GE Healthcare

VividE80-VividE90-VividE95 VividS60-VividS70 EchoPAC Quick Reference Guide Connectivity

Released

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Vivid E80/E90/E95/S60/S70 Quick Ref. Guide Index

Connectivity - Basics

- Connections
- Getting started
- Dataflows
- Compatibility
- Definitions
- Network Settings
- DICOM Activities

Connectivity - Configure & Connect to .....

- Worklist
- DICOM Printer
- Backup & Restore
- DICOM Storage
- Network Printer
- Disk Management
- DICOM CD/DVD
- DICOM USB
- EchoPAC PC/SWO
- Query Retrieve
- Remote Archive
- MPEGVue Export
- XML Export
- DICOM Spooler
- Viewpoint
- Insite ExC

Connectivity – Quick Aid

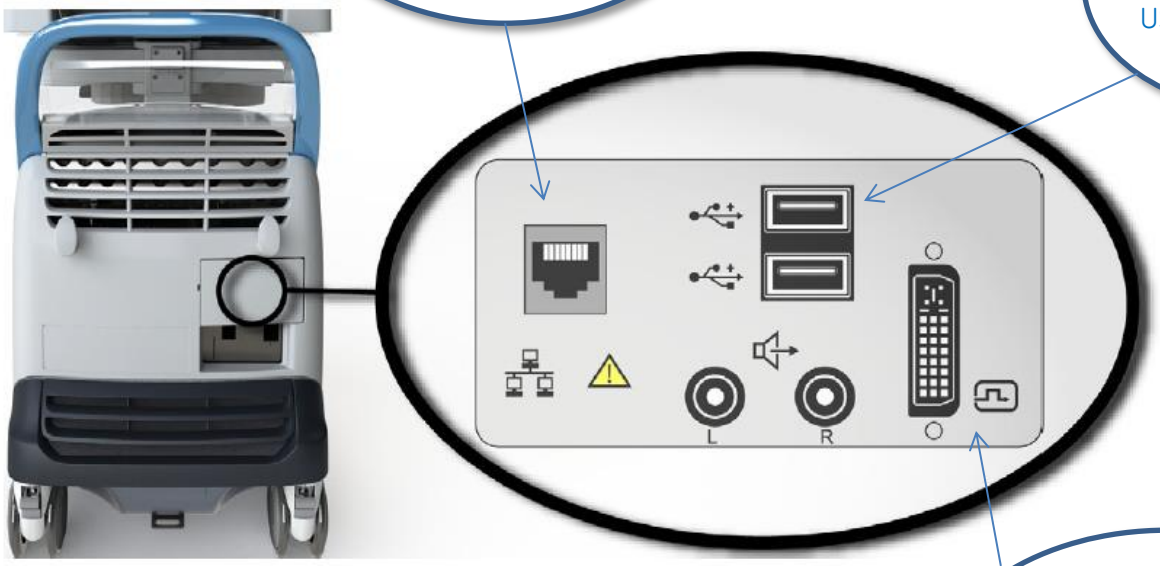
- Checklist
- Troubleshooting
- Repair DICOMDIR
- Local Archive Corrupt

Connections

Vivid E80/E90/E95

Ethernet
Network
1000 Base-TX
Ethernet IEEE 802.3

USB
Printer
USB 2.0 only (not 3.0)



Vivid E80/E90/E95 rear view

External monitor
Connector Type :
DVI-D

Note! The External Monitor output **signal** is DVI-D (Digital),
Do **not** connect an analog monitor to this port

Connections

Vivid S60/S70

Insulated USB

USB 1.0
Devices w/ external power
Printer

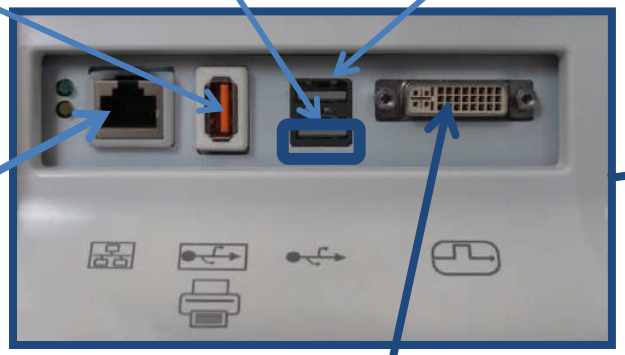
Wifi (Optional)

USB 2.0 only (not 3.0) . Lower Socket

WiFi Network Adaptor
(Standards: 802.11b, 802.11g, 802.11n)

USB Dual Socket

USB 2.0 only (not 3.0) . Devices w/o external power
Memory devices



Ethernet
Network
1000 Base-TX
Ethernet IEEE 802.3

External monitor
Connector Type :
DVI-D

Vivid S60/S70 rear view

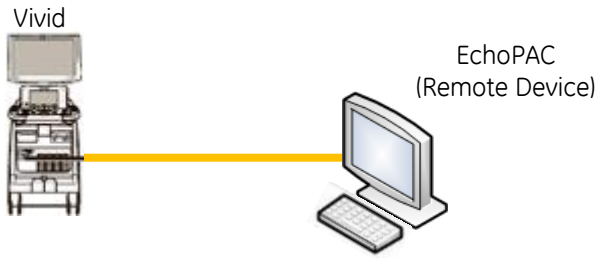
Note! The External Monitor output **signal** is DVI-D (Digital),
Do **not** connect an analog monitor to this port

Connections

Network

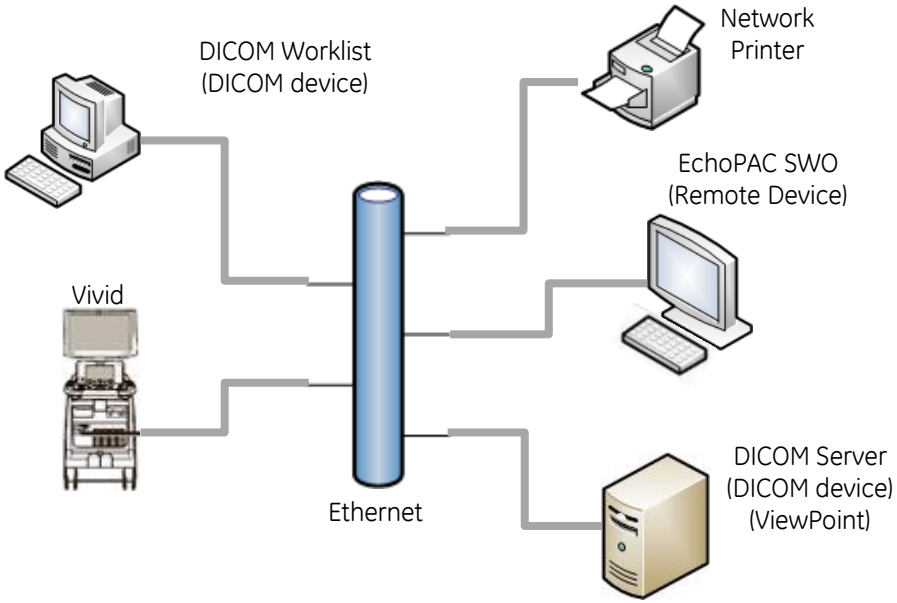
Direct Cable Connection

- Connect directly with a Crossover cable



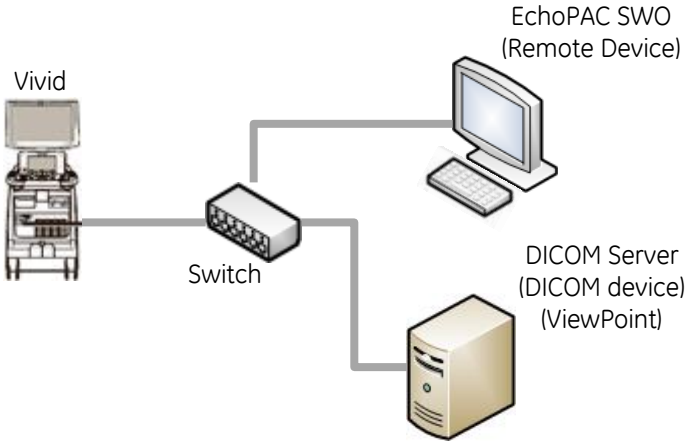
Hospital Network

- Connect to wall outlet with a network cable



Peer-to-Peer Network

- Connect to HUB/Switch with a network cable



Network requirements

- To achieve a successful connection to the different devices, the following **is** required:

DICOM device	Remote Device	Network Printer
- IP Address	**- IP Address**	**- IP Address**
- AE title	**- Host Name**	**- Host Name**
- Portnumber		
- Image Settings		
- Dicom SR Settings		

- Devices in the same network must have the 3 first segments identical, the 4th must be unique

Typical IP Addr : aaa.bbb.ccc.xxx (Identical | Unique)

Definitions

DICOM -**D**igital **I**maging and **Co**mmunications in **M**edicine

Terminology

Application Entity Title – the externally known name of an *Application Entity*, used to identify a DICOM application to other DICOM applications on the network.

Application Entity (AE) – an end point of a DICOM information exchange, including the DICOM network or media interface software; i.e., the software that sends or receives DICOM information objects or messages. A single device may have multiple Application Entities.

Joint Photographic Experts Group (JPEG) – a set of standardized image compression techniques, available for use by DICOM applications.

Service Class Provider (SCP) – role of an *Application Entity* that provides a DICOM network service; typically, a server that performs operations requested by another *Application Entity* (*Service Class User*). Examples: Picture Archiving and Communication System (image storage SCP, and image query/retrieve SCP), Radiology Information System (modality worklist SCP).

Service Class User (SCU) – role of an *Application Entity* that uses a DICOM network service; typically, a client. Examples: imaging modality (image storage SCU, and modality worklist SCU), imaging workstation (image query/retrieve SCU)

Service/Object Pair (SOP) Class – the specification of the network or media transfer (service) of a particular type of data (object); the fundamental unit of DICOM interoperability specification. Examples: Ultrasound Image Storage Service, Basic Grayscale Print Management.

Tag – a 32-bit identifier for a data element, represented as a pair of four digit hexadecimal numbers, the "group" and the "element". If the "group" number is odd, the tag is for a private (manufacturer-specific) data element. Examples: (0010,0020) [Patient ID], (07FE,0010) [Pixel Data], (0019,0210) [private data element]

Unique Identifier (UID) – a globally unique "dotted decimal" string that identifies a specific object or a class of objects; an ISO-8824 Object Identifier. Examples: Study Instance UID, SOP Class UID, SOP Instance UID.

Definitions

Terminology

DICOM -**D**igital **I**maging and **Co**mmunications in **M**edicine

DNS	Domain Name System
FSC	File-Set Creator
FSU	File-Set Updater
FSR	File-Set Reader
HIS	Hospital Information System
HL7	Health Level 7 Standard
IHE	Integrating the Healthcare Enterprise
IOD	Information Object Definition
IPv4	Internet Protocol version 4
IPv6	Internet Protocol version 6
ISO	International Organization for Standards
JPEG	Joint Photographic Experts Group
LUT	Look-up Table
MPPS	Modality Performed Procedure Step
MSPS	Modality Scheduled Procedure Step
MTU	Maximum Transmission Unit (IP)
MWL	Modality Worklist
RDCM	Raw Data Convertion Module

Definitions

DICOM -**D**igital **I**maging and **Co**mmunications in **M**edicine

Terminology

DICOM Storage Commit - what is it ?

DICOM Storage Commitment is a way for an Image Storage Service to inform your scanner that it has successfully stored your images without corruption. With this confirmation, you may decide to delete the images from your scanner.

DICOM MPPS - what is it ?

A DICOM Performed Procedure, also known as Modality Performed Procedure Step (MPPS) is a way to inform your billing system that an ultrasound procedure has been completed and can be billed.

A typical setup has your Worklist Service handle MPPS communications so that, for example, you can retrieve today's scheduled exams from, and report completed exams to, the same system. In basics, it sends confirmation to the MWL when the exam has started/finished

DICOM SR - what is it ?

Structured Reporting provides for transmission of exam measurements and calculations in a separate file. It is always associated with a DICOM Image Storage service. The receiver must be able to interpret and display the data in the Structured Report.

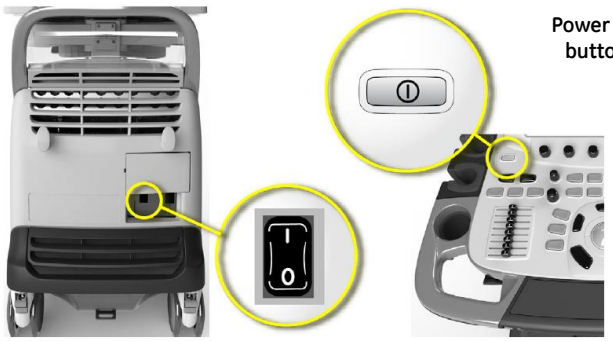
DICOM SR Private Tags- what is it ?

Within DICOM, manufacturers have created their own tags, containing specific data elements for their own use. This is called a private tag, and will generally not be recognized by another application reading their DICOM file. Private tags are useful when manufacturers want to convey information not defined within the DICOM standard, to be read generally by another instance of their application, or another application within their design portfolio

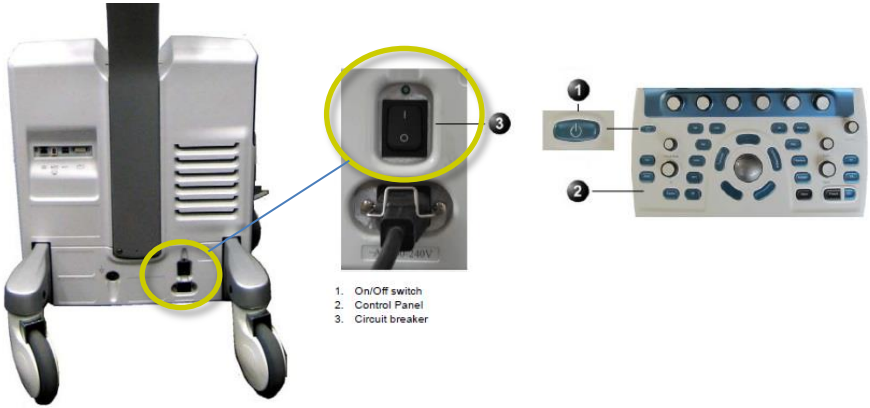
Getting Started

Go to Connectivity Page

1. Switch on the circuit breaker on the rear of the unit, press the on/off button to start

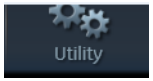


Vivid E80/E90/E95 Circuit Breaker location

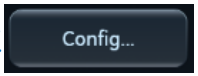


Vivid S60/S70 Circuit Breaker location

Wait for the Application to start and complete

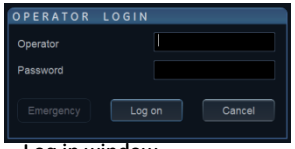
2. Select 

located in upper right corner on the Touchscreen to enter **Utility** menu

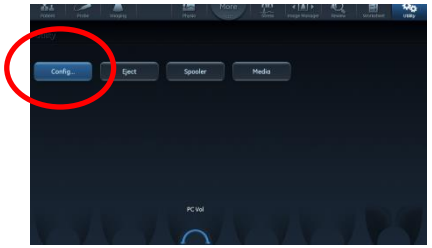
3 . Select 

or press «**F2**» on the Alphanumeric keyboard

A login window will appear :



Log in window



Touch Screen

If purpose is to change Dataflows and TCP/IP,
log in as **ADM**, Administrator, with appropriate password

Getting Started

Go to Connectivity Page

4. Select Connectivity button to get to Connectivity Page

Printer, DICOM Printer, Output buttons Recorder set up

Dataflow/workflow selections

Dataflow/workflow Overview, Input & Output

Connectivity Page

TCP/IP settings

Store Image directly or to buffer

Hide /show dataflow

Network Settings

TCP/IP

Select Tcpip tab to get to TCP/IP Page

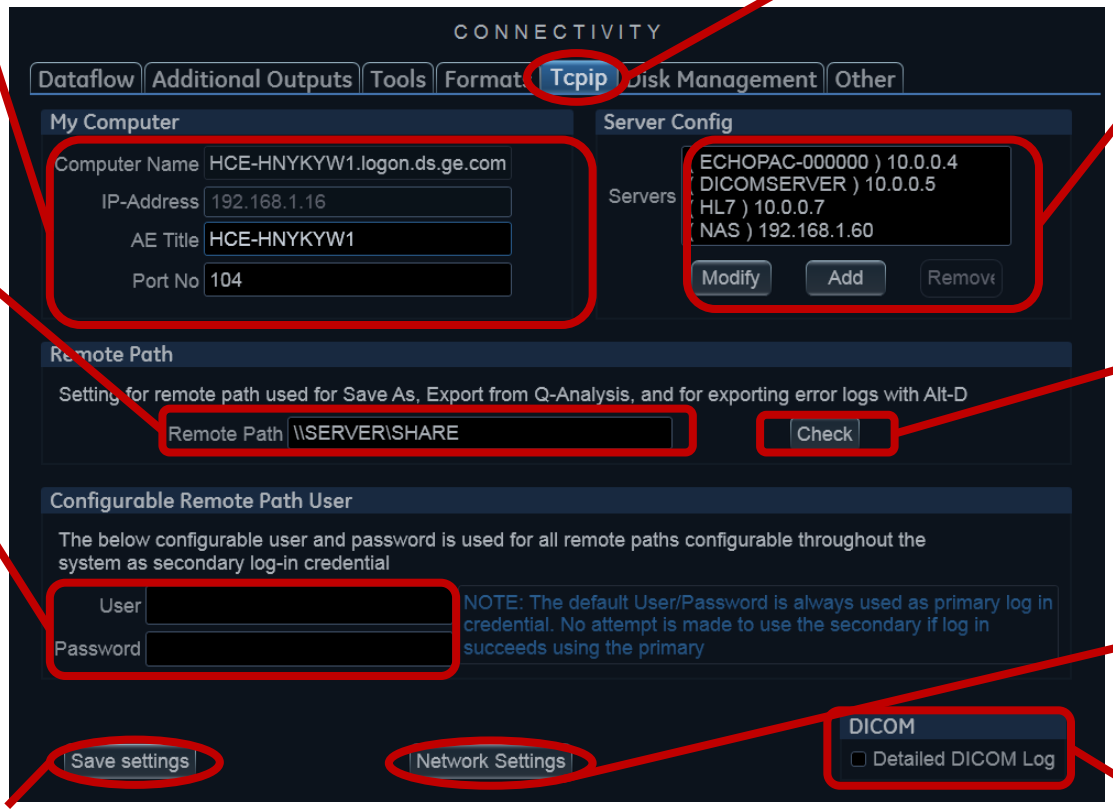
TCP/IP settings

My Computer
Computer name, IP Address from Windows settings.
AE Title & Port No according to hospital IT policy

Remote Path
Use UNC syntax for shared folder: \\SERVER\SharedFolder

Configurable Remote Path User
If the default user cannot be used, insert User and Password to connect to the Remote Path. User can be 'DomainName\User' syntax if the shared folder is on a Network Domain

Save Settings
Always select this button whenever there is a change made on this page.



