the action menu displayed and select an action.
  - To modify a single job, in the job row, click Action and select an action.

Note: For a description of available actions, see Available workflow job actions.

## Available workflow job actions

The following list describes the actions that are available in Move Manager, Store Manager, or both.

#### Pause

Pauses one or more jobs. Web VNA also pauses jobs automatically when they experience a conflict.

#### Expedite

Changes the status of jobs to Expedite. Web VNA processes these jobs first.

#### **Lower Priority**

Changes the status of jobs to Lower Priority. Web VNA processes these jobs last.

#### Resume

Resumes jobs that are paused or on hold.

#### Hold

Places paused jobs on hold for further processing.

#### Cancel

Cancels jobs that are paused or on hold and removes them from the queue.

#### Reschedule

Reschedule move jobs to change their time of execution. For more information, see Reschedule a move job.

#### **Change Destination**

Changes the destinations that you pre-configured in Route Builder. See Change the destination of a store job.

#### **Resolve Conflict**

Resolves conflicts in paused jobs. See Resolve a store job conflict.

### Reschedule a move job

You can change the start date and time of move jobs that have not yet started. To reschedule a move job, complete the following steps.

- 1. In Move Manager, select a system.
- 2. In the list of jobs, find the job to reschedule, click **Actions**, and then select **Reschedule**.
- 3. In the **Reschedule Job** dialog box, select a new date and time and click **Reschedule Job**.

## Change the destination of a store job

A store job moves along a predetermined route, but you can change its destinations while the job is still active. To change the destination of a store job, complete the following steps.

- 1. In Store Manager, select a system.
- 2. In the row containing the job to modify, click Actions and select Change Destination.
- 3. In the Change Destination dialog box, in the New Destination list, select a new destination and click Change Destination.

#### Resolve a store job conflict

#### Prerequisite AcuoMed 6.0.3 HF1

During store operations, conflicts can arise when patient or study information (such as patient IDs or study UIDs) differs between the source and store destination. Store manager detects conflicts and provides the user with options for resolving them. To resolve a store job conflict, complete the following steps.

- 1. In Store Manager, select a system.
- 2. In the list of store jobs, find a job with a conflict.

Note: Store Manager displays a red icon next to jobs with conflicts.

- 3. Click Actions and select Resolve Conflict.
- 4. On the conflict summary page, click Next.
- 5. On the Choose the Appropriate Conflict Resolution page, select a conflict resolution option and click Next.
- On the Confirm Conflict Resolution page, click Next.
   Store Manager executes the conflict resolution option and displays the result.

## **Enterprise Reporting**

## What is Enterprise Reporting?

Enterprise Reporting is a Web VNA module that administrators can use to view lists, charts, and graphs of VNA activity. It comprises the following sub-modules.

#### Route Graph

Displays a graph of routes on multiple systems to help you visualize your overall routing scheme.

#### **Volume Analysis**

Displays color-coded charts and graphs to help you visualize the volume of traffic by route and modality.

#### **Standard Reports**

Displays lists of workflow and archiving activity customizable by destination, AE, server, and database.

#### **Archiving Analysis**

Displays system archive reports in chart and list format.

#### **Workflow Analysis**

Displays workflow activity by AE, modality, destination, and server in chart and list format.

#### **Storage Conflicts**

Displays a graph of storage conflicts by AE, conflict type, destination, and server.

#### View and customize a report

To view and customize an enterprise report, complete the following steps.

- 1. In Enterprise Reporting, click a sub-module and select a system.
- To customize the report, use the available menu bar options (see "Enterprise report customization options" and "Customize a list").

#### Enterprise report customization options

The following tables describe the customization options that are available in each Enterprise Reporting module.

## Route Graph

ΤοοΙ	Option	Description
Filter	All Routes	Displays all routes
	Complete Routes	Displays routes with at least 3 nodes
	Incomplete Routes	Displays routes with fewer than 3 nodes

### Volume Analysis

ΤοοΙ	Option	Description
Date Range	<ul> <li>Begin/End</li> <li>Last 7/30/90 days</li> </ul>	Displays only activity occurring within the specified date range
Previous Month/Week		Displays data one month or week before the data currently displayed
Next Month/Week		Displays data one month or week after the data currently displayed

## Standard Reports

ΤοοΙ	Option	Description
Date Range	<ul> <li>Begin /End</li> <li>Last 7/30/9 0 days</li> </ul>	Displays only activity occurring within the specified date range
Report	Jobs Summary	Displays a list of jobs
	Destination Volume	Displays number of jobs by destination
	AE Volume	Displays number of jobs by AE
	Server	Displays number of jobs by server

