

Cenova™

Image Analytics Servers



Cenova™ Image Analytics Server
User Guide
Software Version 3.0
MAN-05463-002 Revision 002

HOLOGIC®

Cenova™

Image Analytics Server

User Guide

For Software Version 3.0

Part Number MAN-05463-002

Revision 002

September 2019

HOLOGIC®

Product Support

USA: +1.877.371.4372

Europe: +32 2 711 4690

Asia: +852 37487700

Australia: +1 800 264 073

All Other: +1 781 999 7750

Email: BreastHealth.Support@hologic.com

© 2017-2019 Hologic, Inc. Printed in the USA. This manual was originally written in English.

Hologic, ImageChecker, Quantra, DigitalNow, and associated logos are trademarks and/or registered trademarks of Hologic, Inc., and/or its subsidiaries in the United States and/or other countries. All other trademarks, registered trademarks, and product names are the property of their respective owners.

This product may be protected by one or more U.S. or foreign patents as identified at www.Hologic.com/patents.

Table of Contents

1: Introduction	1
1.1 Overview	1
1.2 Using This Guide	2
1.3 Resources Available	2
1.4 Warnings and Precautions	4
1.4.1 System Operation	5
1.4.2 Installation and Maintenance	7
1.5 Warranty Statement	8
2: System Description	9
2.1 Inputs to Cenova	9
2.1.1 Input Devices	9
2.1.2 Image Formats	9
2.1.3 Input Ports and Application Licenses	10
2.2 Results from Cenova	11
2.3 Data Flows	12
2.3.1 ImageChecker CAD Data Flow	13
2.3.2 ImageChecker CAD with DICOM 6000 Data Flow	15
2.3.3 ImageChecker 3D Calc CAD Data Flow	16
2.3.4 Hologic Imaging Biomarkers Data Flow	17
2.3.5 DigitalNow HD Data Flow	20
3: System Operation	21
3.1 Clinical Workflow	21
3.2 Sending Images to the Server	21
3.3 Server Startup and Shutdown	22
3.3.1 Shutting Down the Server	23
3.3.2 Starting Up the Server	24
3.3.3 Restarting the Server	24
3.4 Accessing Unique Device Identifier (UDI) Information	25
3.5 Using Case Manager	25
Index	29

Chapter 1 Introduction

[Overview](#) on page 1

[Using This Guide](#) on page 2

[Resources Available](#) on page 2

[Warnings and Precautions](#) on page 4

[Warranty Statement](#) on page 8

1.1 Overview

This guide provides instructions for operating and maintaining the Cenova™ Image Analytics Server in the clinical environment. The server processes mammography images using proprietary software algorithms.

The Cenova server is a high-performance application server that provides proprietary software applications to assist radiologists in the analysis of digital mammography images. Cenova server is designed to be used by radiologists working in a hospital, outpatient clinic, or a breast imaging center. The server also may be used for research-related activities.

The server can be located in any non-patient environment, provided it is connected to the mammography network. Once configured, little direct interaction with the server is necessary. Any interaction is through a user-friendly web browser interface.

DICOM Conventions

DICOM (Digital Imaging and Communications in Medicine) is an international standard used for developing, transmitting, printing, and archiving medical imaging information. Hologic uses the following DICOM standard designations for digital mammography images:

- DICOM Digital Mammography X-Ray Image – For Processing
- DICOM Digital Mammography X-Ray Image – For Presentation
- DICOM Secondary Capture Image – Raw Projection
- DICOM Secondary Capture Image – Raw Synthesized 2D

To simplify, this guide shortens these designations to 'For Processing images', 'For Presentation images', 'Raw Projection images', and 'Raw Synthesized 2D images.'

1.2 Using This Guide

This guide is organized as follows:

- [Introduction](#) on page 1 provides background information on the Cenova server and related documentation.
- [System Description](#) on page 9 provides a summary of image specifications and data formats passed between the Cenova server and other devices that may be installed at your site.
- [System Operation](#) on page 21 provides information about managing clinical workflow, shutting down and powering up the server, accessing UDI information, and using the Cenova Case Manager.

1.3 Resources Available

In addition to this user guide, the following resources are available to assist you when working with the Cenova server.

- **Training:** This user guide serves as the training for the Cenova server.
The Hologic Applications team is available via remote training, should you feel your staff needs additional training for either the ImageChecker® CAD or Quantra™ applications on the Cenova server. Additional training for the Quantra application is also available via an E-learning found under the training section of the Hologic Website (www.hologic.com).
- **Documents:** Hologic provides the following documents for the Cenova server and its applications:
 - *Cenova Image Analytics Server User Guide*
 - *Understanding ImageChecker CAD User Guide*
 - *Understanding ImageChecker 3D Calc CAD User Guide*
 - *Understanding Quantra User Guide*
 - *Understanding DigitalNow HD User Guide*
 - *Cenova Image Analytics Server Installation & Service Guide*
 - *Cenova Image Analytics Server Release Notes*
 - *Cenova Image Analytics Server DICOM Conformance Statement*
 - *Cenova Image Analytics Server Cybersecurity Product Report*
 - *Cenova Image Analytics Server System Requirements*

You can obtain additional copies of printed documents through your Hologic Account Manager. You can find the DICOM Conformance Statement and Cybersecurity Product Report on the Hologic website.

- **Technical Support and Service:** For support in North America contact:

Toll Free: +1.877.371.4372

Email: BreastHealth.Support@hologic.com

Hours: Monday – Friday, 6:00 AM – 5:00 PM, PT (GMT – 8:00)

Website: www.hologic.com

For support in Europe, South America, or Asia, contact your local dealer or distributor.

1.4 Warnings and Precautions

This guide uses the following conventions to provide technical and safety information of special interest.



WARNING:

An instruction that, if not followed, can result in a hazardous condition.



Caution:

An instruction that, if not followed, can result in damage to the system.



Important

An instruction provided to ensure correct results and optimal performance, or to clarify limitations of the device.



Note

Information provided to clarify a particular step or procedure.

Before using the Cenova server, read the following warnings and precautions.

1.4.1 System Operation



WARNING:

Observe the following instructions that, if not followed, can result in a hazardous condition:

- The server is intended for use only by personnel who have read this guide and received training on how to use the server. Hologic does not accept responsibility for injury or damage associated with improper or unsafe system operation.
- Use the server only outside the patient environment. The server is rated for use only in an office environment.
- Do not place liquid containers on the device. In the event of a spill, shut down power to all components prior to cleaning to minimize the possibility of electrical shock. If internal components are exposed to liquid, do not operate the device – contact your service representative.



Caution:

Always shut down the computer according to the procedures provided in this guide. Improper system shutdown can cause loss of data or damage to the computer operating system.



Important

Observe the following instructions that are provided to ensure correct results and optimal performance, or to clarify limitations of the device.