TCP IP Page

Server Config
Add, Modify and Remove Servers that will be used in the different Dataflows

Check
Network share connectivity test with default user and password or «Configurable Remote Path User» as secondary log in credential

Network Settings
Select this button to open Windows Network setup to change the IP address on the Scanner

Detailed DICOM Log
Enable when troubleshooting on DICOM devices only

Dataflow

Concept

Communication between the Vivid E80 / E90 / E95 ultrasound Scanner/EchoPAC and other information providers on the network takes the form of dataflows. Each dataflow defines the transfer of patient information and images from an input source to the unit, and from the unit to one or several output sources.

A dataflow is a set of pre-configured settings. Selecting a dataflow will automatically customize the unit to work according to the settings associated with this dataflow.

Select the 

tab on the Connectivity Page to get to the Dataflow page

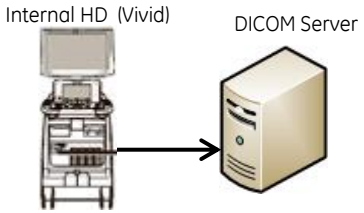
Dataflows

Selections

LocalArchive-Int.HD

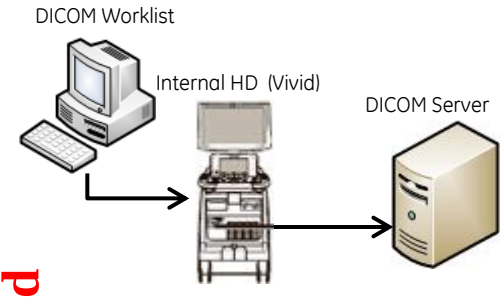
The local database is used for patient archiving. Images are stored to the internal hard drive.

LocalArchive - Int HD/DICOM Server



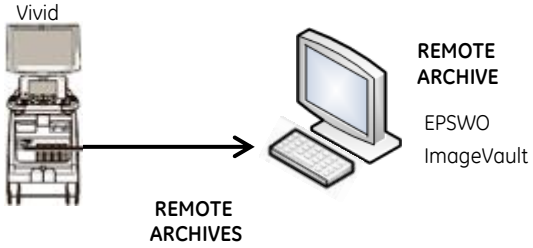
The local archive is used for patient archiving. Images are stored to the internal hard drive and to a DICOM server.

Worklist/LocalArchive-DICOMServer/Int.HD



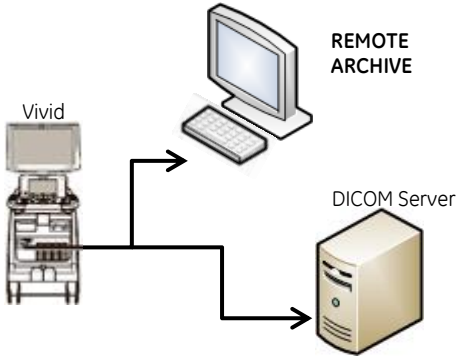
Search in the DICOM Modality Worklist, the patient found is copied into local database. The patient information and the examination results are stored to the local the database. Images are stored to a DICOM Server and to an image volume on the internal hard drive. Some of the measurements are stored if DICOM SR is turned on

RemoteArch-RemoteHD



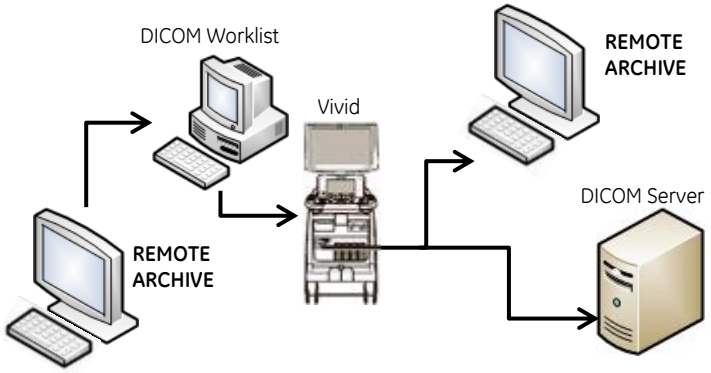
A remote database is used for patient archiving. Images are stored to a network image volume

Remote Archive - Remote HD/DICOM Server



A remote database is used for patient archiving. Images are stored to a network image volume and to a DICOM server. Some of the measurements are stored if DICOM SR is turned on

Worklist/RemoteArchive-DICOMServer/RemoteHD

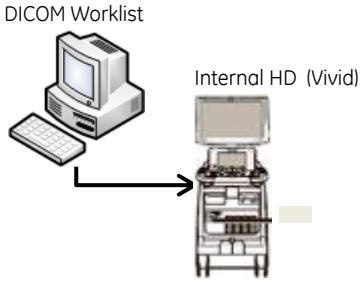


Search in a DICOM Modality Worklist, the patient found is copied into a remote database. The patient information and the examination results are stored to a remote database. Images are stored to a DICOM server and to an image network volume. Some of the measurements are stored if DICOM SR is turned on.

Dataflows

Selections

Worklist/LocalArchive-Int.HD

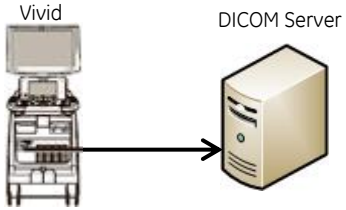


Search in the DICOM Modality Worklist, the patient found is copied into the local database. The patient information and examination results are stored to the local database. Images are stored to the internal hard drive..

LocalArchive-Int.HD/eVue

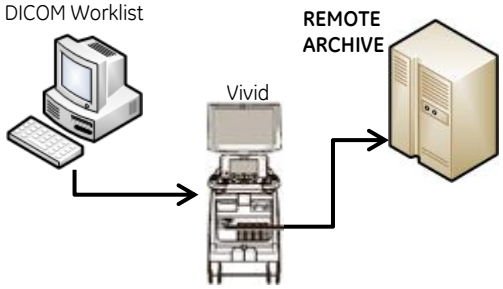
The local database is used for patient archiving. Images are stored to internal hard drive and an MPEG exam is created in the configured destination.

DICOM Server



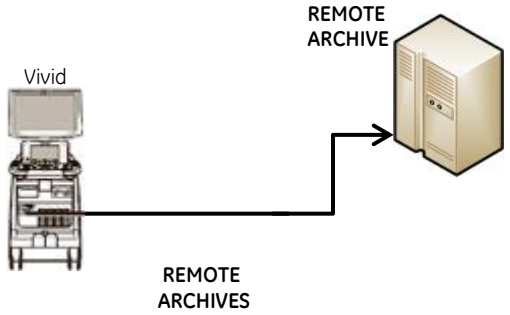
Store pure and raw DICOM images to a DICOM device.

Worklist/RemoteArch-RemoteHD



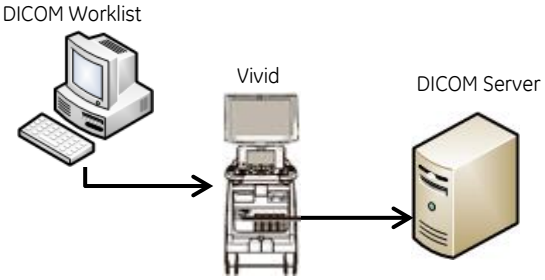
Search in a DICOM Modality Worklist, the patient found is copied into a remote database. The patient information and the examination results are stored to a remote database. Images are stored to an image network volume.

RemoteArch-RemoteHD/eVue



A remote database is used for patient archiving. Images are stored to a network image volume and an MPEG exam is created in the configured destination.

Worklist - DICOM Server

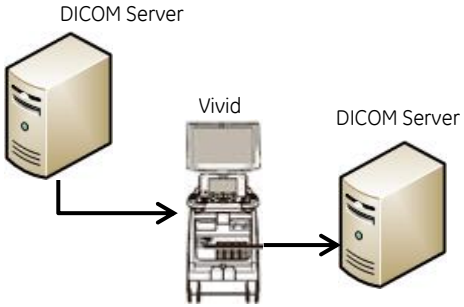


Search in the DICOM Modality Worklist. Images are stored to a DICOM Server.

Dataflows

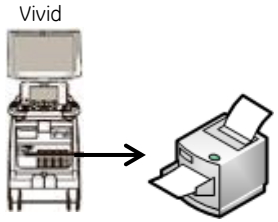
Selections

DICOM Query Retrieve - DICOM Server



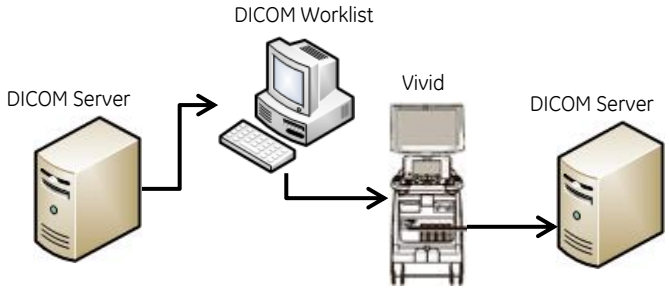
Retrieve images and Private SR from a DICOM server. Images are stored to a DICOM server.
Some of the measurements are stored if DICOM SR is turned on

DICOM Print



Prints images to a DICOM printer via DICOM spooler.

Worklist/DICOM Query Retrieve –DICOM Server

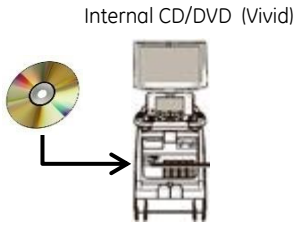


Search in a DICOM Modality Worklist, retrieve images and Private SR from a DICOM server Images are stored to a DICOM server.
Some of the measurements are stored if DICOM SR is turned on

Dataflows

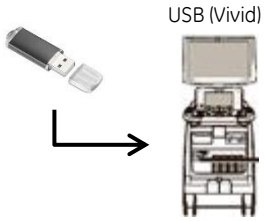
Selections

DICOM CD/DVD read



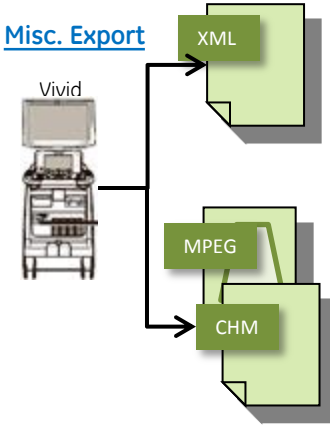
Read DICOM Media from the CD/DVD-drive. Read only dataflow, no data can be stored. Purpose is to open patient and view exam images

DICOM USB Hardisk/Memstick Read



Read DICOM data from an USB hard disk or memory stick. Read only dataflow, no data can be stored. Purpose is to open patient and view exam images

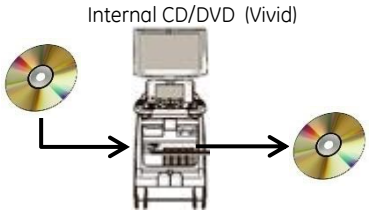
Misc. Export



Transfer demographics, measurements and reporting data to XML file. Replaces Excel export

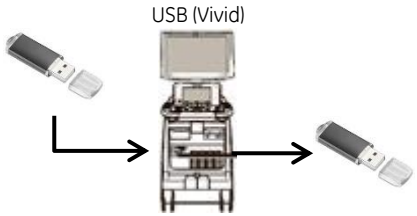
Transfer examinations to MPEGVue format readable from a regular computer. Ultrasound images are stored as MPEG, and reports as CHM files.

DICOM CD/DVD



Read and write to DICOM Media from the CD/DVD-drive.. Purpose is for transfer (import/export)

DICOM USB Hardisk/Memstick

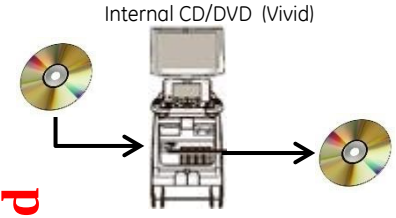


Read and write DICOM data to an USB hard disk or memory stick. Purpose is for transfer (import/export)

No Archive

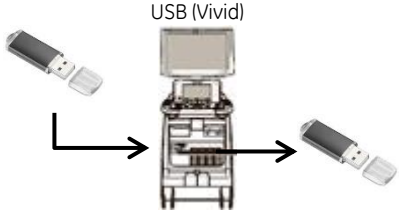
Enables to perform an examination without storing the data to any archive.

CD/DVD



Read and write to database located on a CD/DVD-drive. This destination should be used when the transferred data is intended to be imported in a Vivid E9 or an EchoPAC Software Only with software version 113 or earlier

USB Hardisk/Memstick

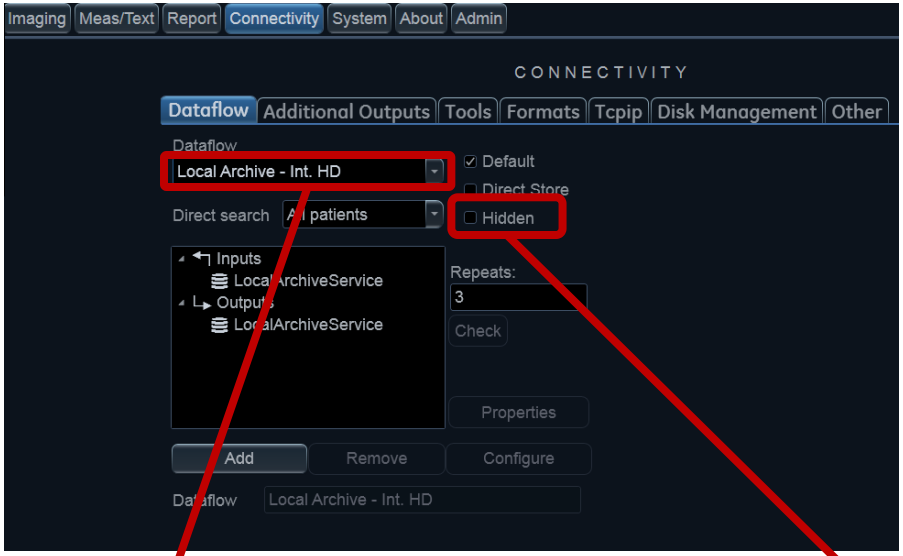


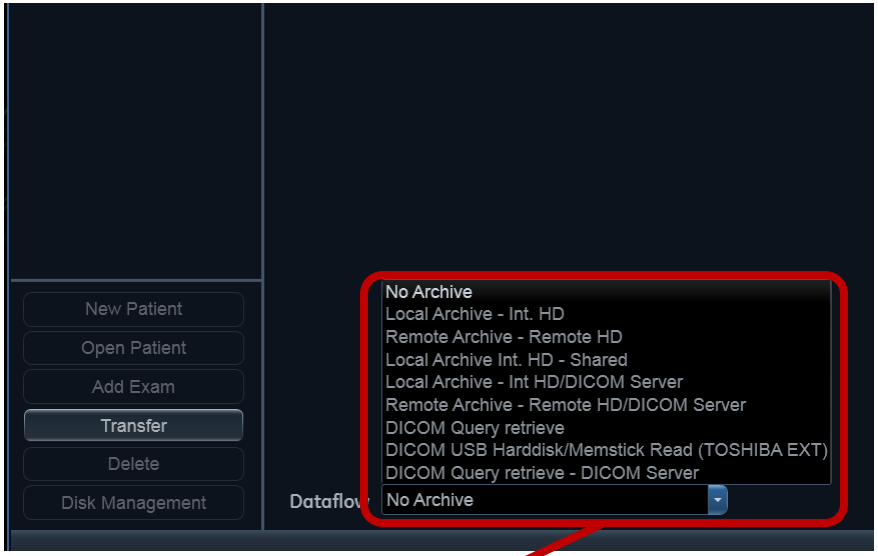
Read and write to database located on an USB hard disk or memory stick. This destination should be used when the transferred data is intended to be imported in a Vivid E9 or an EchoPAC Software Only with software version 113 or earlier

Dataflows

Hide/Unhide/Add dataflows

Select Dataflow on the **Connectivity** tab to work with dataflows





Predefined dataflows
The default dataflows are found in the pulldown list

Per default, only a few dataflows are listed in the Search/Create Patient Screen. Unselect **Hidden** in the Connectivity tab to display more Dataflows

Note! For some dataflows the Hidden field is «greyed out», meaning they cannot be unhidden

Note! The Local Archive Int.HD – Shared do not exist on the Scanner

DICOM Activities

Vivid E80/E90/E95

There are six local real-world activities that occur in Vivid - **Exam Save, Echo, Worklist Query, Image Store/End Exam, Image Print** and **Exam Query/Retrieve**

Exam save initiates a connection with the DICOM SCP and transmits images and results to the DICOM SCP. If Storage Commitment is configured a commitment request will be sent for the images and results.
Echo initiates a connection with the DICOM SCP, posts a Verification request and closes the connection. It also responds to incoming Verification requests (for service use).
Worklist Query initiates a connection with the DICOM SCP, performs a query and retrieves the matching entries to the product.
Image Store/End exam: If Modality Performed Procedure Step is configured N-CREATE and N-SET messages will be sent for the exam.
Image Print will send images to a DICOM Print SCP.
Exam Query/Retrieve initiates a connection with the DICOM SCP, performs a query and retrieves selected examination.