ΤοοΙ	Option	Description
	Volume	
	Database Volume	Displays job detail by server and database
Daily/Monthly/Yearly		Displays jobs by server since the previous day, month, or year. Clicking these automatically modifies the date range setting.
Date	Context dependent	Filters the current report by date
Destinations	Context dependent	Filters the current report by destination
Server Name	Context dependent	Filters the current report by server
Download to CSV		Downloads the current report as a CSV file
Print		Prints the current report

## Archiving Analysis

ΤοοΙ	Option	Description
Date Range	<ul> <li>Begi n/En d</li> <li>Last 7/30/ 90 days</li> </ul>	Displays only activity occurring within the specified date range
Patient		Sorts the current report by patient
Study		Sorts the current report by study
Series		Sorts the current report by series
Image		Sorts the current report by image
Size		Sorts the current report by size
Daily/Monthly/Yearly		Displays jobs by server since the previous day, month, or year. Clicking these automatically modifies the date range setting.

ΤοοΙ	Option	Description
Chart		Displays the report in chart form
Data		Displays the report as a list
Date	Context dependent	Filters the current report by date
DicomDb	Context dependent	Filters the current report by DICOM database
AcuoStore	Context dependent	Filters the current report by AcuoStore instance
Download to CSV		Downloads the current report as a CSV file
Print		Prints the current report

## Workflow Analysis

ΤοοΙ	Option	Description
Date Range	<ul> <li>Begi n/En d</li> <li>Last 7/30/ 90 days</li> </ul>	Displays only activity occurring within the specified date range
AEs		Displays the number of move/store jobs by AE
Modalities		Displays the number of move/store jobs by modality
Destinations		Displays the number of move/store jobs by destination
Servers		Displays the number of move/store jobs by server
Daily/Monthly/Yearly		Displays jobs by server since the previous day, month, or year. Clicking these automatically modifies the date range setting.
Chart		Displays the report in chart form

ΤοοΙ	Option	Description
Data		Displays the report as a list
Date	Context dependent	Filters the current report by date
Modality	Context dependent	Filters the current report by modality
Download to CSV		Downloads the current report as a CSV file
Print		Prints the current report

## Storage Conflicts

ΤοοΙ	Option	Description
Date Range	<ul> <li>Begi n/En d</li> <li>Last 7/30/ 90 days</li> </ul>	Displays only activity occurring within the specified date range
AEs		Displays the number of conflicts by AE
Conflicts		Displays the number of conflicts by conflict type
Destinations		Displays the number of conflicts by destination
Servers		Displays the number of conflicts by server
Daily/Monthly		Displays jobs by server since the previous day, month, or year. Clicking these automatically modifies the date range setting.

## **XDS Explorer**

## What is XDS Explorer?

XDS Explorer is a Web VNA module that administrators can use to browse documents in an XDS repository and view associated metadata. Within each repository, you can select which master patient index to use in a search. XDS Explorer also provides a VNA search function to view VNA records alongside XDS document metadata.

## **Configure XDS**

Prerequisite See 'XDS Explorer Requirements' in the technical specifications.

Before you can use XDS Explorer, you must configure an XDS repository in the Administration module. To configure XDS, complete the following steps.

- 1. In Administration, select the XDS Configuration tab.
- 2. In the left pane, click Add New Acuo Registry.
- 3. In the Add New Acuo Registry dialog box, type the name, URL, and domain of the registry and click Save.
- 4. In the right pane, click Add New Acuo MPI.
- In the Add New Acuo MPI dialog box, type the name and URL of the medical patient index and click Save.

## About PDQ and registry searches

#### PDQ search

The patient demographic query (PDQ) is the primary means of searching the registry of an XDS repository. Web VNA uses the patient demographic criteria that you enter to search the enterprise master patient index (EMPI) for a local ID, and then uses the local ID to find the mapped affinity domain or global ID. Web VNA retrieves the matching documents from the registry by using that affinity domain or global ID.

#### **Registry search**

The registry search is less accurate than the PDQ search, but it is very useful for finding erroneous patient data. In a registry search, you enter the same demographic search criteria as in a PDQ search. However, instead of searching the EMPI for an ID, Web VNA searches the registry directly for matching criteria in document metadata.

## Perform a PDQ search

To find a patient document in an XDS repository, you can perform a PDQ search. To perform a PDQ search, complete the following steps.