- For proper system operation, the technical quality of the images (e.g., contrast) should be acceptable to the interpreting radiologist and meet the requirements of the Mammography Quality Standards Act (MQSA) or the appropriate national standards.
- The device design and mode of operation are consistent with current standard mammography clinical practices, as governed by the MQSA. Users are advised to comply with the MQSA for the United States, or the appropriate national standards, when implementing Cenova mammography applications in clinical protocols.

- This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction guide, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at the user's expense.

1.4.2 Installation and Maintenance



WARNING:

Observe the following instructions that, if not followed, can result in a hazardous condition:



- The symbol next to the power connector indicates a potential shock hazard. To reduce the likelihood of electrical shock or fire hazard, connect the computer only to a power receptacle that is properly grounded and provides voltage and current within the specifications of the server.
- To connect primary power to the server, always use a three-conductor grounded power cable that meets local regulatory standards. Use of a two-prong adapter disconnects the utility ground and creates a severe shock hazard.
- Cenova servers are heavy! If you have any concerns about lifting or positioning the server, request assistance.
- Before cleaning the server, always shut down the server according to the procedures in this guide and disconnect the power cord to prevent electrical shock. Never use alcohol, benzene, thinner, or other flammable cleaning agents.



Caution:

This product contains no user-serviceable parts. To prevent damage to the server:

- Maintain equipment in a well-ventilated, air-conditioned environment that meets the temperature and humidity specifications provided in the product service guide.
- Do not install or repair the Cenova server. Only trained personnel, authorized by Hologic, are qualified to install or repair the server.
- Disconnect power cord before moving or servicing.
- Install the server behind the institution firewall for network security and antivirus protection. Hologic provides no computer virus protection or network security for the server. If antivirus software is required, visit the Hologic website for information about the Hologic cybersecurity program and antivirus software installation guidance.

1.5 Warranty Statement

Except as otherwise expressly stated in the Agreement: i) Equipment manufactured by Hologic is warranted to the original Customer to perform substantially in accordance with published product specifications for one (1) year starting from the date of shipment, or if Installation is required, from the date of Installation (“Warranty Period”); ii) digital imaging mammography x-ray tubes are warranted for twenty-four (24) months, during which the x-ray tubes are fully warranted for the first twelve (12) months and are warranted on a straight-line prorated basis during months 13-24; iii) replacement parts and remanufactured items are warranted for the remainder of the Warranty Period or ninety (90) days from shipment, whichever is longer; iv) consumable Supplies are warranted to conform to published specifications for a period ending on the expiration date shown on their respective packages; v) licensed Software is warranted to operate in accordance with published specifications; vi) Services are warranted to be supplied in a workman-like manner; vii) non-Hologic Manufactured Equipment is warranted through its manufacturer and such manufacturer’s warranties shall extend to Hologic’s customers, to the extent permitted by the manufacturer of such non-Hologic Manufactured Equipment. Hologic does not warrant that use of Products will be uninterrupted or error-free, or that Products will operate with non-Hologic authorized third-party products. These warranties do not apply to any item that is: (a) repaired, moved, or altered other than by Hologic authorized service personnel; (b) subjected to physical (including thermal or electrical) abuse, stress, or misuse; (c) stored, maintained, or operated in any manner inconsistent with applicable Hologic specifications or instructions, including Customer’s refusal to allow Hologic recommended Software upgrades; or (d) designated as supplied subject to a non-Hologic warranty or on a pre-release or “as-is” basis.

Chapter 2 System Description

- [Inputs to Cenova](#) on page 9
- [Results from Cenova](#) on page 11
- [Data Flows](#) on page 12

This chapter describes the flow of data passed between Cenova and other devices that may be installed at your site.

2.1 Inputs to Cenova

- [Input Devices](#) on page 9
- [Image Formats](#) on page 9
- [Input Ports and Application Licenses](#) on page 10

2.1.1 Input Devices

The server supports inputs from the types of devices listed below. Certain in-country restrictions may apply.

- **Full Field Digital Mammography Systems:** Cenova processes two-dimensional digital mammography images originating from Full-Field Digital Mammography (FFDM) image acquisition systems. Cenova supports inputs from FFDM devices manufactured by Hologic Inc. (Danbury, CT), GE Healthcare (Waukesha, WI), and Siemens AG (Munich, Germany).
- **Digital Breast Tomosynthesis Systems:** Cenova processes 3D Mammography™ datasets and synthesized 2D images originating from Hologic Selenia® Dimensions® systems.
- **Film Digitizing Systems:** For film mammograms, Cenova processes DigitalNow™ images originating from any Hologic film-scanning systems.

In addition, images produced by any of these systems may be sent to Cenova from a Picture Archiving and Communication System (PACS).

For more information about supported input devices, see the document for the specific software application.

2.1.2 Image Formats

The Cenova server processes digital mammography image objects that conform to the DICOM standard. The server processes the following types of DICOM image objects:

- Image objects sent to Cenova by an FFDM system following a conventional mammography examination known as *For Processing* images (also referred to as 'raw' 2D images).
- Image objects sent to Cenova by Hologic 3D Mammography™ systems known as *Raw Projection* images.

- Image objects sent to Cenova by Hologic 3D Mammography™ systems known as *Raw Synthesized 2D* images.
- Image objects sent to Cenova by any of the Hologic film-digitizing systems known as *For Presentation* images.

Some DICOM image objects are not processed by the software, depending upon the application and mammography view shown in the image.

For more information on image formats, see the diagrams in [Data Flows](#) on page 12.

2.1.3 Input Ports and Application Licenses

Each device that produces digital mammography image files maps to an input port on the Cenova server. The DICOM header for each image object includes an identifier (e.g., a serial number) that indicates the device from which the image originated.

For each Cenova server, sites can support:

- Up to four licenses for any or all of the 2D software applications plus a single license for DigitalNow HD, or
- Up to two licenses for ImageChecker 3D Calc CAD, or
- A single license for DigitalNow HD

Note that exceeding these guidelines with a single server can affect system response times.

Each Cenova software application requires one software license for each input device. For example, if there are four FFDM devices, then the Cenova server must be configured with four software licenses for each desired Cenova software application.

The Cenova server can also process images sent from any number of PACS devices, as long as the images originated from one of the licensed input devices.

For assistance with license configurations, contact your Hologic Account Manager.

2.2 Results from Cenova

Cenova sends its results to diagnostic review workstations (such as Hologic SecurView DX) and PACS devices. Depending upon the application, Cenova can transmit results in one or more forms. The table below shows output formats for each application.