Compatibility

Vivid E80/E90/E95 & EchoPAC SWO

When a new scanner (E95, E90, E80, S60, S70) arrives at a site:
If site has ImageVault + RDCM: Must upgrade **RDCM**. **RDCM** requires 64 bit OS with DirectX11 support.
This implies that **ImageVault must be IV 5.0.1** (Win Server 2008 R2)

If site has EchoPAC SWO:
Must upgrade to EchoPAC SWO 201.x.x. However there are no Dicom Share on EchoPAC SWO 201.x.x
If DICOM Share is needed, use EchoPAC SWO 113.x.x

A DirectX 11 compliant GPU is required for interactive review of 3D images and also recommended for reviewing 2D images. (Most graphics cards newer than 3 years old computer have this)

EchoPAC SWO, EchoPAC Plugin, RDCM, Vivid E95, E90, E80:
Software version: 201.x.x
Raw data version: 9001

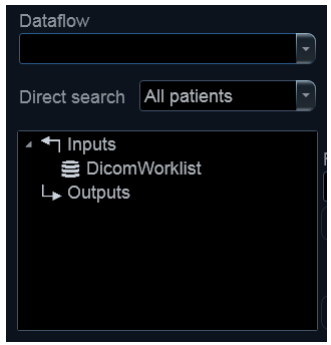
Will not accept RAW data from:
Vivid 7 BT01, BT02, BT03.
Vivid 3
Vivid 4

Worklist

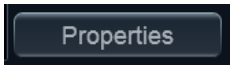
The DICOM Worklist is an **Input** device in the Workflow/Dataflow, and the Vivid must be registered as a user on the Worklist Server.

Configure

From dataflow name pulldown list, select the appropriate **Worklist** dataflow

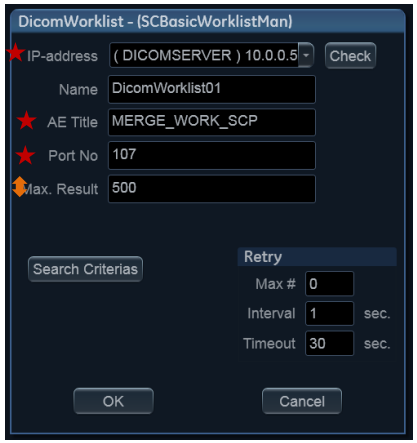


Select **DicomWorklist** from the Dataflow Overview window

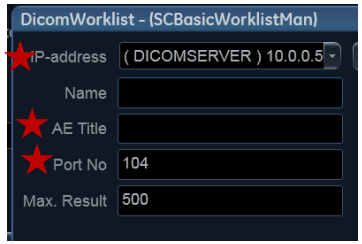


Select **Properties**

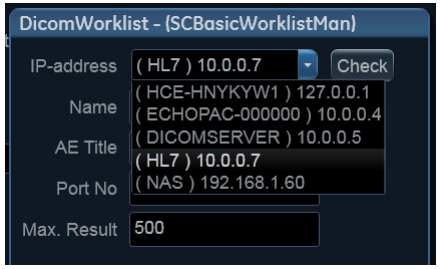
Required fields



The **Worklist** Properties window will appear.
The required fields ★ must be filled out.
Other fields ⬍ may need to be adjusted



Enter correct **AE title,** as it is case sensitive and **Port No**. **IP Addr** must be selected from the pulldown menu and **Name** is optional, but recommended



If **IP Addr** is not in pulldown menu, go to **TCPIP tab** and select **Modify** to change or **Add**. A **Server Config** window will appear

Check will ping the server

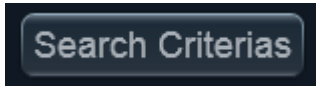
Select **Add** to insert a new, select **Modify** to correct **IP Addr** of existing DICOM Device
Insert a descriptive **Name** and **IP Address**

Worklist

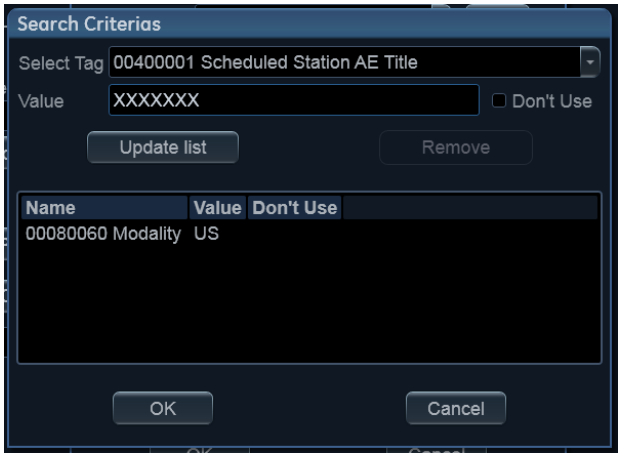
Search Criterias

The DICOM Worklist is an **Input** device in the Workflow/Dataflow, and the Vivid must be registered as a user on the Worklist Server. The modality for MWL in the past **must** be **US** to start an exam

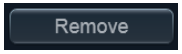
Search Criterias can be used to narrow the search in a Worklist



Select **Search Criterias**



A Search Criteria properties window appears. In the Select Tag pulldown menu select the search criteria. Enter a value in **Value** if neccessary.
Select 

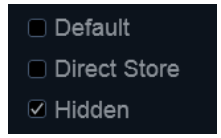
to add search criteria. To remove, select the search criteria to delete from the **Name** listbox then select 

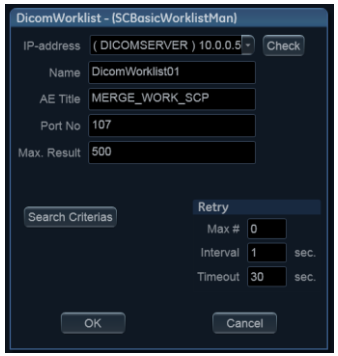
Select **OK** to close window

Worklist

Connect

Per default, Worklist dataflows are hidden, Uncheck the «Hidden» checkbox in the dataflow page to include the dataflow

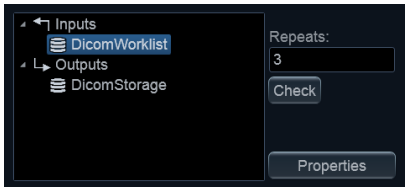




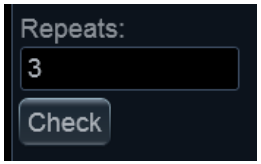
In the **Worklist** Properties window select Check to test the Worklist service

Worklist service is available at selected server

Server cannot provide Worklist service

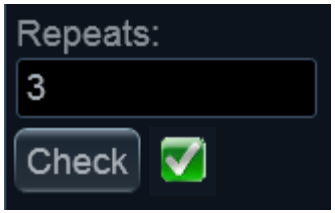


From the dataflow overview window, select **Worklist**

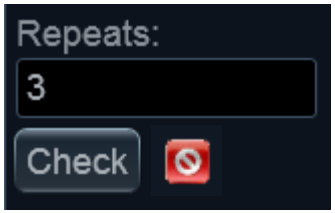


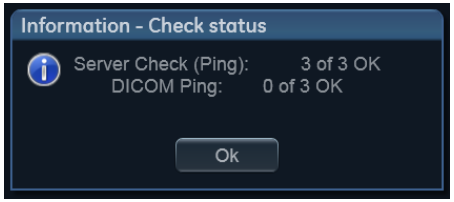
Select **Check** button

DICOM ping passed (3 attempts):



DICOM ping failed (3 attempts):





Check status window

Server Check:
X of X OK – Server IP Address is correct
0 of X OK – Server IP Address is incorrect

DICOM Ping:
X of X OK – Server **AE title** and/or **Port No** is correct
0 of X OK – Server **AE title** and/or **Port No** is incorrect

DICOM Storage

The DICOM Storage is an **Output** device in the Workflow/Dataflow.

Storage Device Configuration Scenarios

The VividE95/85/80 and EchoPAC may be connected to different storage device scenarios in a Hospital network, which will require different configurations, the four possible scenarios are:

Scenario A: Non Vivid/EchoPAC Dicom review station
Scenario B: Dicom review solution with EchoPAC Plugin
Scenario C: Mix of EchoPAC and Dicom review station
Scenario D: EchoPAC review station only

Storage Device	Dicom MF	Private SR data	RAW data
Scenario A	✓	✗	✗
Scenario B	✗	✓	✓
Scenario C	✓	✓	✓
Scenario D	✗	✓	✓

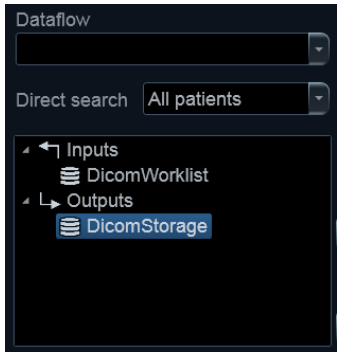
Storage Device Configuration Scenarios

Note: In a DICOM workflow, enable Private SR data to store all measurements and other exam data in the SR. This information is retrieved when the exam is loaded on the scanner, EchoPAC SWO and EchoPAC Plugin. In a DICOM workflow, this is the only way we can retrieve more than just images and the most basic exam information.

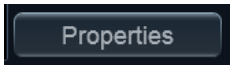
DICOM Storage

Configure

From dataflow name pulldown list, select the appropriate **DICOM** dataflow



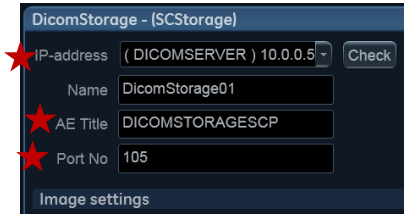
Select **DicomStorage** from the Dataflow Overview window



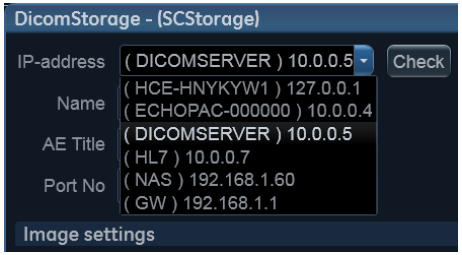
Select **Properties**

Required fields

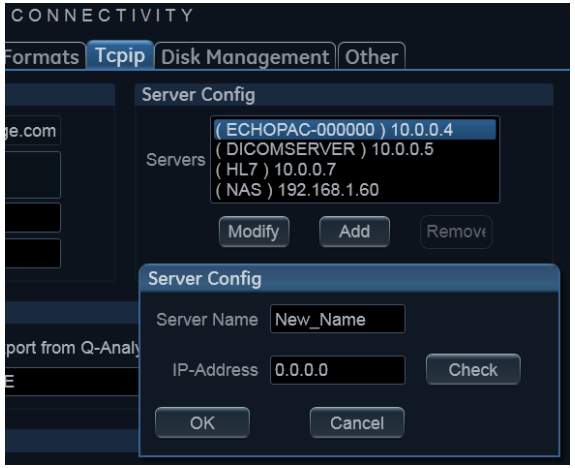
The **DicomStorage** Properties window will appear. The required fields ★must be filled out. Other fields ⬍might need to be adjusted



Enter correct **AE title,** as it is case sensitive and **Port No**. **IP Addr** must be selected from the pulldown menu and **Name** is optional, but recommended



If **IP Addr** is not in pulldown menu, go to **TCPIP tab** and select **Modify** to change or **Add**. A **Server Config** window will appear



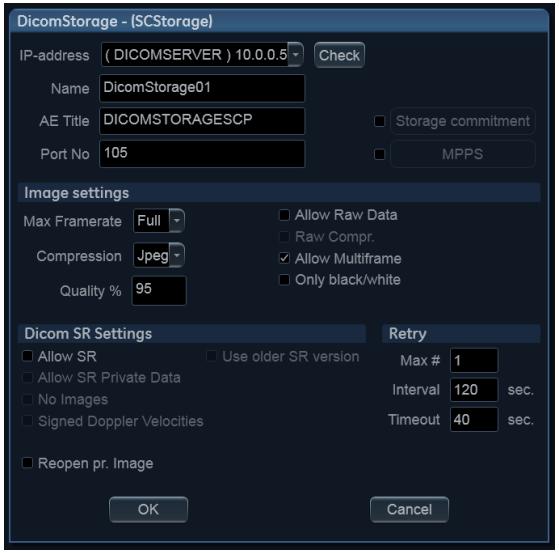
Check will ping the server

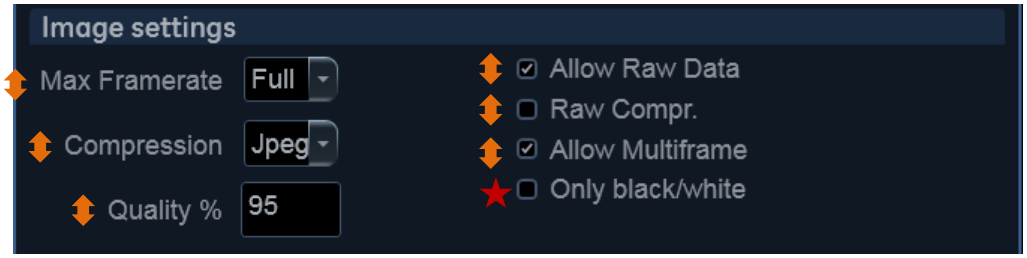
Select **Add** to insert a new, select **Modify** to correct **IP Addr** of existing DICOM Device
Insert a descriptive **Name** and **IP Address**

DICOM Storage

Settings

If Frame rate, Compression and Quality settings are not set correctly, this may lead to long transfer time, huge file size and images not suited for diagnostics





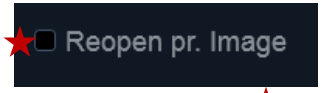
Note!
Image settings only apply to Dicom SF and DICOM MF.

Verify this default ★Image Settings:

Only Black/White - unchecked

Adjust these ⬍ Image Settings if needed:

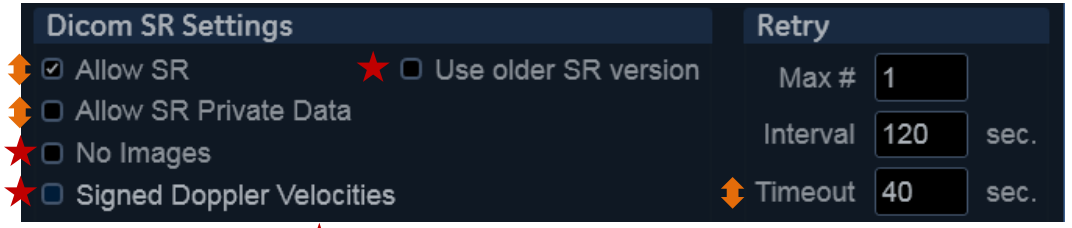
Max Framerate → 25/Full
Compression → JPEG
Quality % → 95
Allow Raw Data
Raw Compr.
Allow Multiframe
Adjust according to Scenario **A**,**B**,**C** or **D**



Verify this default ★Image Setting:

Reopen pr. Image – unchecked

If Reopen per image is enabled, VIVID will create a new connection (association) for each image. This may be useful for DICOM servers that do not accept different image types in the same association.