- 1. In XDS Explorer, select a system.
- 2. On the menu bar, on the Acuo Registry tab, select a registry to search.
- 3. On the menu bar, click PDQ Search.
- 4. In the PDQ Patient Search dialog box, complete the following substeps.
  - 1. In the Acuo MPI list, select a master patient index.
  - 2. Under Search Criteria, type or select one or more criteria and click Search.
  - 3. In the PDQ Results list, select a patient record and click Retrieve Documents.
- 5. To view document metadata, in the **Registry Documents** list, on the **Actions** menu, select **View**.

## Perform a registry search

You can search for patient demographics in document metadata and return the matching documents. To perform a registry search, complete the following steps.

- 1. In XDS Explorer, select a system.
- 2. On the menu bar, click Registry Search.
- 3. In the Registry Search dialog box, enter search criteria and click Search.
- 4. In the Registry Results list, select a patient record and click Retrieve Documents.

## Perform an MPQ search

To find all patients in the registry matching non-demographic criteria, you can perform a multiple patient query (MPQ) search. To perform an MPQ search, complete the following steps.

- 1. In XDS Explorer, select a system.
- 2. On the menu bar, click Registry Search.
- 3. In the Registry Search dialog box, select the Multiple Patient Search (MPQ) check box.
- 4. Enter search criteria and click Retrieve Documents.

## Perform a VNA search

Although the main purpose of XDS Explorer is to search repositories, you can also use it to search the VNA. To perform a VNA search, complete the following steps.

- 1. In XDS Explorer, select a system.
- 2. On the menu bar, click VNA Search.
- 3. In the VNA Patient Search dialog box, complete the following substeps.
  - 1. In the **Sources** list, select a database.
  - 2. Under Search Criteria, type or select one or more criteria and click Search.
  - 3. In the VNA Results list, select a patient record and click Retrieve Documents.

## Lifecycle Management

## What is lifecycle management?

Lifecycle Management is a Web VNA module that administrators can use to help manage data volume. Lifecycle management refers to the scheduled moving or deleting of records from a system according to retention policies. Lifecycle management requires two tasks, creating a retention policy and scheduling a task that executes the retention policy. The Lifecycle Management module includes a sub-module for each of these two tasks.

## Create a retention policy

You can create a retention policy to specify when Web VNA should delete specific records. Web VNA does not execute the policy unless you schedule it in Task Scheduling. To create a retention policy, complete the following steps.

- 1. In Retention Policies, click Create New Policy.
- 2. In the **Create New Policy** dialog box, type a name for the policy and enter one or more of the following criteria.
  - Under Patient Birthdate, Study Date, or Insert Date, select the check box and specify a number

of days to retain the record after the birth date of the patient, the study date, or the insert date.

- Under **Institution Name**, select the check box and type the name of an institution. The policy only applies to records from this institution.
- In the Modalities list, select one or more modalities, and then click anywhere outside the list. The
  policy only applies to records from the modalities you select.
- 3. In the Action list, select an action to perform when the policy is executed.
- 4. Optional. To limit the scope of the policy by destination, complete the following substeps.
  - 1. Clear the Apply to all destinations check box.
  - 2. In the **Destinations** list, select one or more destinations and click anywhere outside the list.
- 5. Click Create New Policy.

## Schedule execution of a retention policy

After you create a retention policy you must schedule a task to execute it. Tasks apply to all policies of a specified destination. The task that you create runs in the background as a Windows scheduled task. To schedule execution of a retention policy, complete the following steps.

- 1. In Task Scheduling, click Create New Scheduled Task.
- 2. In the Create New Task dialog box, complete the following substeps.
  - 1. To assign policies to the task, in the Acuo Destination list, select a destination.
  - 2. In the Frequency list, select an execution frequency of Daily, Weekly, or Monthly.
  - 3. Under Run Time, specify the time of day to execute the task.
  - In the Task Username and Task Password boxes, type credentials for the domain or machine on which the task runs.
- 3. Click Create New Task.

## Auditing

## **About Auditing**

Web VNA maintains four types of audit logs that can be viewed in the following modules.

#### Acuo Audits

Shows access to patient data to help you track who viewed which patients.

#### **IHE Audits**

Shows event logs conforming to IHE standards.

#### **User Audits**

Shows detailed activity by user.

#### Tasks

Shows audit information sent to external systems only if AcuoMed is configured to do so.

#### View an audit log

You can view audit logs of server activity. To view an audit log, complete the following steps.

1. On the Auditing module home screen, select Acuo Audits, IHE Audits, User Audits, or Tasks.

2. Optional. To customize the log, see Customize a list.