Application	CAD SR	SC Image	RTSS	Printer	MG Image
ImageChecker CAD (2D)	X	X	X	X	
ImageChecker 3D Calc CAD		X			
Hologic Imaging Biomarkers	X	X			
DigitalNow HD					X

- **CAD SR** – The Mammography CAD SR format is the DICOM standard used for ImageChecker CAD and/or Hologic Imaging Biomarker results.
- **SC Image** – Mammography CAD SC (Secondary Capture) provides the case-processed views (normally the four screening views) with ImageChecker CAD, Hologic Imaging Biomarkers, or proprietary ImageChecker 3D Calc CAD results. For ImageChecker CAD and Hologic Imaging Biomarkers, this format is for workstations that do not support Mammography CAD SR.
- **RTSS** – The Radiotherapy Structure Set format was developed specifically to display ImageChecker CAD results on certain GE review workstations.
- **Printer** – This format provides ImageChecker CAD results for the case-processed views (normally the four screening views).
- **MG Image** – This format (DICOM Digital Mammography X-Ray Image – For Presentation) provides DigitalNow HD images.

For workstations and PACS devices that do not support ImageChecker CAD Mammography CAD SR objects but do support DICOM 6000 overlays, the Hologic DICOM 6000 Interface solution can be used to convert the ImageChecker CAD results (see [ImageChecker CAD with DICOM 6000 Data Flow](#) on page 15). For more information, contact your Hologic Account Manager.



Note

DICOM 6000 version 1.1.7 is required to support CAD on synthesized 2D image results as DICOM 6000 overlay.



Note

DICOM 6000 Interface version 1.1.7 may reside on a Cenova server.

2.3 Data Flows

This section describes how information flows among the various devices for the Cenova applications, as listed below.

- [*ImageChecker CAD Data Flow*](#) on page 13
- [*ImageChecker CAD with DICOM 6000 Data Flow*](#) on page 15
- [*ImageChecker 3D Calc CAD Data Flow*](#) on page 16
- [*Hologic Imaging Biomarkers Data Flow*](#) on page 17
- [*DigitalNow HD Data Flow*](#) on page 20

Note that mammography systems may have different configurations, depending upon the devices installed at your site.

2.3.1 ImageChecker CAD Data Flow

The diagram below shows how information typically flows through systems with ImageChecker CAD.



Note

ImageChecker CAD also applies to synthesized 2D images. Raw synthesized 2D images are sent to the Cenova server. Corresponding Breast Tomosynthesis Image or For Presentation images are sent to the diagnostic review workstation(s) and PACS.



Note

When both conventional 2D mammography and synthesized 2D images are sent to Cenova for a ComboHD study, the Cenova server will produce separate ImageChecker CAD results for the conventional 2D mammography and synthesized 2D images, respectively.

Image Acquisition System(s)

1, 2, 3: FFDM systems can be configured to send digital mammography x-ray images to any device that conforms to the DICOM standard. The FFDM device sends two types of images, For Processing images to the Cenova server, and For Presentation images to the diagnostic review workstation(s) and PACS.

Cenova Server

4, 5, 6: The Cenova server sends results (for example, Mammography CAD SR objects or CAD SC images) to one or more diagnostic review workstation(s) and/or PACS devices. The Cenova server can also provide printed results showing the four case-processed views with CAD marks.

Diagnostic Review Workstation(s) and PACS

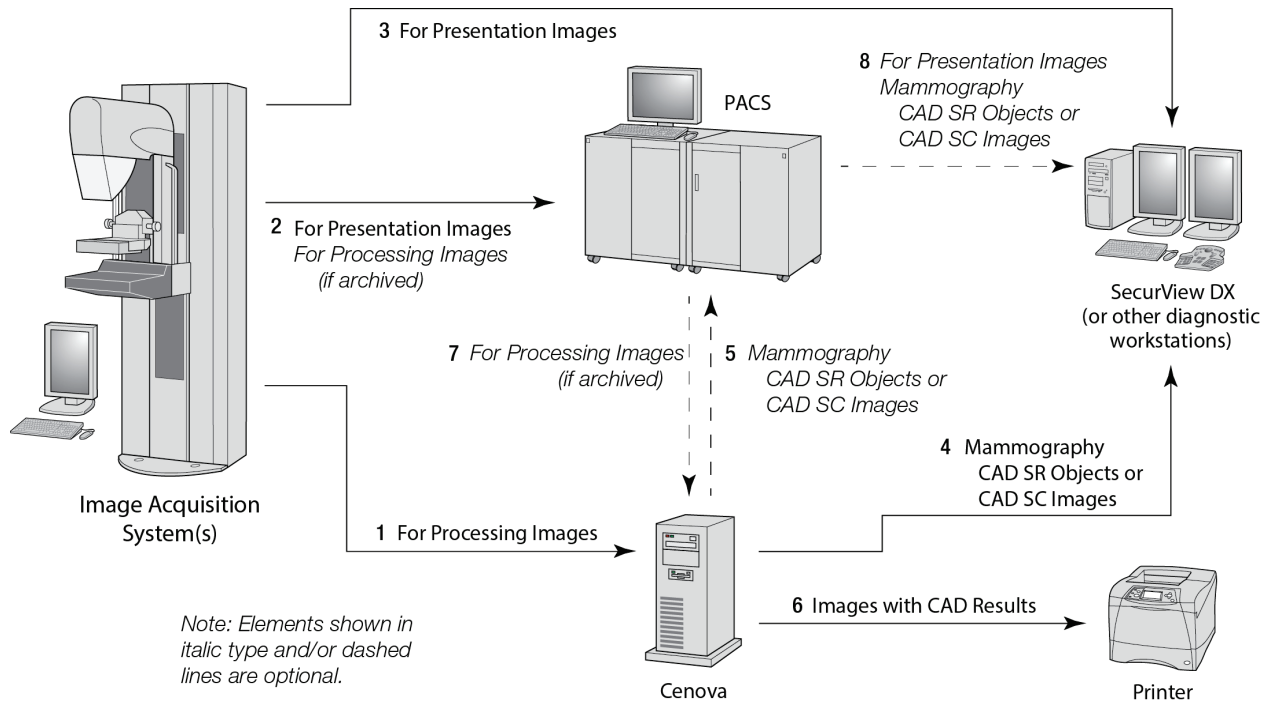
3, 4, 8: The review workstation(s) are configured to receive the For Presentation images (3, 8) and ImageChecker CAD results (4, 8), which are then reviewed by the radiologist.

7, 8: The PACS can be configured to send:

- For Processing images to Cenova (7), which processes the images and distributes the CAD results according to its configuration, and/or
- ImageChecker CAD results and/or For Presentation images to the review workstations (8).

Cenova Image Analytics Server 3.0 User Guide

Chapter 2: System Description



ImageChecker CAD Data Flow

2.3.2 ImageChecker CAD with DICOM 6000 Data Flow

Typically, diagnostic review workstations and PACS devices support the Mammography CAD SR results format. If the review workstation or PACS does not support Mammography CAD SR, but does support DICOM 6000 overlays, a supplementary interface solution can be installed. For more information about the Hologic DICOM 6000 interface option, contact your Hologic Account Manager.

Image Acquisition System(s)

1, 2, 3, 4: The FFDM device sends For Processing images to the Cenova server, and For Presentation images to the diagnostic review workstation(s), PACS, and DICOM 6000 Interface.

Cenova Server

5: The Cenova server sends CAD results in DICOM Mammography CAD SR format to the DICOM 6000 Interface. No images need be forwarded.