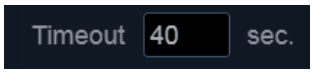
Verify these default ★ Dicom SR Settings:

No Images – set if SR data has to be sent without images (different server for Images)
Signed Doppler Velocities – unchecked
Use older SR version – unchecked

Adjust these ⬍ DICOM SR Settings if needed:

Allow SR - set if DICOM supported M&As are to be sent to a DICOM SR Server
Allow SR Private Data – check to allow Private tags

Adjust according to Scenario A,B,C or D

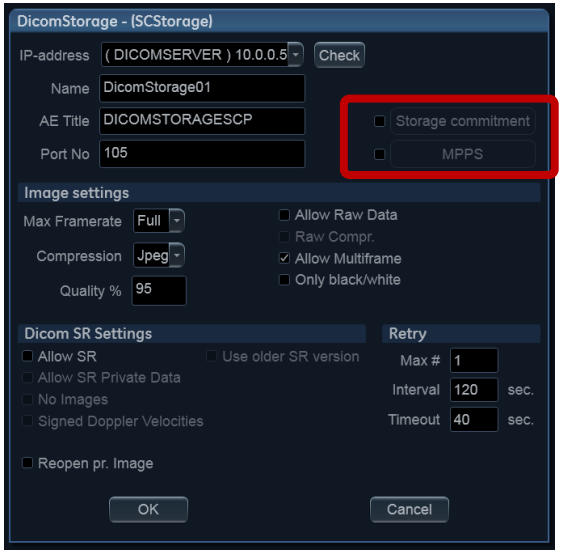


Some DICOM Servers may require a higher Timeout, than default

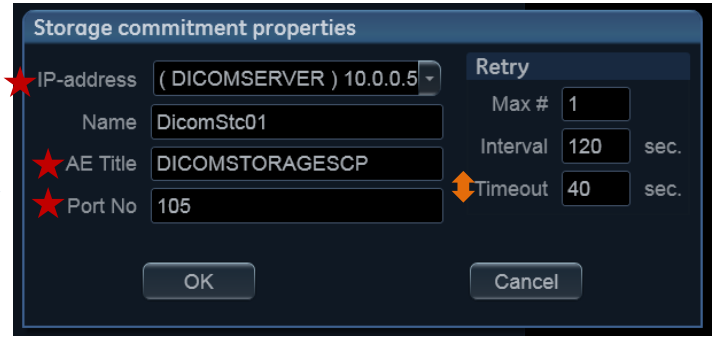
DICOM Storage

Storage Commitment

Dicom Storage Commitment is a way for an Image Storage Service to inform your scanner that it has successfully stored your images without corruption.

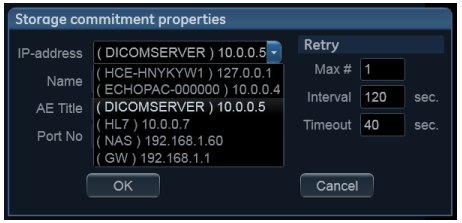


Select **Storage commitment**

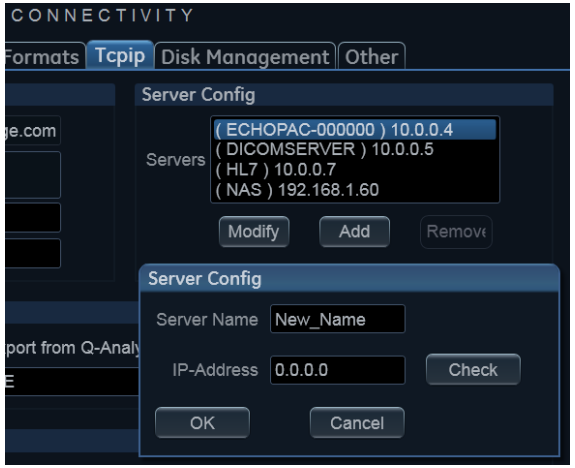


The **Storage Commitment** properties window will appear. The required fields ★must be filled out. Other fields ↕might need to be adjusted

Enter correct **AE title,** as it is case sensitive and **Port No**. **IP Addr** must be selected from the pulldown menu and **Name** is optional, but recommended



If **IP Addr** is not in pulldown menu, go to **TCPIP tab** and select **Modify** to change or **Add**. A **Server Config** window will appear



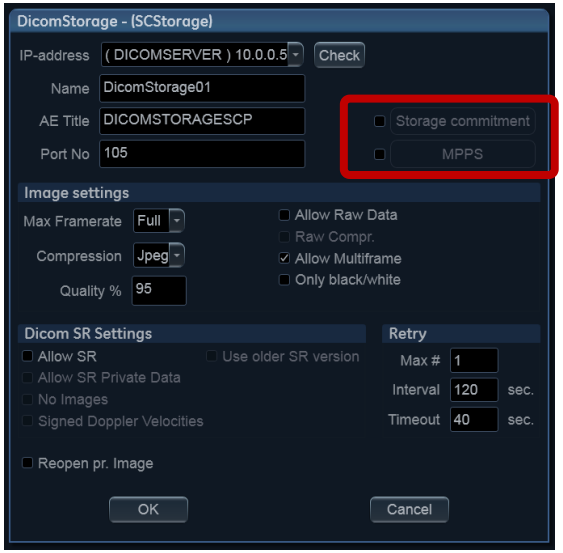
Check will ping the server

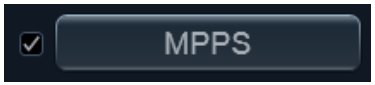
Select **Add** to insert a new, select **Modify** to correct **IP Addr** of existing DICOM Device
Insert a descriptive **Name** and **IP Address**

DICOM Storage

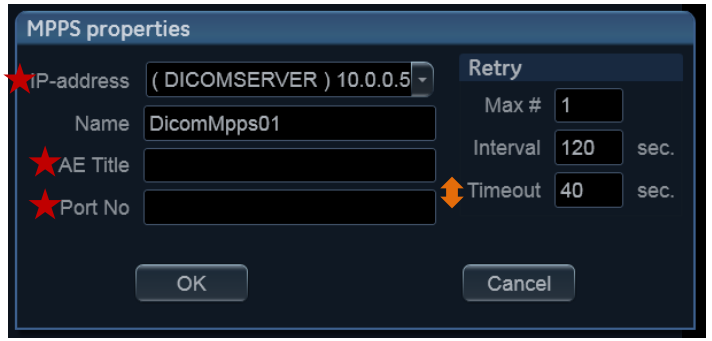
MPPS

A Dicom Performed Procedure, also known as Modality Performed Procedure Step (MPPS) is a way to inform your billing system that an ultrasound procedure has been completed and can be billed



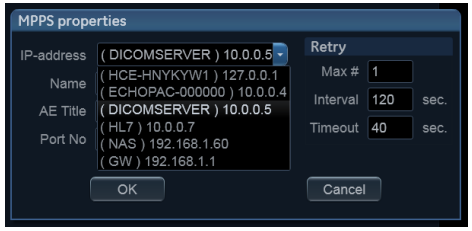


Select **MPPS**

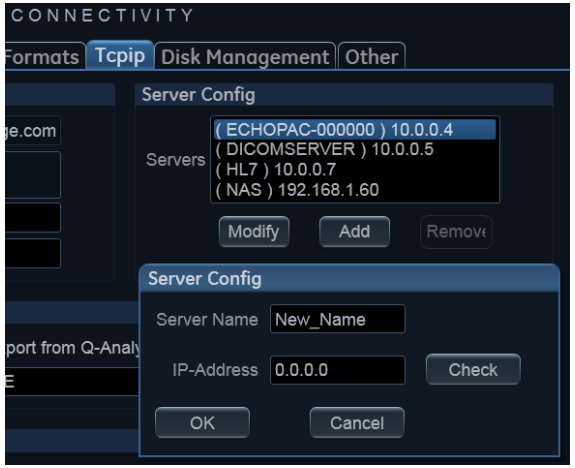


The **MPPS** properties window will appear. The required fields ★must be filled out. Other fields ⬍ might need to be adjusted

Enter correct **AE title,** as it is case sensitive and **Port No**. **IP Addr** must be selected from the pulldown menu and **Name** is optional, but recommended



If **IP Addr** is not in pulldown menu, go to **TCPIP tab** and select **Modify** to change or **Add**. A **Server Config** window will appear



Check will ping the server

Select **Add** to insert a new, select **Modify** to correct **IP Addr** of existing DICOM Device
Insert a descriptive **Name** and **IP Address**

DICOM Storage

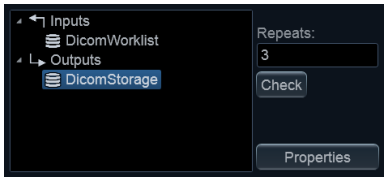
Connect

Per default, DICOM Storage dataflows are hidden, Uncheck the «Hidden» checkbox in the dataflow page to include the dataflow

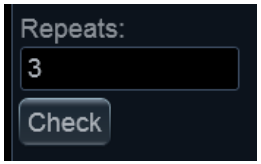
In the **DicomStorage** Properties window select Check to test the DICOM Storage service

DICOM Storage service is available at selected server

Selected server cannot provide DICOM Storage service

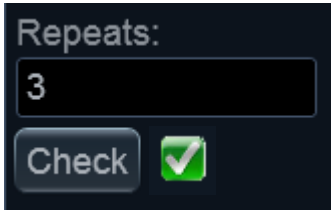


From the dataflow overview window, select **DicomStorage**

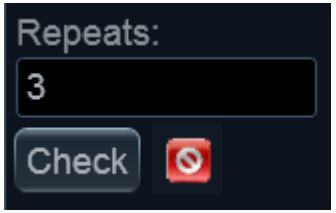


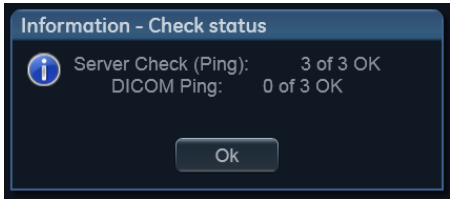
Select **Check** button

DICOM ping passed (3 attempts):



DICOM ping failed (3 attempts):





Check status window

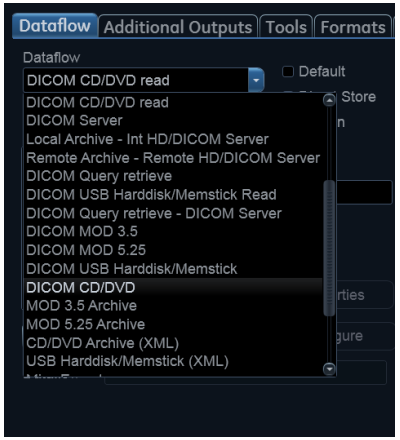
Server Check:
X of X OK – Server IP Address is correct
0 of X OK – Server IP Address is incorrect

DICOM Ping:
X of X OK – Server **AE title** and **Port No** is correct
0 of X OK – Server **AE title** and **Port No** is incorrect

DICOM CD/DVD

Configure

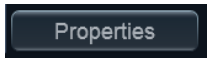
The **DICOM CD/DVD read** is an input dataflow and is to open patient and view exam images, while the **DICOM CD/DVD** is both input and output dataflow



From dataflow name pulldown list, select the appropriate **DICOM CD/DVD** dataflow

DICOM CD/DVD read dataflow:

Select **Dicom CD/DVD** from the Dataflow Overview window



Select **Properties**

The **DICOM Media** Properties window for the **DICOM CD/DVD read** dataflow will appear.

DICOM CD/DVD dataflow:

Select **Dicom CD/DVD** from the Dataflow Overview window

The **DICOM Media** Properties window for the **DICOM CD/DVD** dataflow will appear.

DICOM CD/DVD

Settings

If Frame rate, Compression and Quality settings are not set correctly, this may lead to long transfer time, huge file size and images not suited for diagnostics

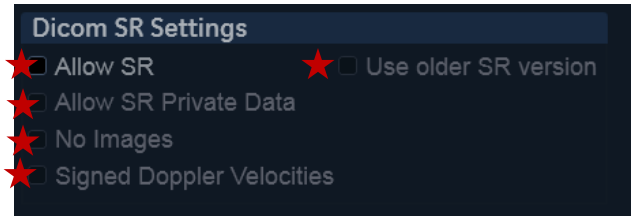
DICOM CD/DVD dataflow properties

Verify these default ★Image Settings:

Allow Raw Data – unchecked
RAW Compr – greyed out
Allow Multiframe – checked
Only Black/White - unchecked

Adjust these ⬍ Image Settings if needed:

Max Framerate → 25/Full
Compression → JPEG
Quality % → 95



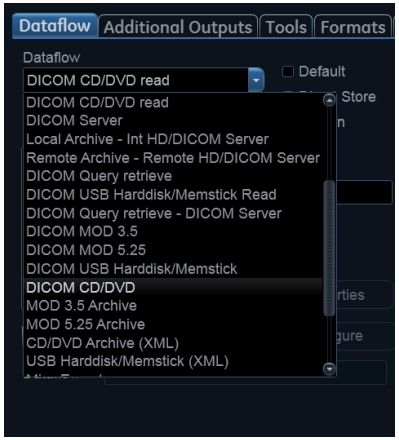
Verify these default ★ Dicom SR Settings:

Allow SR - set if DICOM supported M&As are to be sent to a DICOM SR Server
Allow SR Private Data – greyed out
No Images – set if SR data has to be sent without images
Signed Doppler Velocities – greyed out
Use older SR version – greyed out

DICOM USB

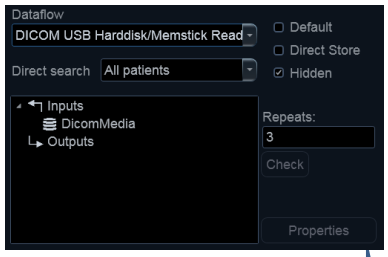
Configure

The **DICOM USB read** is an input dataflow, and and is to open patient and view exam images, while the **DICOM USB** is both input and output dataflow

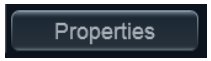


From dataflow name pulldown list, select the appropriate **DICOM USB** dataflow

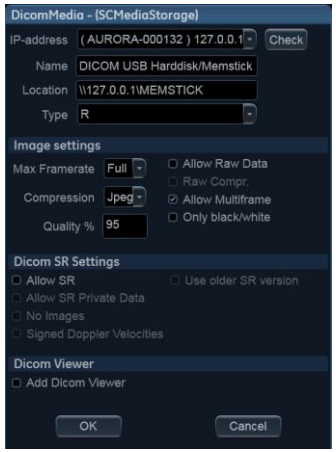
DICOM USB read dataflow:



Select **DICOM USB** from the Dataflow Overview window

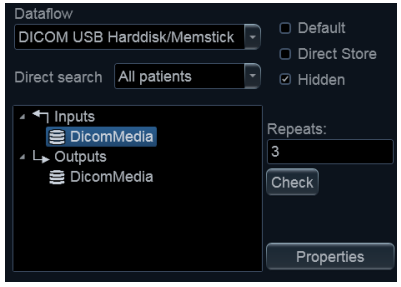


Select **Properties**

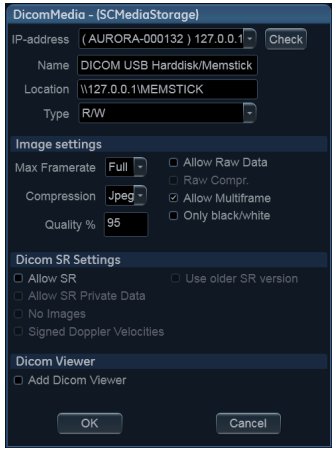


The **DICOM Media** Properties window for the **DICOM USB read** dataflow will appear.

DICOM USB dataflow:



Select **DICOM USB** from the Dataflow Overview window

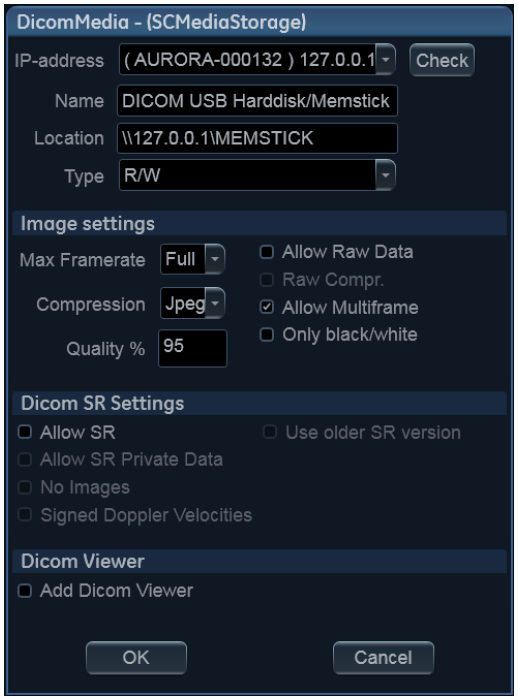


The **DICOM Media** Properties window for the **DICOM USB** dataflow will appear.

DICOM USB

Settings

If Frame rate, Compression and Quality settings are not set correctly, this may lead to long transfer time, huge file size and images not suited for diagnostics



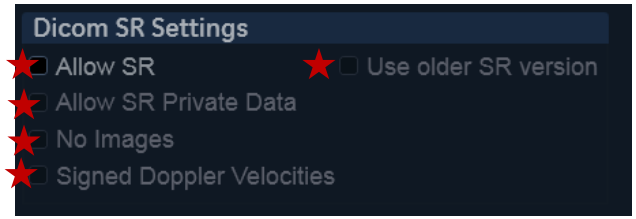
DICOM USB dataflow properties

Verify these default ★Image Settings:

Allow Raw Data – unchecked
RAW Compr – greyed out
Allow Multiframe – checked
Only Black/White - unchecked

Adjust these ⬍ Image Settings if needed:

Max Framerate → 25/Full
Compression → JPEG
Quality % → 95



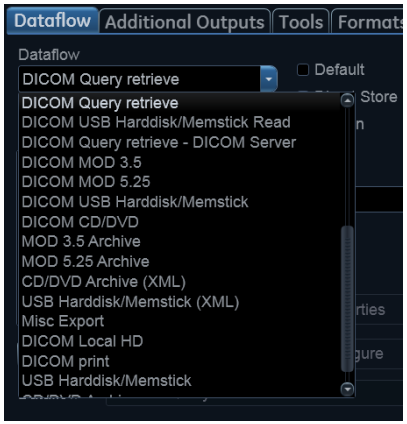
Verify these default ★ Dicom SR Settings:

Allow SR - set if DICOM supported M&As are to be sent to a DICOM SR Server
Allow SR Private Data – greyed out
No Images – set if SR data has to be sent without images
Signed Doppler Velocities – greyed out
Use older SR version – greyed out

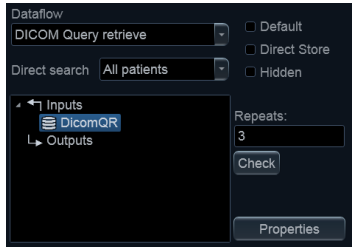
Query Retrieve

Configure

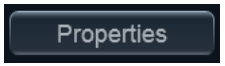
The DICOM Query Retrieve is an **Input** device in the Workflow/Dataflow, and the Vivid must be registered as a user on the Q/R DICOM Server. Dicom QR configuration on EchoPAC might also require Firewall modifications



From dataflow name pulldown list, select the **DICOM Query retrieve** dataflow



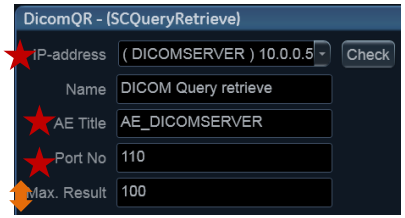
Select **DicomQR** from the Dataflow Overview window



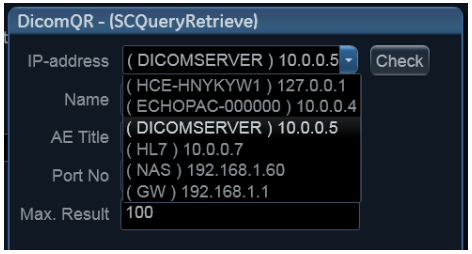
Select **Properties**

Required fields

The **Query Retrieve** Properties window will appear. The required fields ★ must be filled out. Other fields ⬍ might need to be adjusted



Enter correct **AE title,** as it is case sensitive and **Port No**. **IP Addr** must be selected from the pulldown menu and **Name** is optional, but recommended



If **IP Addr** is not in pulldown menu, go to **TCPIP tab** and select **Modify** to change or **Add**. A **Server Config** window will appear

Check will ping the server

Select **Add** to insert a new, select **Modify** to correct **IP Addr** of existing DICOM Device

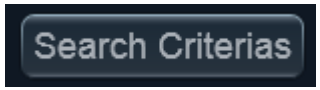
Insert a descriptive **Name** and **IP Address**

Query Retrieve

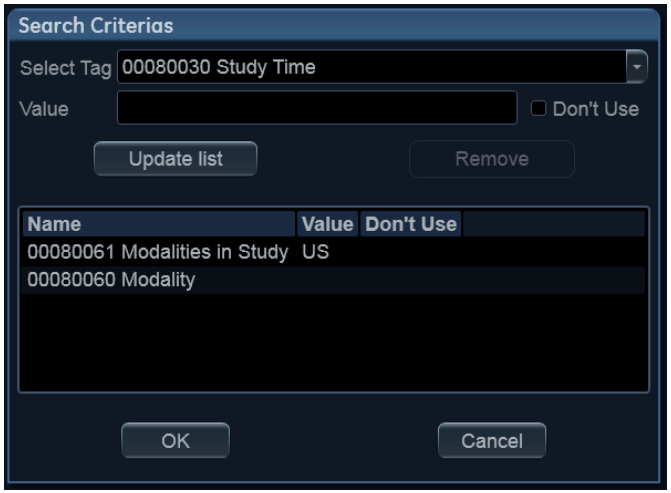
Search Criterias

The DICOM Query Retrieve is an **Input** device in the Workflow/Dataflow, and the Vivid must be registered as a user on the Q/R DICOM Server.

Search Criterias can be used to narrow the search in a Query Retrieve

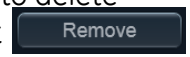


Select **Search Criterias**



A Search Criteria properties window appears. In the Select Tag pulldown menu select the search criteria. Enter a value in **Value** if neccessary.

Select 

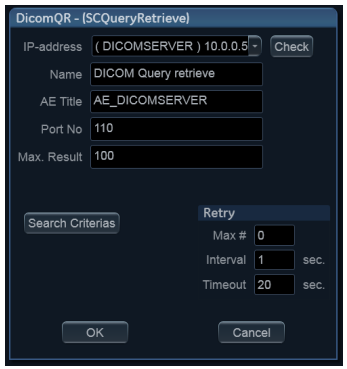
to add search criteria. To remove, select the search criteria to delete from the **Name** listbox then select 

Select **OK** to close window

Query Retrieve

Connect

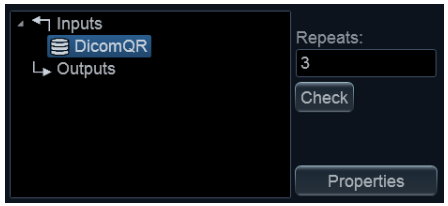
Per default, QueryRetrieve dataflows are hidden, Uncheck the «Hidden» checkbox in the dataflow page to include the dataflow



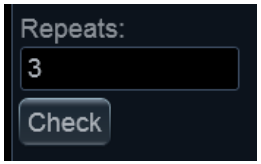
In the **DicomQR** Properties window select Check to test the QueryRetrieve service

DicomQR service is available at selected server

Selected server cannot provide DicomQR service

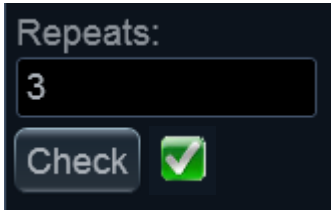


From the dataflow overview window, select **DicomQR**

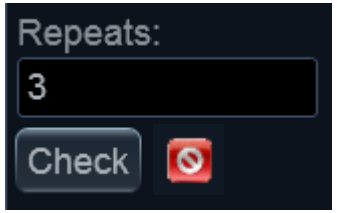


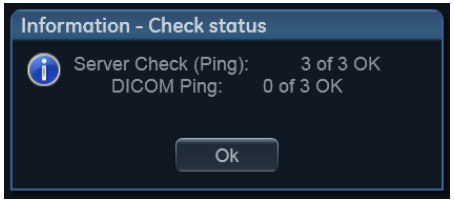
Select **Check** button

DICOM ping passed (3 attempts):



DICOM ping failed (3 attempts):





Check status window

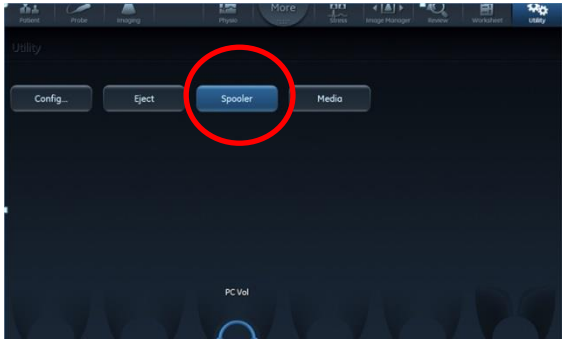
Server Check:
3 of 3 OK – Server IP Address is correct
0 of 3 OK – Server IP Address is incorrect

DICOM Ping:
3 of 3 OK – Server **AE title** and **Port No** is correct
0 of 3 OK – Server **AE title** and **Port No** is incorrect

DICOM Spooler

Check Status

To check status of the DICOM Spooler, select F4 or Alt + S on the alphanumeric keyboard or select Spooler in the Utility menu on the Touchpanel.



Touch Screen

DICOM spooler displays the current DICOM output jobs, and is used for checking the current job's status when a job is saved or displays an error

DICOM Job Spooler window

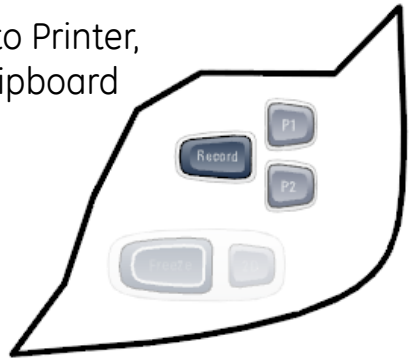
To remove the DICOM Spooler Job window select Hide

DICOM Printer

Modify Outputs

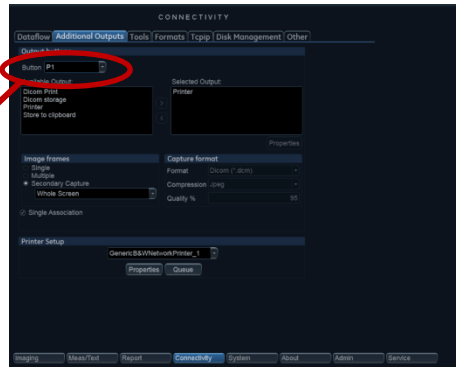
Select **Additional Outputs** tab to get to the Additional Outputs page for configuring the **P1** and **P2** buttons on the Operator Panel.

Per default **P1** is set to Printer,
P2 is set to store to clipboard



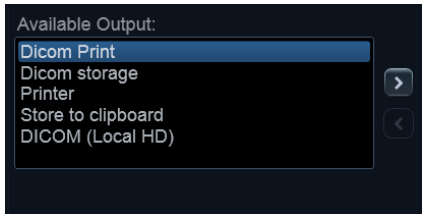
The **P1** and **P2** position on the Operator panel

Select the appropriate button from the pulldown menu



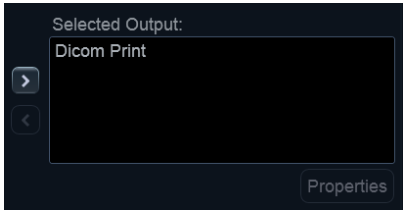
Additional Outputs window

Add:



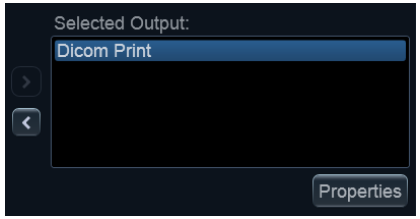
In **Available outputs** select the device you want to use as output

Select **>** to add the output device



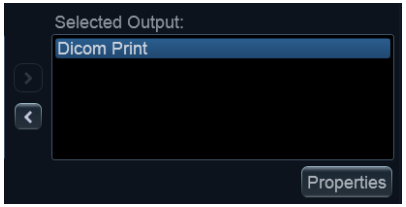
Verify that the device you selected, appears in the **Selected devices** window

Remove:



In **Selected devices** window select the device you want to remove

Select **<** to remove the output device

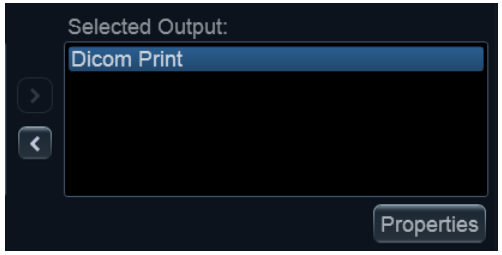


Verify that the device you selected, disappears in the **Selected devices** window

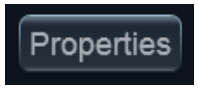
Note ! Using a Print button for image transfer to a Dicom service is a quick way to accomplish "direct store" to that service without having to set up a dataflow

DICOM Printer

Configure

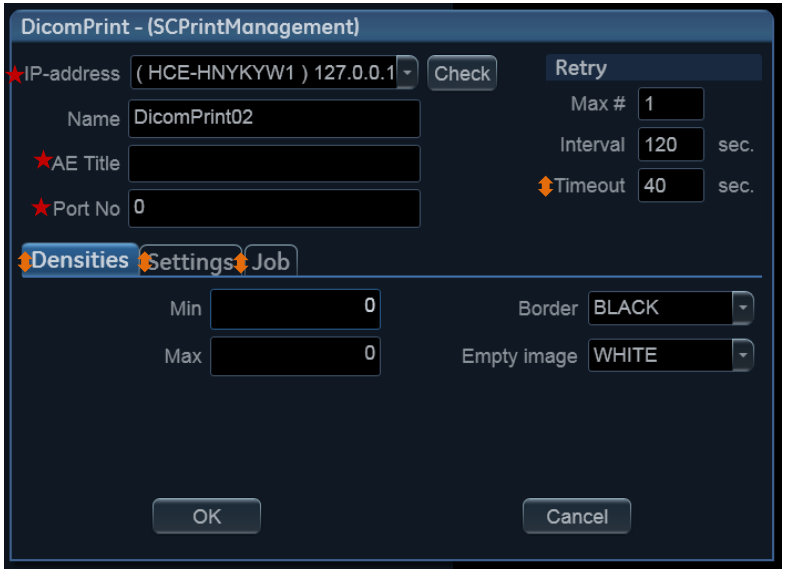


Select **Dicom Print** in the Selected Output window

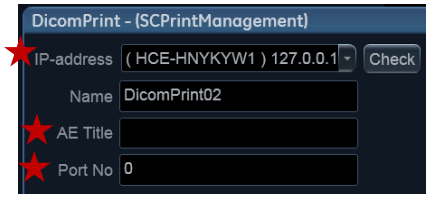


Select **Properties…**

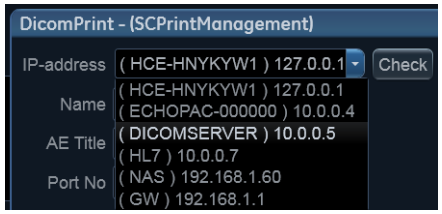
Required fields



The **DICOM Print** Properties window will appear. The required fields ★ must be filled out. Other fields ⬍ might need to be adjusted



Enter correct **AE Title,** as it is case sensitive and **Port No**. **IP Addr** must be selected from the pulldown menu and **Name** is optional, but recommended



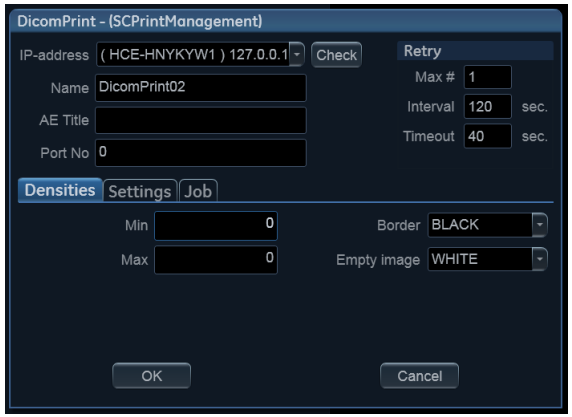
If **IP Addr** is not in pulldown menu, go to **TCPIP tab** and select **Modify** to change or **Add**. A **Server Config** window will appear

Check will ping the server

Select **Add** to insert a new, select **Modify** to correct **IP Addr** of existing DICOM Device
Insert a descriptive **Name** and **IP Address**

DICOM Printer

Connect

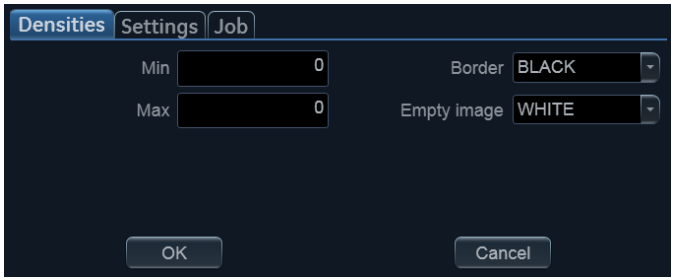


In the **DicomPrint** Properties window select Check to test the DicomPrint service

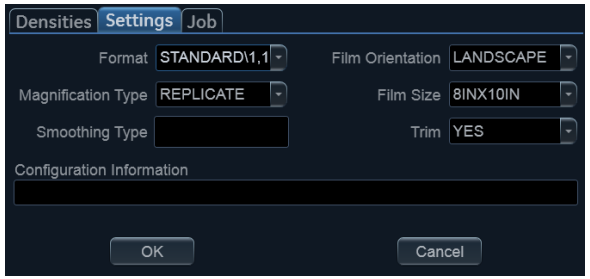
DicomPrint service is available at selected device