DICOM 6000 Interface

6: The DICOM 6000 Interface sends the images with DICOM 6000 CAD results overlays to the diagnostic workstation for review and to the PACS for storage.



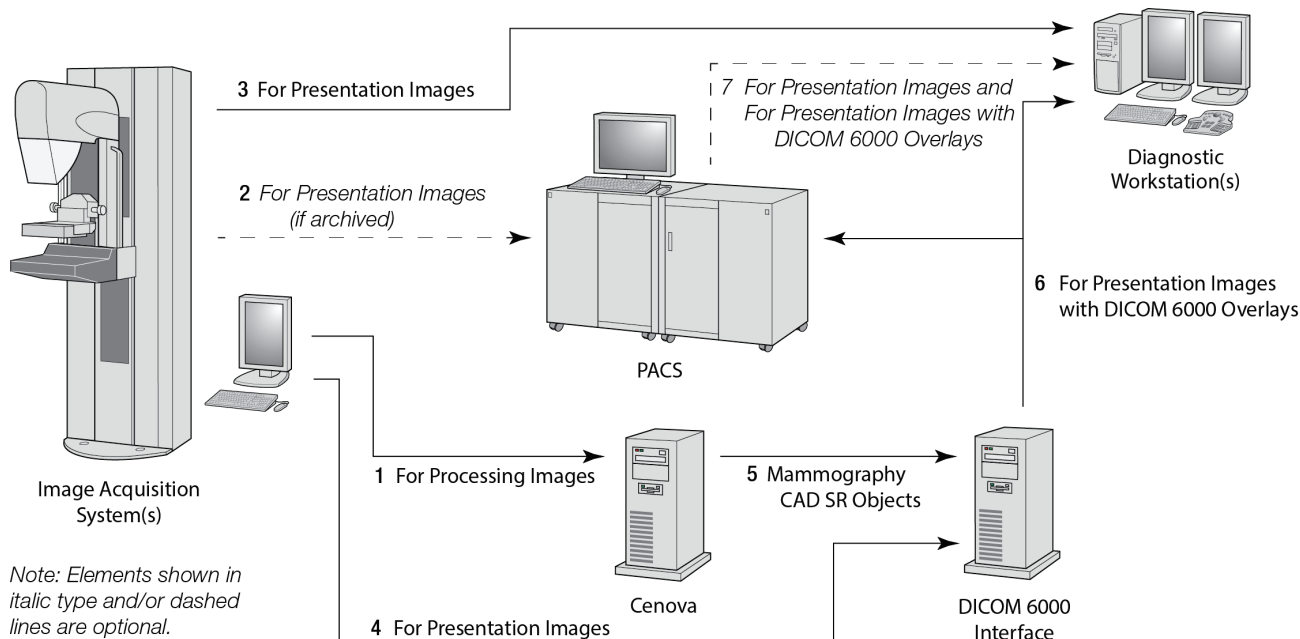
Note

The DICOM 6000 Interface may reside on a Cenova server.

Diagnostic Review Workstation(s) and PACS

3, 6: The review workstation receives the For Presentation images and the For Presentation images with DICOM 6000 CAD results overlays, which then can be reviewed by the radiologist.

7: If results are stored on a PACS, then they can be retrieved and sent to the review workstation at any time.



ImageChecker CAD with DICOM 6000 Overlay Data Flow

2.3.3 ImageChecker 3D Calc CAD Data Flow

This section describes the data flows among the various devices used for Hologic 3D Mammography™ imaging and review. To follow the data flows, refer to the diagram below.

Image Acquisition System(s)

1, 2, 3: Hologic 3D Mammography™ systems can be configured to send 3D Mammography™ datasets to any compatible device. For CAD purposes, the 3D Mammography™ device sends two types of images, Raw Projection images to the Cenova server, and Reconstructed Slices to the diagnostic review workstation(s) and PACS.

Cenova Server

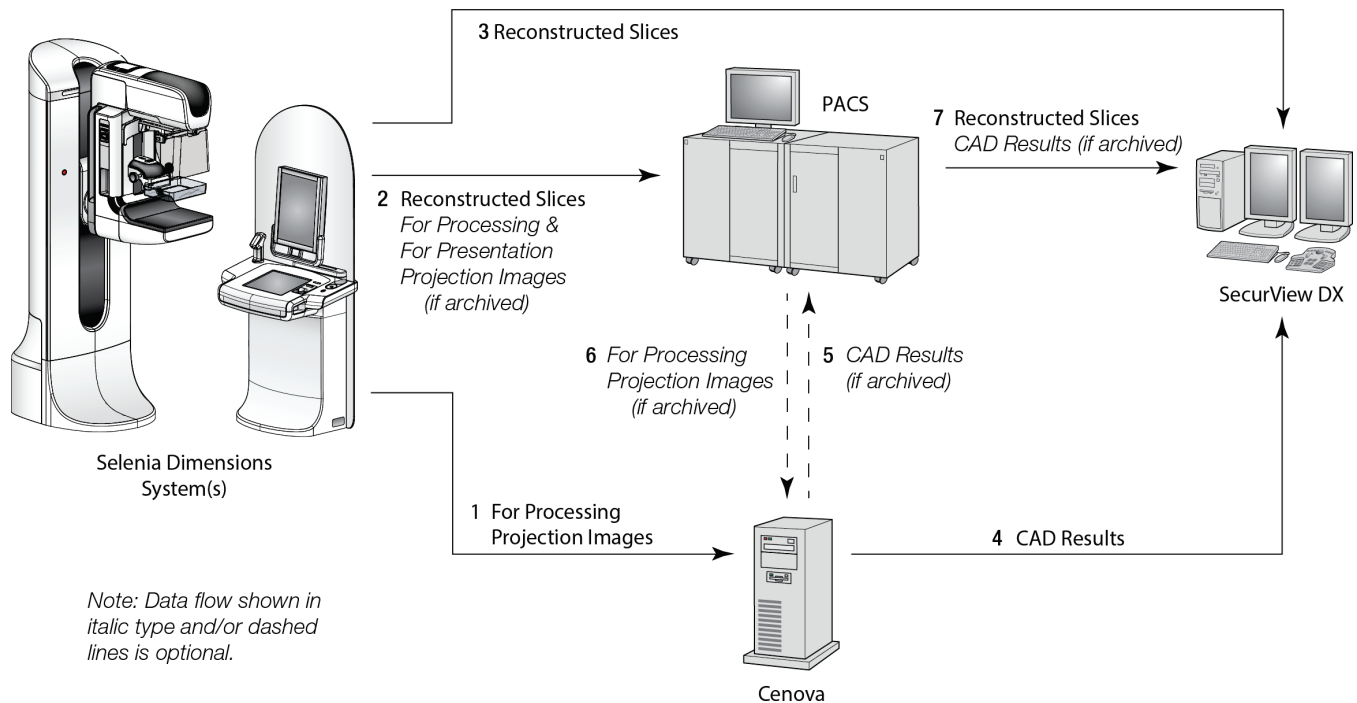
4, 5: The Cenova server sends CAD results to one or more diagnostic review workstation(s) and/or PACS devices. The results are encoded in a proprietary manner within a DICOM Secondary Capture Image object. Only Hologic SecurView can interpret the Cenova output. No DICOM format is available for interoperable encoding of 3D Mammography™ CAD results at this time.