Selected device cannot provide DicomPrint service

If DicomPrint service failed or printout is not satisfying, verify the service configurations in the Densities, Settings and Job tabs:



Densities



Settings

Job

Network Printer

Note! Ensure the Network Printer is powered on and connected to the site network before adding the Printer

Add New

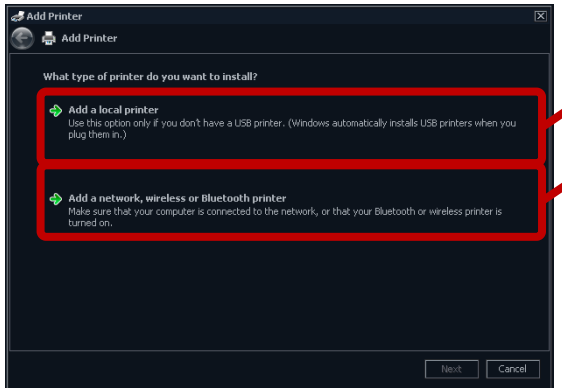
Select 

on the **Connectivity** tab to add Network or Local Printers

Select 

on the **Service menu** to add a Printer

A Standard Windows Printer installation program will start,



Select this option to install a Local Printer

Select this option to install a Network Printer

Window Printer Installation

Click 

to continue

Follow the instructions to add a network printer successfully

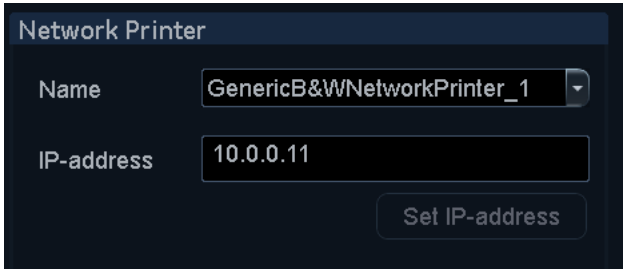
Network Printer

Configure IP Address

Note! Use this method if Printer is already installed, but Printer IP Add needs to be reconfigured

Select Service on the **Connectivity** tab to configure Network Printers

In the **Network Printer** section enter the correct IP address of the Network Printer



Network Printer section

When the new IP address is set, the Set IP-address button is enabled. Select this button to store the new IP address to the Network Printer

Select the correct name for the Network Printer, if no name is correct select the first Generic Name available

Network Printer

Rename

Note! Use this method if Printer is already installed, but Printer Name needs to be reconfigured

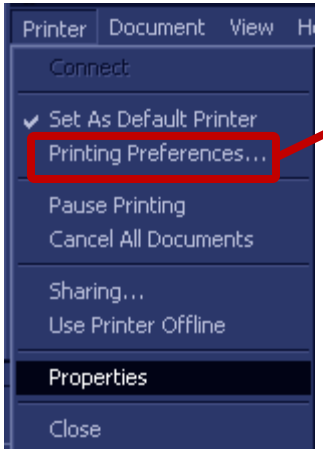
Select Additional Outputs the **Connectivity** tab to rename Network Printers

Select Queue in the **Printer Setup** section for the Printer Queue window to appear

Printer Setup section

Printer Queue window

Select Printer in the **Printer Queue** window to get to **Printer Properties**

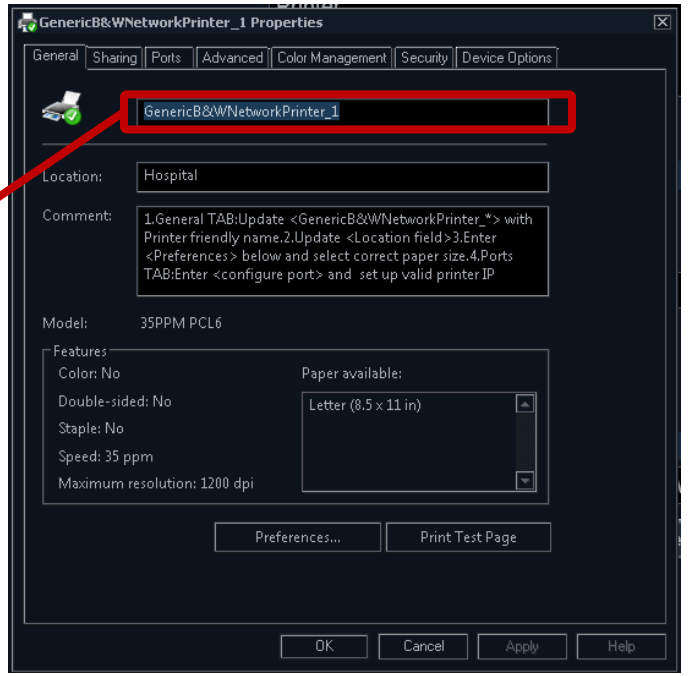


Printer Pull down menu

Select **Printing Preferences** to adjust advanced printer settings

Select **Properties** to change the Printer name

Enter the new Network Printer name here. Select **Apply** and click OK to store the new Printer Name

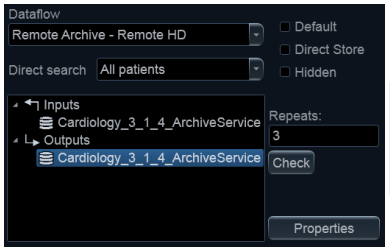


Printer Properties window

Remote Archive

Configure

From dataflow name pulldown list, select the appropriate **Remote Archive** dataflow

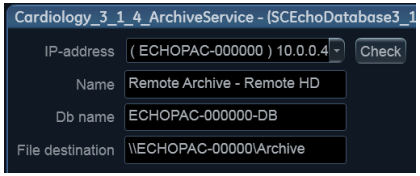


Select **Cardiology_3_1_4_ArchiveService** from the Dataflow Overview window

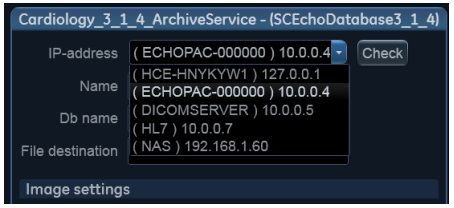
Select **Properties**

The **Cardiology_3_1_4_ArchiveService** Properties window will appear. if DNS is not set up on the network, select the Update 'hosts' file

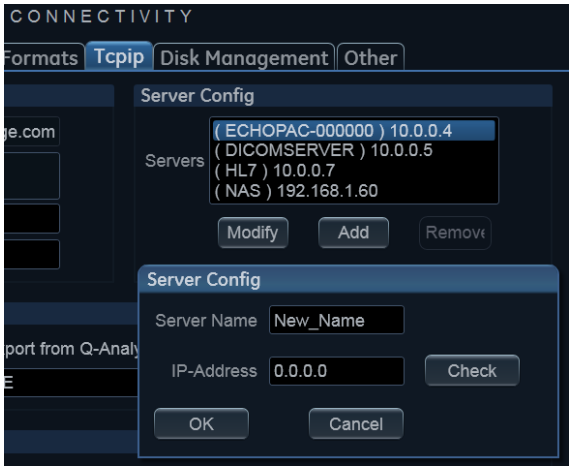
Note! On EchoPAC SWO, Windows administrative rights are needed to do this



Enter correct **IP-address** of the Remote Archive server. The other fields will be populated automatically.



If **IP Addr** is not in pulldown menu, go to **TCPIP tab** and select **Modify** to change or **Add**. A **Server Config** window will appear



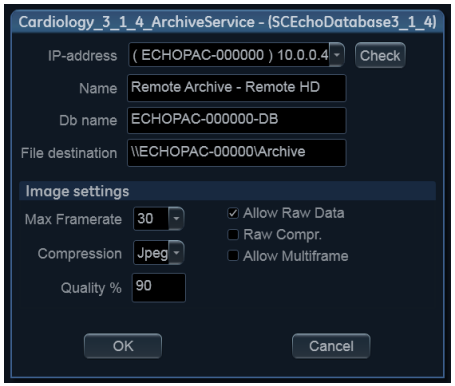
Check will ping the server

Select **Add** to insert a new, select **Modify** to correct **IP Addr** of Remote server

Insert correct **HostName** and **IP Address**

Remote Archive

Connect

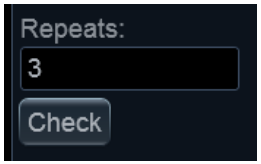


In the **Cardiology_3_1_4_ArchiveService** Properties window select Check to ping the remote server

Remote server IP Address is correct

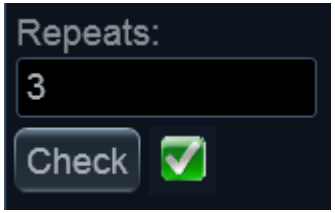
Remote server IP Address is incorrect

From the dataflow overview window, select **Cardiology_3_1_4_ArchiveService**

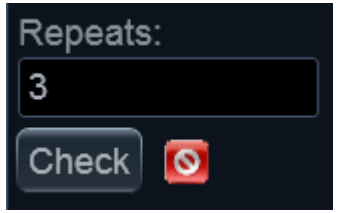


Select **Check** button

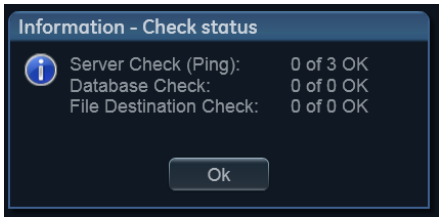
Server Database and Image archive are correct (3 attempts):



Server Database and Image archive are incorrect (3 attempts):



Check status window



Server Check:
X of X OK – Server IP Address is correct
0 of X OK – Service IP Address is incorrect

Database Check:
X of X OK – Remote DataBase is found
0 of X OK – Remote DataBase is not found

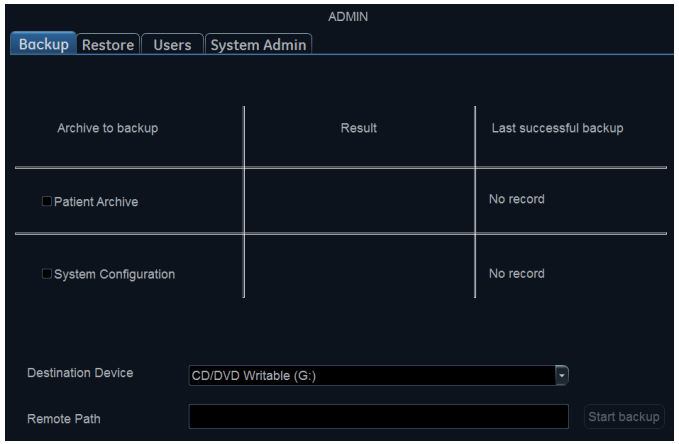
File Destination Check:
X of X OK – Image Shared folder is found
0 of X OK – Image Shared folder is not found

Backup & Restore

To start **Backup** select Admin from the Config menu

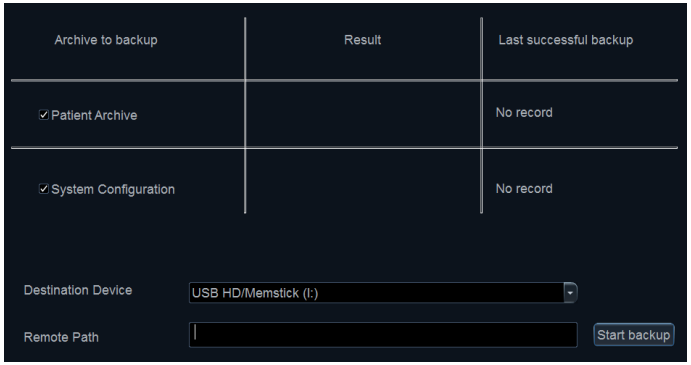
Backup

Select Backup tab from the Admin menu



Backup window

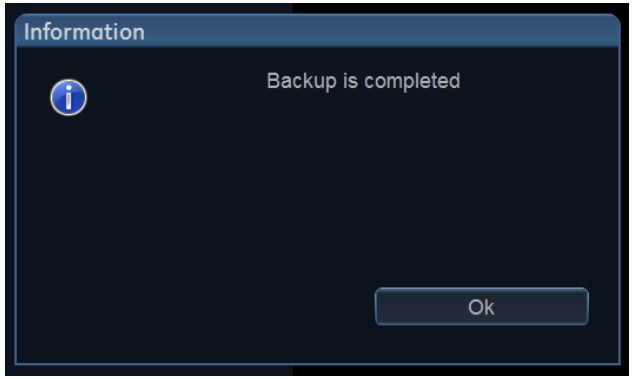
- The media used for backup can not be used for storing images
- When Remote Path is selected, the system will use the default user/password or the configurable user/password from the Tcpip tab



Select **Patient Archive** and **System Configuration** and the correct **Destination Device** and/or **Remote Path**

Start backup

Select
Start backup



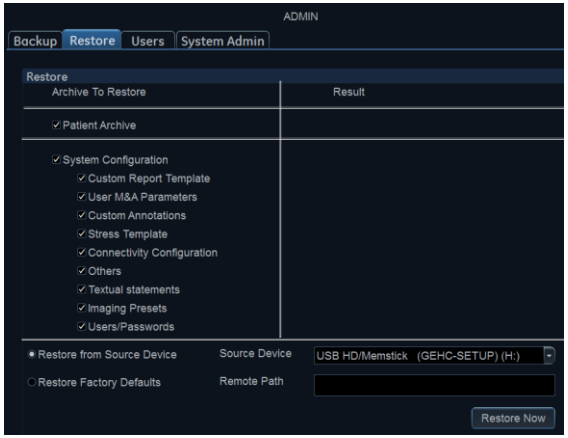
Backup completed

Backup & Restore

To start **Restore** select Admin from the Config menu

Restore

Select Restore tab from the Admin menu



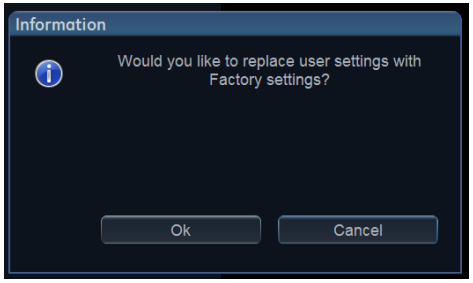
Restore window

Select **Patient Archive** and/or **System Configuration** and the correct **Destination Device** and **Remote Path**

Restore Now

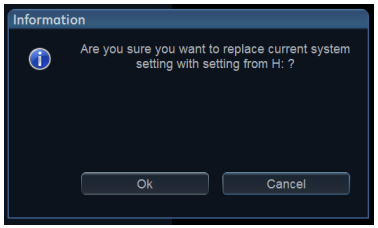
Select **Restore Now**

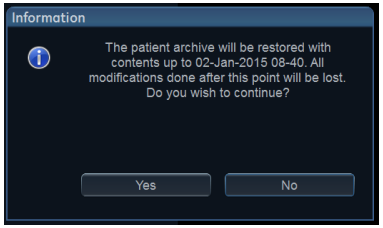
From the **Restore** window there is a possibility to restore to Factory defaults configuration. Select the appropriate button and press **Restore Now**

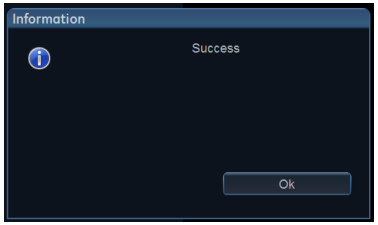


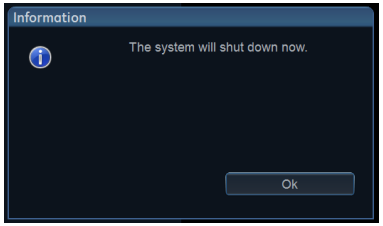
Press **Ok** to confirm replacing settings to **Factory defaults**

The Restore functionality requires acknowledgement from the user to restore previous backup data, thus the similar pop-up windows will appear









The system will shut down after Restore is completed

Note! Backup & Restore may not work across all CVUS products and BTs..

Disk Management

To get to **Disk Management** select the Connectivity menu

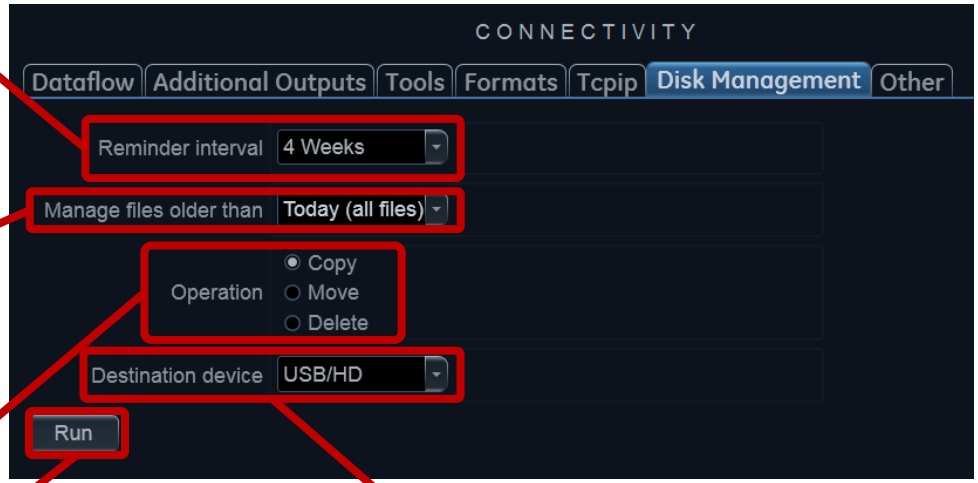
Configuration

Select Disk Management tab from the Connectivity menu

Predefined Reminder Interval
Set the reminder interval for Disk Management. The Recommended Interval is 1 week

Manage files Older Than
Select the time for how old your image files should be before a backup is required. Recommended Interval is 1 week

Operation
Select between 3 types of operations:
Copy, Move and Delete
Recommended operation is Move



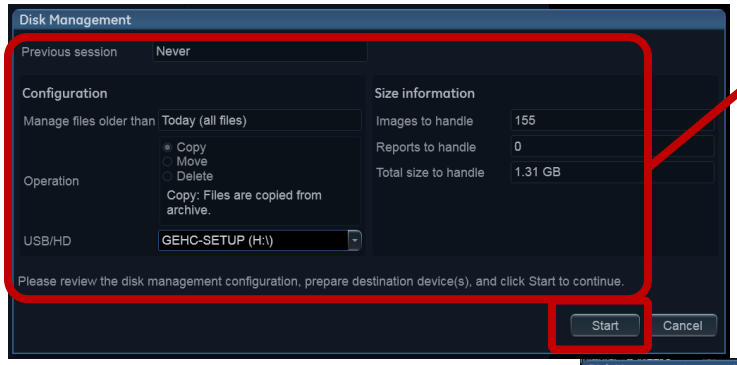
Copy – Images and Reports will be copied to the Destination Device
Move- Images and Reports will be moved to the Destination Device
Delete- Images and Reports will be deleted.

Run
Select «Run» to start Disk Management

Destination Device
Select a removeable media or a network share folder

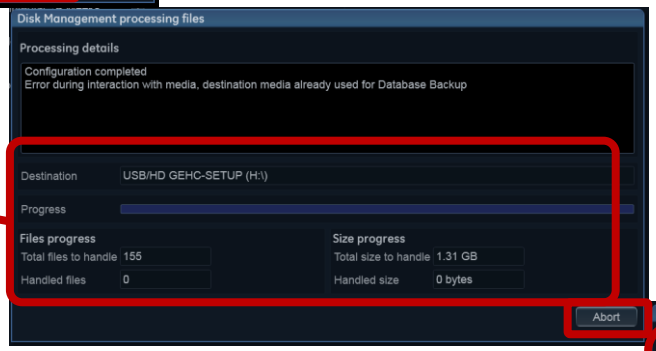
Disk Management

Running

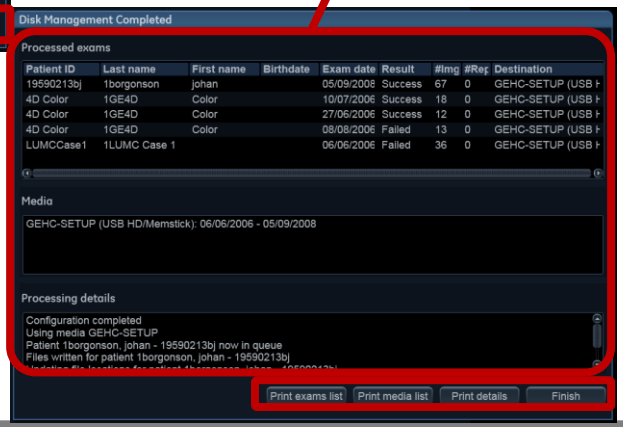


Disk Management requires an acknowledgement from User that the correct settings have been selected and the calculated data size is displayed. Press Start to run Disk Management

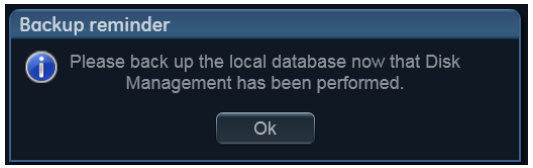
Disk Management copies/moves the files found for the selected «Older Than» time window to the Destination device.
There's a possibility to Abort the operation and resume later.



When Disk Management process completes, a summary status is displayed. There's a possibility to print an Exams list, Media list or a complete summary.



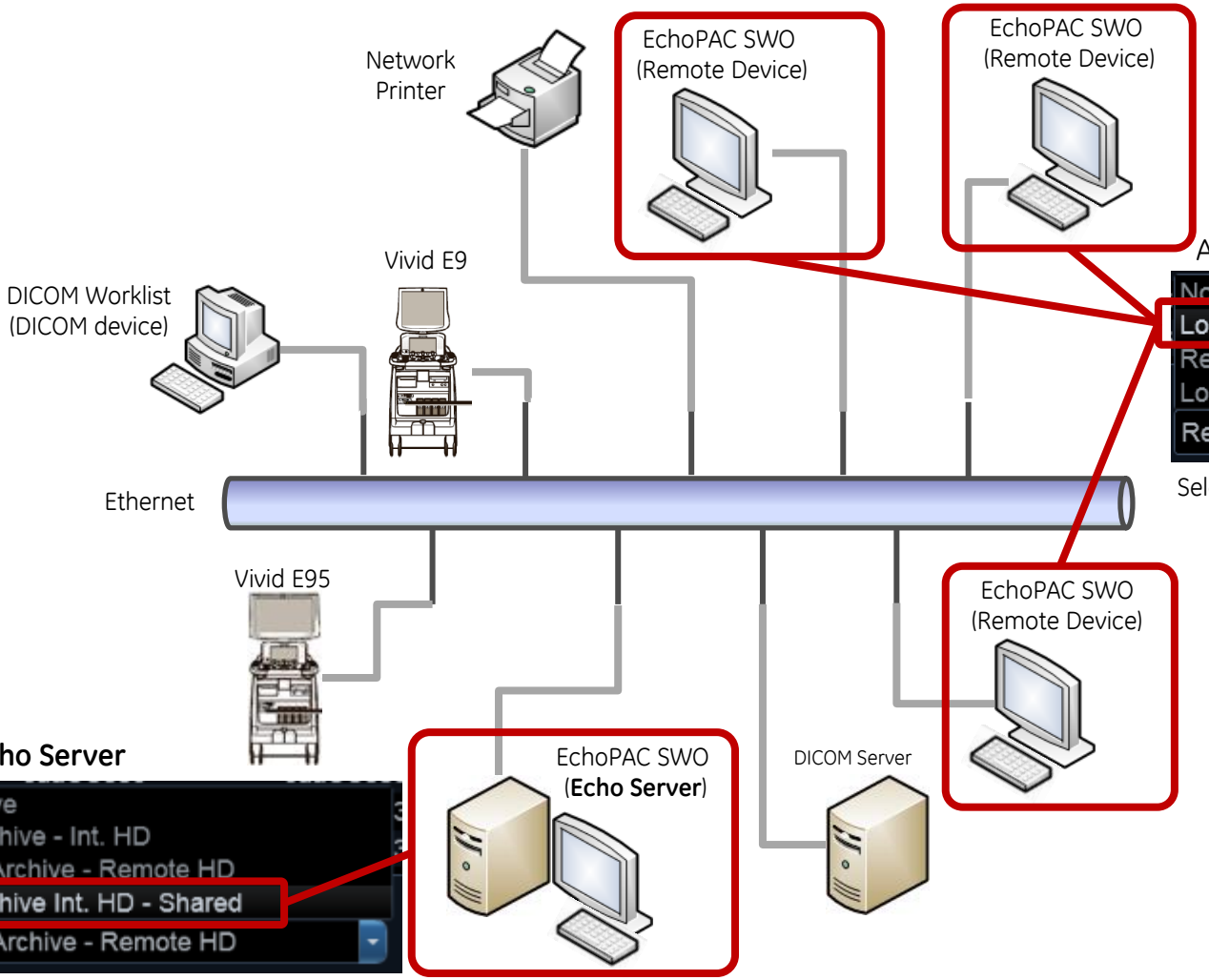
Note!
<u>After</u> Disk Management is finished a Backup of the Patient Archive should be initiated



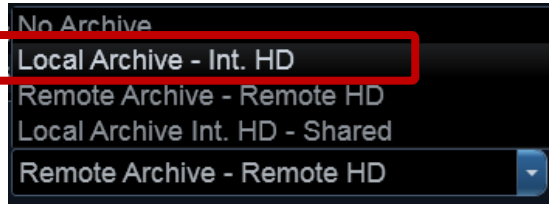
EchoPAC SWO

Local Archive Setup

Note ! Per default the **Local Archive Int. HD - Shared** dataflow is hidden. To avoid confusion do not unhide this, unless the intention is to set up as an EchoServer



As a **Remote Devices**



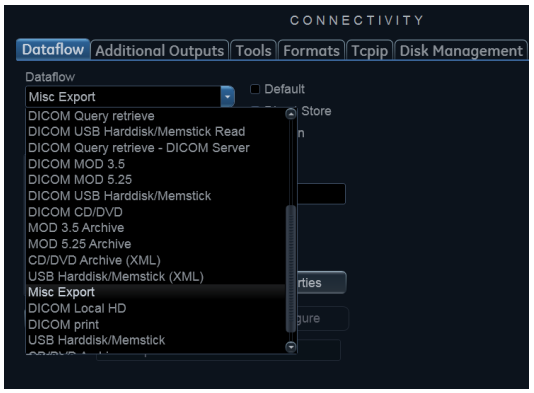
Select the **Local Archive – Int HD** dataflow

As an **Echo Server**

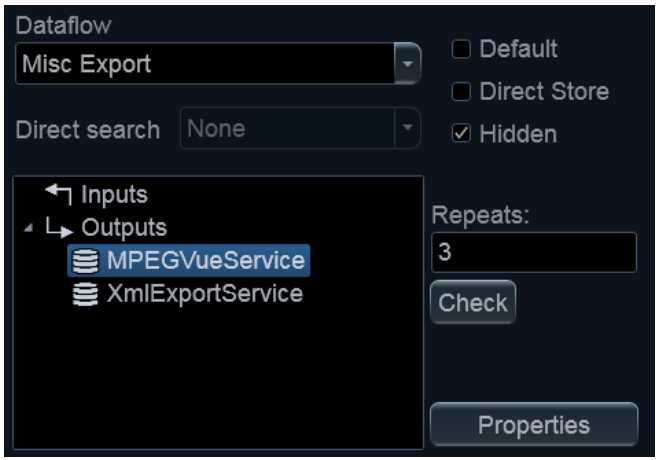
Select the **Local Archive Int. HD - Shared** dataflow

MPEGVue Export

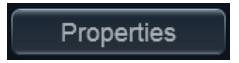
Configure



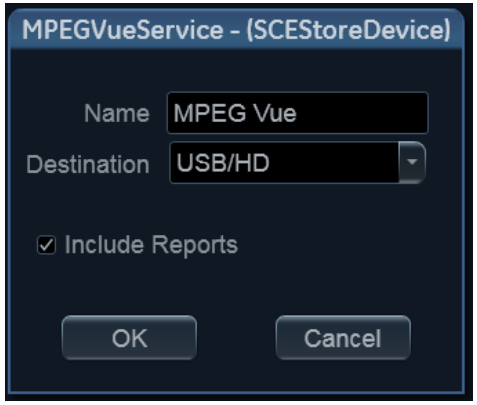
From dataflow name pulldown list, select the appropiate **Misc Export** dataflow

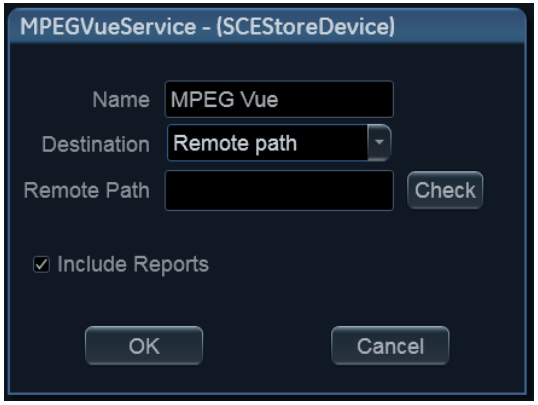


Select **MPEGVueService** from the Selected Outputs



Select **Properties**



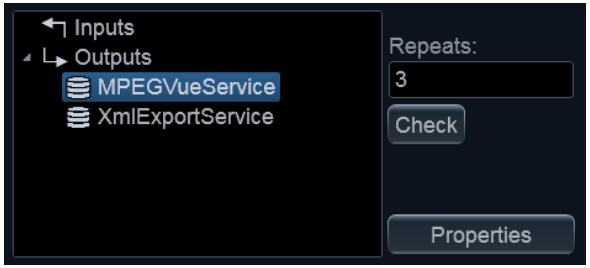


Select the **Destination** from the drop down menu and/or enter Remote Path

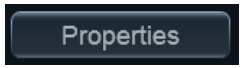
Optionally Select to **Include Reports**

MPEGVue Export

Connect



In the **Selected devices** window select **MPEGvue**



Select **Properties** button

If **Remote path** was selected
Check result:

Successfully logged into remote destination, write access confirmed

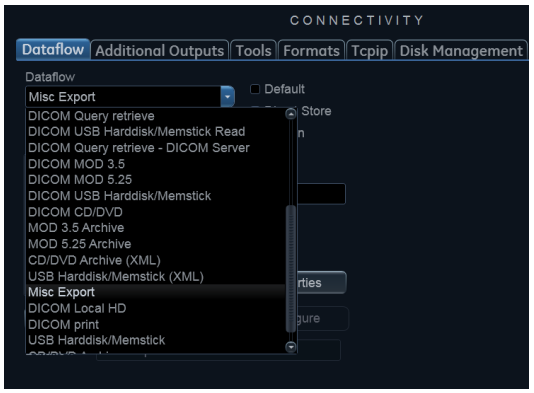
User and/or password incorrect or no write access to destination device

Go to «Archive» screen and select 

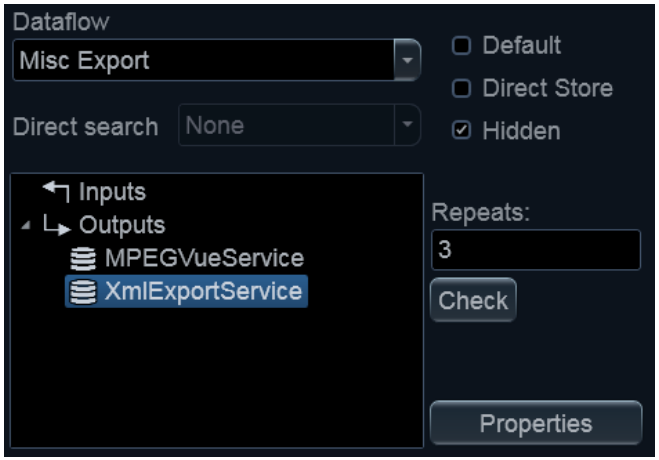
to initiate MPEGVue file transfers

XML Export

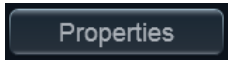
Configure



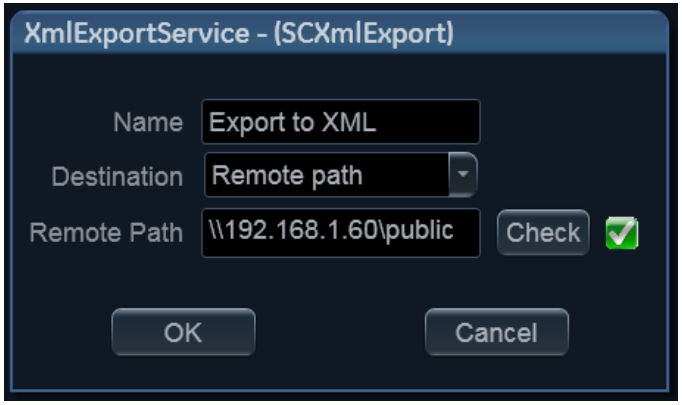
From dataflow name pulldown list, select the appropiate **Misc Export** dataflow



Select **XmlExportService** from the Selected Outputs



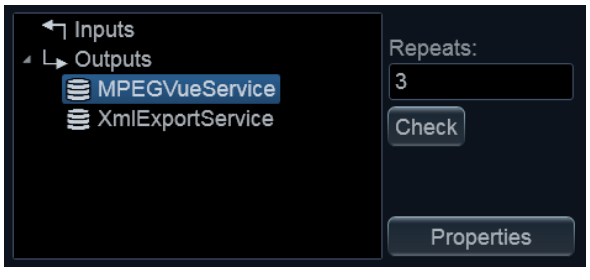
Select **Properties**



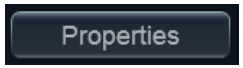
Select the **Destination** from the drop down menu and/or enter Remote Path