Diagnostic Review Workstation(s) and PACS

3, 4, 7: The review workstation(s) are configured to receive the Reconstructed Slices (3, 7) and ImageChecker 3D Calc CAD results (4, 7), which are reviewed by the radiologist.

6, 7: The PACS can be configured to send:

- Projection images to Cenova (6), which processes the images and distributes the CAD results according to its configuration, and/or
- ImageChecker 3D Calc CAD results and/or Reconstructed Slices to the review workstation(s) (7).



ImageChecker 3D Calc CAD Data Flow

2.3.4 Hologic Imaging Biomarkers Data Flow

The figure below shows the data flows among the various devices for the Quantra application.



Note

When both conventional 2D mammography and Raw Projection images are sent to Cenova for a Combo or ComboHD study, the Cenova server will produce one set of Quantra results for either the 2D or 3D images, per Cenova configuration.

Image Acquisition Device(s)

1, 2, 3: The Hologic FFDM device sends For Processing images to the Cenova server, and For Presentation images to the diagnostic review workstation(s) and PACS. The Hologic 3D Mammography™ device sends Raw Projection images to the Cenova server, and Reconstructed Slices to the diagnostic review workstation(s) and PACS.

Cenova Server

4, 5: The Cenova server sends Hologic Imaging Biomarker results (DICOM SR objects or DICOM SC images) to one or more diagnostic review workstation(s) and/or PACS devices simultaneously.



Note

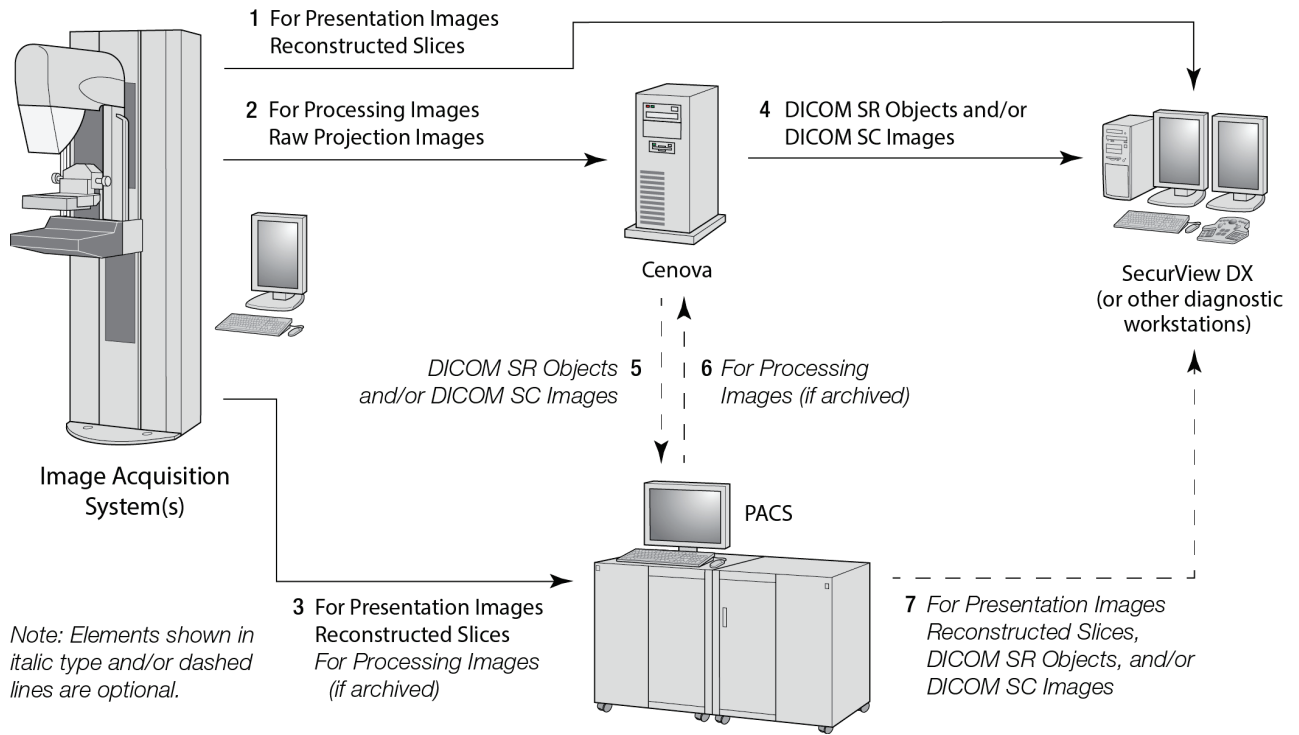
The Hologic SecurView DX workstation, some non-Hologic workstations, and several reporting applications will display Biomarker results content from DICOM Mammography CAD SR. For applications that are not capable of interpreting and displaying the SR content, or for customers who prefer a more user-friendly Biomarker results output, the Cenova server can be configured instead to send Biomarker results as a DICOM Secondary Capture Image.

Diagnostic Review Workstation(s) and PACS

1, 4, 7: The review workstation(s) are configured to receive the For Presentation images, Reconstructed Slices, and Biomarker results, which are then reviewed by the radiologist.

6, 7: As an option, the PACS can be configured to send:

- For Processing images to Cenova (6), which processes the images and distributes the Biomarker results according to its configuration, and/or
- Biomarker results and/or For Presentation images to the review workstations (7).



Hologic Imaging Biomarkers Data Flow

2.3.5 DigitalNow HD Data Flow

The figure below shows the data flows among the various devices.

Source Image Device

1: The Hologic film scanning system sends DigitalNow For Presentation images to the Cenova server.

Cenova Server

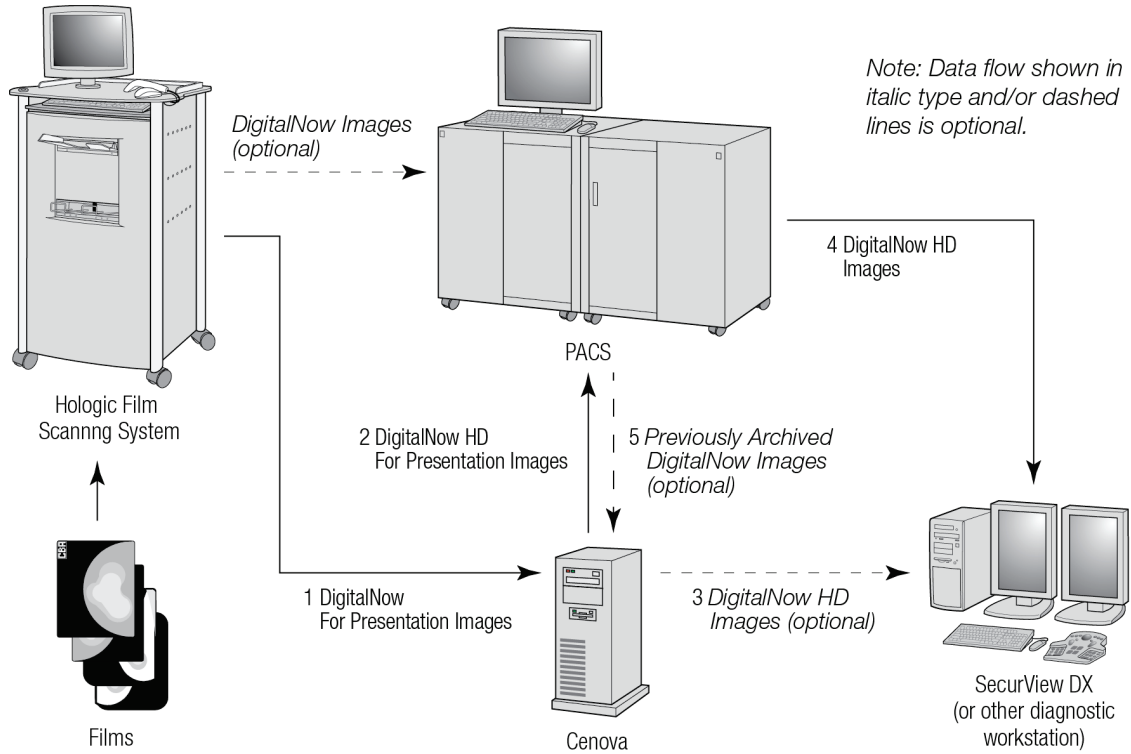
2: The Cenova server processes the images and sends new DigitalNow HD For Presentation images to a PACS device.

3: As an option, the server can also send the images directly to one or more diagnostic review workstation(s).

Diagnostic Review Workstation(s) and PACS

4: The PACS is configured to send the For Presentation DigitalNow HD images to one or more review workstation(s). The radiologist can then review the images.

5: Depending upon the needs of the site, the PACS can also be configured to send previously archived DigitalNow images to the Cenova server.



DigitalNow HD Data Flow

Chapter 3 System Operation

- [Clinical Workflow](#) on page 21
- [Sending Images to the Server](#) on page 21
- [Server Startup and Shutdown](#) on page 22
- [Accessing Unique Device Identifier \(UDI\) Information](#) on page 25
- [Using Case Manager](#) on page 25

Once configured, little direct interaction with the Cenova server is necessary. Any interaction with the server is through a web browser and a user-friendly interface.

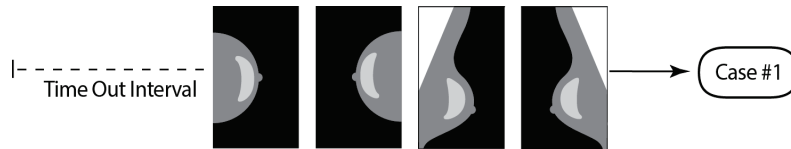
3.1 Clinical Workflow

To view results produced by the Cenova server with the patient's mammography images, follow the guidelines of your workstation vendor. Radiologists typically review mammography images using a protocol similar to the sequence shown in the following table:

For this step	The radiologist
Preliminary Review	Reviews the mammography images to get a preliminary sense of the patient's status.
DigitalNow HD	Compares prior digitized film images to the new mammography images.
Hologic Imaging Biomarkers	Reviews and notes the Biomarker findings.
Preliminary Assessment	Examines the mammography images in detail and forms a primary diagnosis.
Computer Aided Detection	Views CAD marks and evaluates related ImageChecker data to determine if other areas on the images warrant further review.
Final Assessment	Makes a final assessment and creates a report.

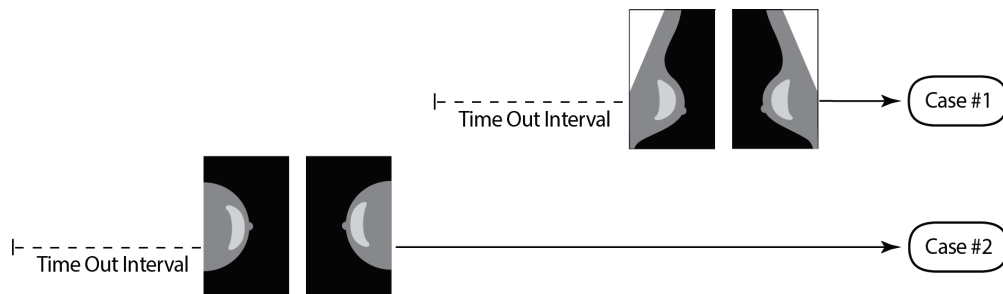
3.2 Sending Images to the Server

The server accepts the images automatically as they are sent from the image acquisition system, film-scanner, or archiving device. The Cenova server groups successive images with the same DICOM study instance UID (unique identifier) into a case if the images are received within a time-out period configured by the service representative upon system installation. The time-out period is not fixed; the server automatically adjusts the time-out period to maximize throughput. (For more information, contact Hologic Technical Support.)



Server Assigns Images Received Before Timeout Elapses to One Case

The server assigns any image received after the time-out period to a new case using the same study instance UID. At the review workstation, two sets of results will be seen, distinguishable by the date and time they were produced by the server.



Server Assigns Images Received After Timeout Elapses to a New Case

To reduce the possibility of multiple results, Hologic recommends that images for each patient examination be sent from the image acquisition system together at the close of the study and in rapid succession.



Note

As an alternative, the server can be configured to group all images with the same study instance UID automatically into a single case, no matter when they were received (i.e., include images from a previous case). For more information, consult with a technical support representative.

It is the service representative's responsibility to set up your system such that the images are sent correctly to the server in addition to the review workstation and to the desired final destinations. For more about the data flow among the various devices, see [Data Flows](#) on page 12.

3.3 Server Startup and Shutdown

The Cenova server does not require regular maintenance. The only procedures you might need to perform are:

- [Shutting Down the Server](#) on page 23
- [Starting Up the Server](#) on page 24
- [Restarting the Server](#) on page 24 (turning off and on again)

For these procedures, you need to know the IP address for the computer. You can get the IP address from the Cenova System Settings – Connectivity screen. Write that number here:

Cenova Server IP Address: _____



Note

Use these procedures when DICOM 6000 Interface is installed on a Cenova server.

3.3.1 Shutting Down the Server

You might need to shut down the Cenova server if you are going to move the computer, or if you know the power is going out for a period of time.

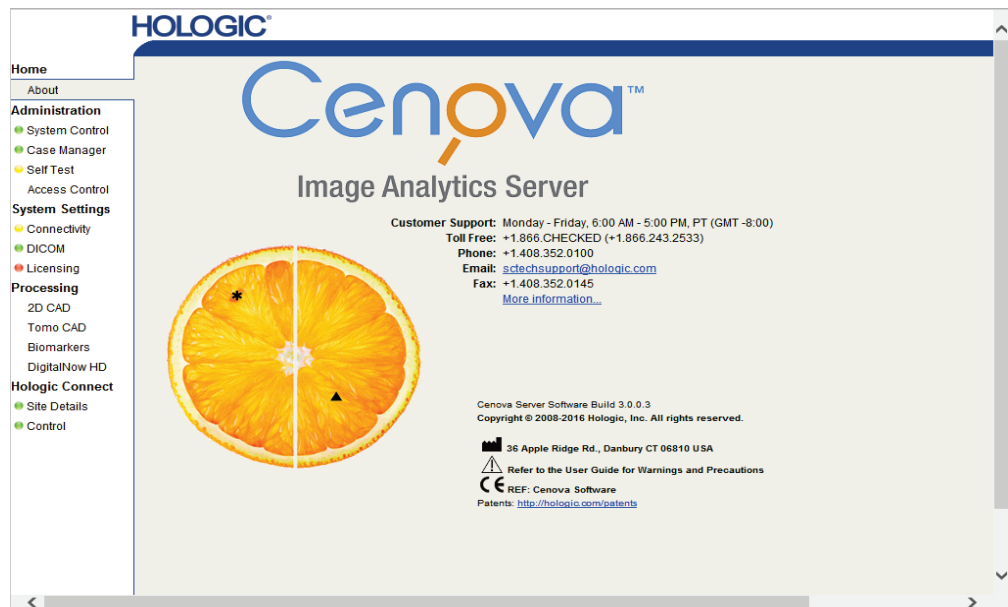


Important

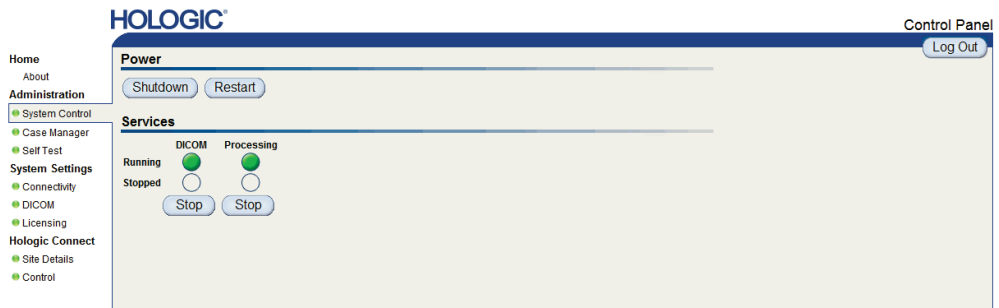
If you shut down the server from a remote location, be aware that in order to switch the server back on, you will need to have physical access to the server.

To shut down the server:

1. Using a computer that is on the same network as the server, open a web browser (for example, Internet Explorer).
2. Type the IP address for the server in the address box and press **[Enter]**. You do not need to type 'http' or anything other than the IP address.
3. At the log-in screen, enter the user name (siteadmin) and password. The About screen should appear as shown below.



4. Click **System Control** to display the following screen:



5. Click **Shutdown**. The server prompts 'Are you sure...?' Click **OK** to switch the server off.



Note

Physical access to the server is required to restore power from a shutdown. If the server is in a remote location, use **Restart**.

3.3.2 Starting Up the Server

If the server has been powered off, you can switch it back on by pressing the power switch on the front of the computer. (An indicator light indicates whether the server is on or off.) The Cenova software starts up automatically, and the server should be ready for use within 3–5 minutes.

3.3.3 Restarting the Server

You might need to restart the Cenova server if results are not transferring. Often, restarting the server clears any errors. In some cases, your service representative will ask you to restart the server.

To restart the server:

1. Using a computer that is on the same network as the Cenova server, open a web browser.
2. Type the IP address for the Cenova server in the address box and press **[Enter]**. You do not need to type 'http' or anything other than the IP address.
3. At the log-in screen, enter the user name ('Administrator') and password. The About screen should appear as shown in the previous procedure.
4. On the About screen, click **System Control**.
5. From the System Control screen, click **Restart**. The server prompts 'Are you sure...?' Click the Restart button once more. The server should shut down and then restart automatically. The server should be ready for use within about 5 minutes.



Note

To continue using the server, refresh the browser by repeating steps 1–3.

3.4 Accessing Unique Device Identifier (UDI) Information

Unique Device Identifier (UDI) is a unique numeric or alphanumeric code that identifies a medical device through distribution and use. UDI information is displayed in the About screen of the Cenova application.

To access UDI information in Cenova:

1. Launch the Cenova application and log in (see [Server Startup and Shutdown](#) on page 22). The About screen appears.
2. On the About screen, click **More Information**.

UDI information is displayed on the subsequent screen.

3.5 Using Case Manager


Case Manager allows you to display, analyze, and troubleshoot cases from within the Cenova Control Panel. You can use Case Manager to:

- Browse and sort cases
- Search for a study using data such as patient information, date processed, etc.
- Export Biomarker results
- Delete cases
- Review details for a study

When you select the Case Manager option from the Cenova control panel, a screen similar to the following appears:

Patient Name	Patient ID	Accession #	Case Status	Case Result	Output Status	Receive
05000395	05000395	84999	PROCESSED	SUCCESS	COMPLETED	10/18/20
05000394	05000394	84998	PROCESSED	SUCCESS	COMPLETED	10/18/20
05000393	05000393	84997	PROCESSED	SUCCESS	COMPLETED	10/18/20
05000392	05000392	84996	PROCESSED	SUCCESS	COMPLETED	10/18/20
05000391	05000391	84995	PROCESSED	SUCCESS	COMPLETED	10/18/20
05000390	05000390	84994	PROCESSED	SUCCESS	COMPLETED	10/18/20
05000389	05000389	84993	PROCESSED	SUCCESS	COMPLETED	10/18/20
05000388	05000388	84992	PROCESSED	SUCCESS	COMPLETED	10/18/20
05000387	05000387	84991	PROCESSED	SUCCESS	COMPLETED	10/18/20
05000386	05000386	84990	PROCESSED	SUCCESS	COMPLETED	10/18/20
05000385	05000385	84989	PROCESSED	SUCCESS	COMPLETED	10/18/20
05000384	05000384	84988	PROCESSED	SUCCESS	COMPLETED	10/18/20
05000383	05000383	84987	PROCESSED	SUCCESS	COMPLETED	10/18/20
05000382	05000382	84986	PROCESSED	SUCCESS	COMPLETED	10/18/20
05000381	05000381	84985	PROCESSED	SUCCESS	COMPLETED	10/18/20
05000380	05000380	84984	PROCESSED	SUCCESS	COMPLETED	10/18/20
05000379	05000379	84983	PROCESSED	SUCCESS	COMPLETED	10/18/20
05000378	05000378	84982	PROCESSED	SUCCESS	COMPLETED	10/18/20
05000377	05000377	84981	PROCESSED	SUCCESS	COMPLETED	10/18/20
05000376	05000376	84980	PROCESSED	SUCCESS	COMPLETED	10/18/20
05000375	05000375	84979	PROCESSED	SUCCESS	COMPLETED	10/18/20
05000374	05000374	84978	PROCESSED	SUCCESS	COMPLETED	10/18/20
05000373	05000373	84977	PROCESSED	SUCCESS	COMPLETED	10/18/20
05000372	05000372	84976	PROCESSED	SUCCESS	COMPLETED	10/18/20
05000371	05000371	84975	PROCESSED	SUCCESS	COMPLETED	10/18/20

By default, the cases appear in reverse chronological order (newest first). The records are arranged in rows and columns. Each row shows one case.

Click **Hide Navigation Panel** () to expand the Case Manager viewing window.


To browse and sort cases

You can sort the values in any column by clicking any of the column headings (Patient Name, Patient ID, etc.). The server sorts the values in ascending order either alpha-numerically or by date and time, depending upon the type of data to be sorted. Click the column heading again to sort in descending order.

Patient Name	Patient ID	Accession #	Case Status	Case Result
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/> Not <input type="text"/>	<input type="checkbox"/> Not <input type="text"/>

To search for a study

In any of the column heading boxes, enter text or numbers you want to find and press **[Enter]**. The server searches its database and returns only studies with values containing the characters you typed.

To remove the filter, click **Filter** () and click **NoFilter** in the drop-down list:

Patient Name	Patient ID
<input type="text" value="Loretta"/>	<input type="text"/>
Lords*Loretta 1	

NoFilter
Contains

For some columns, you can exclude a search criterion by using the 'Not' box

Algorithm
<input checked="" type="checkbox"/> Not <input type="text"/>
DigitalNowHD
MAMMO
DigitalNowHD
DigitalNowHD
DigitalNowHD
MAMMO

To clear selected search criteria, click **Clear Filters**.

To export Biomarker results



Warning:

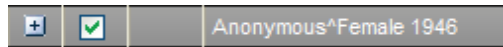
The Export Biomarkers feature provides values that are for research purposes only. This feature is not intended for clinical use.

You can collect Biomarker results and export the results to a .csv file, which can be opened using a spreadsheet application. To use this feature, the server must be configured with a valid Hologic Imaging Biomarkers license.

1. Select one or more cases using the Case Manager search function. If you do not select any cases, then the server will export all Biomarker results.
2. Click **Export Biomarkers** to display the File Download window.
3. Click **Save**. In the Save As window, navigate to the location where you wish to save the file and click **Save**.

To delete cases

Display the case you want to delete and click the check box next to the case:



Then, click **Delete**.

To review details for a study

Click to expand the case and review the Images and Output Jobs details:

<input type="checkbox"/>	87800006	87800006	PROCESSED	SUCCESS
--------------------------	----------	----------	-----------	---------

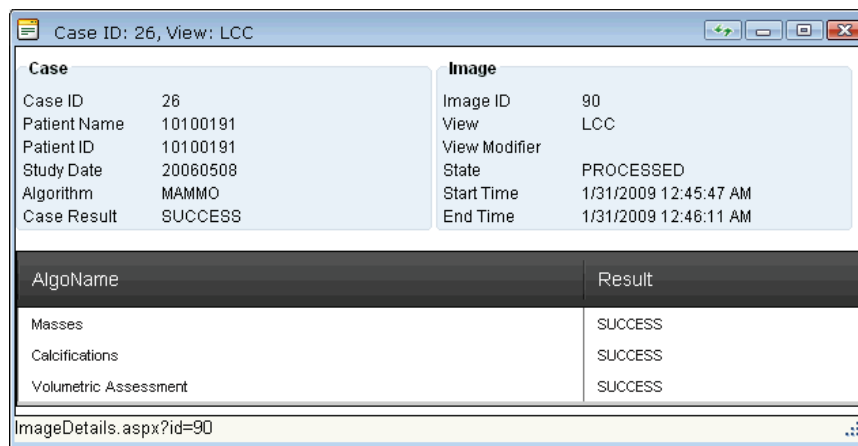
Images:4

	Image ID	View	View Modifier	Case Processing	State	
	92	RCC		✓	PROCESSED	
	93	LCC		✓	PROCESSED	
	94	LMLO		✓	PROCESSED	
	95	RMLO		✓	PROCESSED	

Output Jobs:1

Job ID	Format	Destination	Status	
40	5.X SR - CAD	DVT_STORE2	Complete	

Click to view additional details for each image.



Index

3

3D Mammography - 9, 16

A

acquisition workstations - 15

antivirus products - 7

C

Cenova server

configuration - 21

in system data flow - 15

restarting - 24

sending results to DICOM 6000 interface - 15

shutdown - 23

startup - 24

cybersecurity - 7

D

data flows - 12

DICOM - 1

image classes - 13

DICOM 6000 interface - 11

in system data flow - 15

DigitalNow HD - 11

clinical workflow - 21

F

FFDM systems

in system data flow - 12

models supported - 9

G

GE Healthcare - 9

H

Hologic

film-scanning systems - 9

Selenia systems - 9

Hologic Imaging Biomarkers - 21

I

ImageChecker 3D Calc CAD - 11

clinical workflow - 21

ImageCheckerCAD

clinical workflow - 21

with DICOM 6000 - 15

inputs to Cenova - 9

M

Mammography CAD SC - 11, 13

Mammography CAD SR - 11, 13

P

PACS - 9, 11, 20

in system data flow - 12

printer - 11

printout - 13

R

restarting the server - 24

results

displaying - 21

results, Cenova

archiving - 9

formats - 11

printed - 11

review workstations

in system data flow - 12

S

screening views - 11

SecurView diagnostic review workstation - 11, 13,

16, 20

shutting down the server - 23

Siemens AG - 9

starting up the server - 24

U

Unique Device Identifier - 25

W

warnings

Cenova server - 4

HOLOGIC®



Hologic Inc.
36 Apple Ridge Road
Danbury, CT 06810 USA
1.800.447.1856
www.hologic.com

**Australia /
New Zealand**

Hologic (Australia) Pty Ltd.
Suite 402, Level 3
2 Lyon Park Road
Macquarie Park NSW 2113
Australia

Asia Pacific

Hologic Hong Kong, Inc.
7th Floor, Biotech Centre 2
No. 11 Science Park West Avenue
Hong Kong Science Park
Shatin, New Territories
Hong Kong

EC REP

Hologic BVBA
Da Vincilaan 5
1930 Zaventem
Belgium
Tel: +32 2 711 46 80
Fax: +32 2 725 20 87



Refer to the corporate website for more facilities worldwide.

www.hologic.com