XML Export

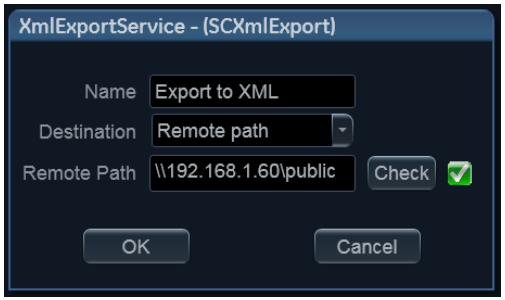
Connect



In the **Selected devices** window select **XmlExportService**



Select **Properties** button



If **Remote path** was selected
Check result:

Successfully logged into remote destination, write access confirmed

User and/or password incorrect or no write access to destination device

Go to «Archive» screen and select 

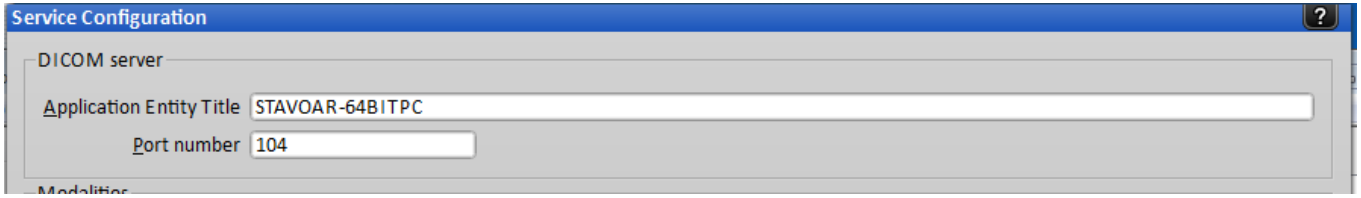
to initiate XmlExport file transfers

ViewPoint

Configure

From ViewPoint:

Obtain the ViewPoint **IP-Address**, **AE-Title** and **Port No**,
The **AE-Title** and **Port No**. is available on ViewPoint at the ViewPointAdm in the **Service Configuration** window



Note! Each ViewPoint has its own Unique AE-Title. The AE-Title displayed is for illustration only

On Scanner:

Select the Tcpip to ensure the ViewPoint Server has been added to the Servers list in the **Server Config** section

If not present, select Add to add the ViewPoint server, then go to the Dataflow tab and select the appropriate dataflow

If present, go to the Dataflow tab and select the appropriate dataflow

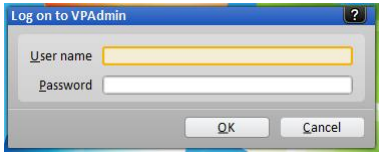
If Worklist, DICOM Query/Retrive was enabled when configuring the ViewPoint the appropriate dataflow is :

Worklist/DICOM Query Retrieve –DICOM Server

ViewPoint
Connect

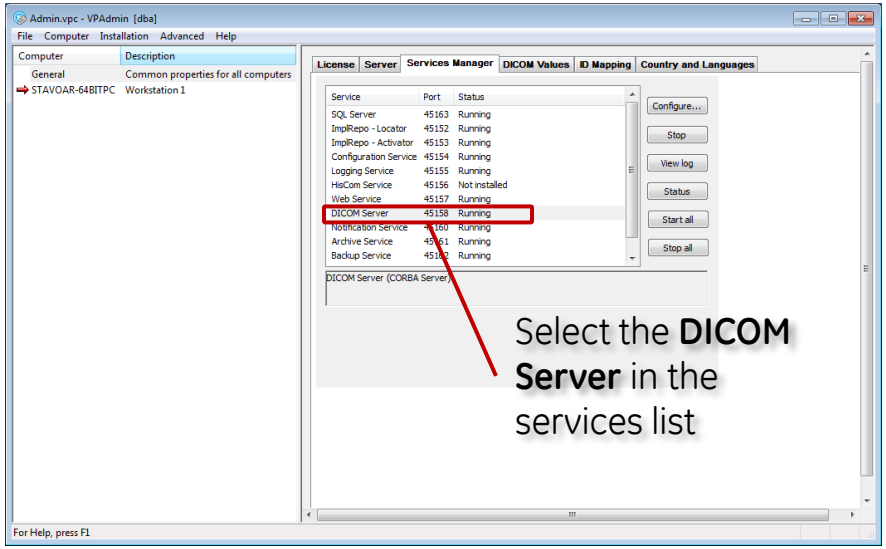
To connect the Scanner to ViewPoint, the ViewPoint must be configured first. On ViewPoint, select the **ViewPointAdmin**

Log in with User name and Password



VPAdmin Log in

Select **Services Manager** in **VPAdmin** window

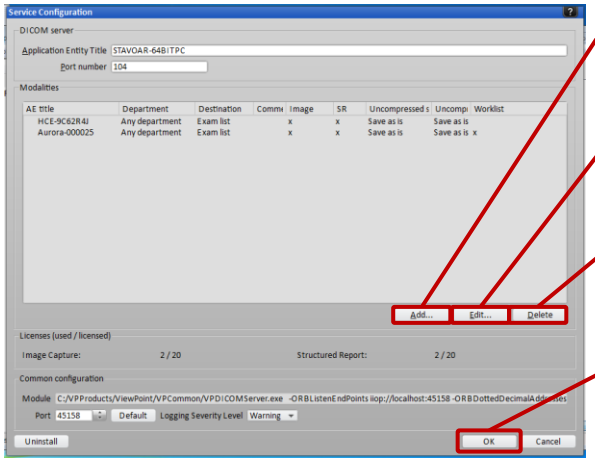


VPAdmin window, **Service Manager** tab

Select **Stop** to stop the **DICOM Server** service

Select **Configure...** to configure the **DICOM Server** client .

A **Service configuration** window will appear



Add... Add a new client

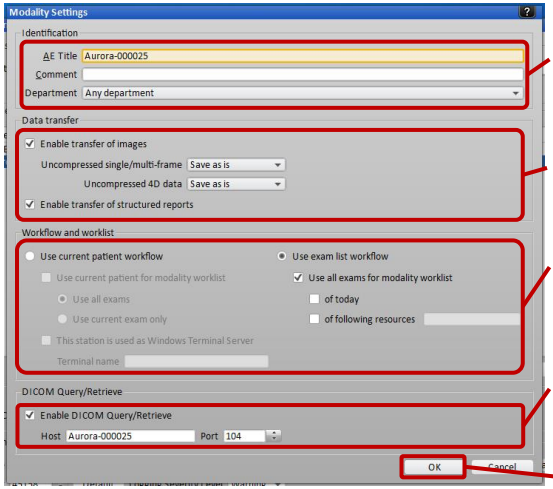
Edit... Edit an existing client

Delete Delete a client

OK Select **OK** when done

Service Configuration window

Select **Add...** to add a new **DICOM Server** client . The **Modality Setting** window will appear



Enter **AE Title** of the Scanner
[Optionally] Select department

Select Data transfer details (as indicated)
Enable Transfer of **Structured Reports** (SR)

Configure Workflow & Worklist

[Optionally] Enable DICOM **Query/Retrive** (Q/R)
Enter **host name** or **IP adress**, and **port** used on the Scanner

OK Select **OK** when done

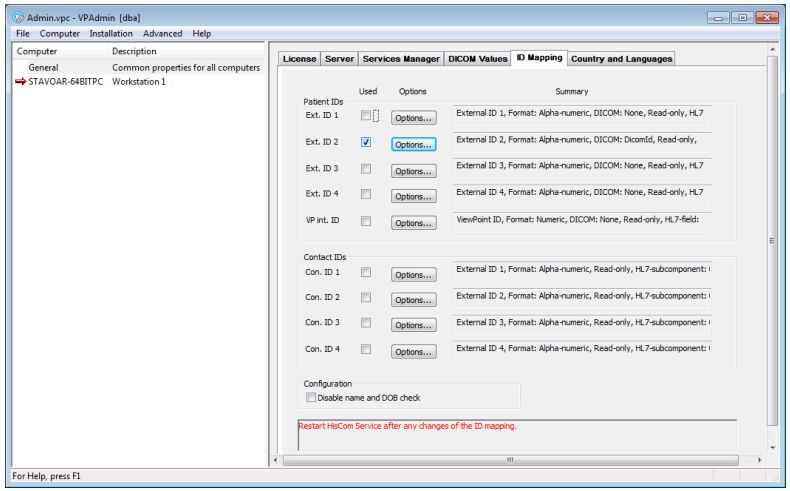
Modality Setting window

Select **OK** twice to close both the **Modality Setting** and **Service Configuration** window and **Save now** on the pop-up dialog

ViewPoint

Connect cont.

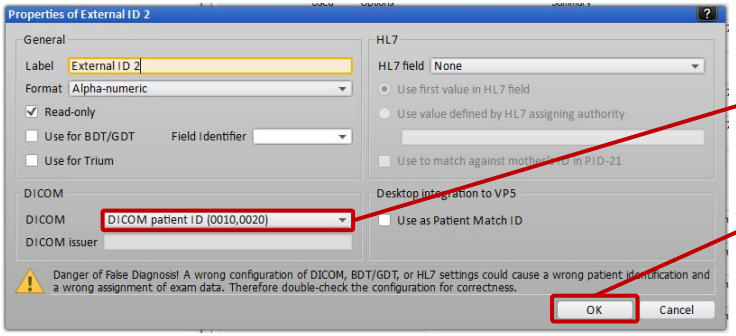
Select ID Mapping tab in **VPAdmin** window



VPAdmin window, **ID Mapping** tab

Check Ext. ID 2 and select Options...

The **External ID 2** Properties window will appear



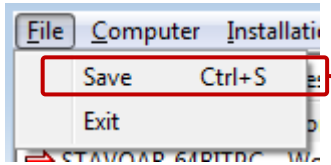
From the pull down menu select **DICOM Patient ID**

OK

Select **OK** when done

External ID 2 Properties window

Select File in the **VPAdmin** window menu bar



From the **File** pull down menu select **Save** to save the changes

Select Services Manager tab in **VPAdmin** window

Select the **DICOM Server** in the services list

Select Start to start the **DICOM Server** service

Insite ExC

Connect

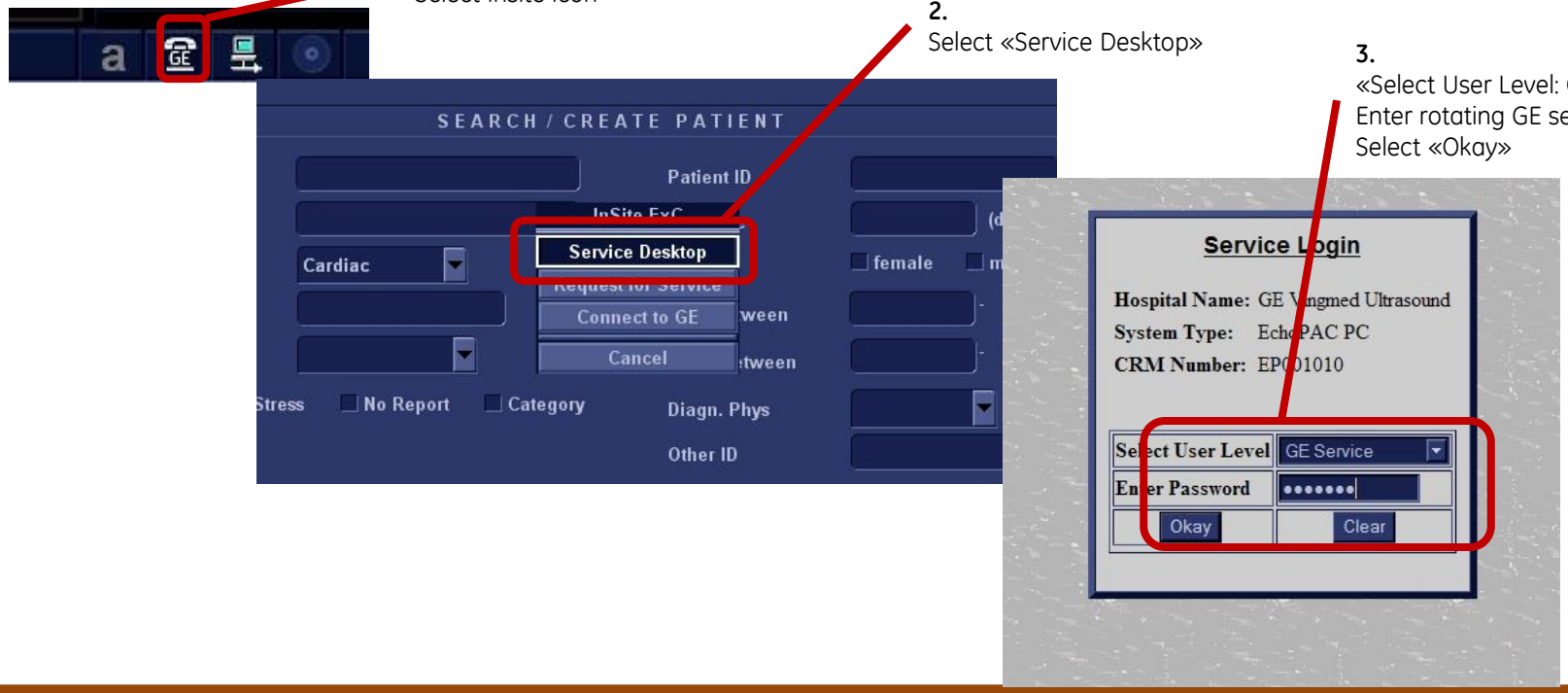
Pre-requisites & Preparation:

- To configure Insite ExC you need to know the rotating **GE service password**.
- Network setup complete, refer to «Network Settings» section
- Verify for VividE9 an **HTTPS** (**S**ecure **S**ockets **L**ayer) internet connection via port **443**
- If **proxy server** is used then ask Hospital IT for IP address, port number and proxy user and password.
- **System ID** (MUST-CARES-CAPS-Siebel)

1.
Select Insite icon

2.
Select «Service Desktop»

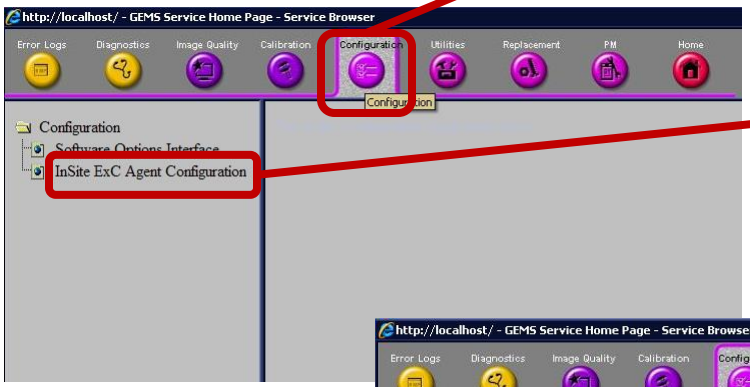
3.
«Select User Level: GE Service»
Enter rotating GE service password
Select «Okay»



Insite ExC

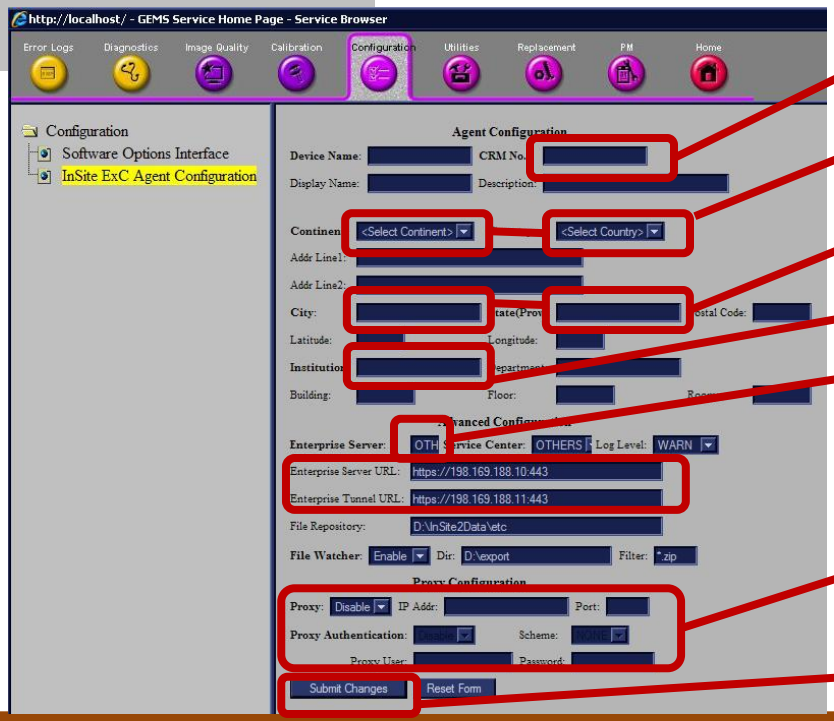
Configure

4.
Select «Configuration»



5.
Select «Insite ExC Agent Configuration»

6.
Complete the Configuration page, all items in **bold** are mandatory



CRM No: System ID

Continent & Country

City & State(Prov)

Institution

Enterprise Server: Select **OTHER** and type in the URL addresses:
Enterprise Server: https://198.169.188.10:443
Enterprise Tunnel: https://198.169.188.11:443

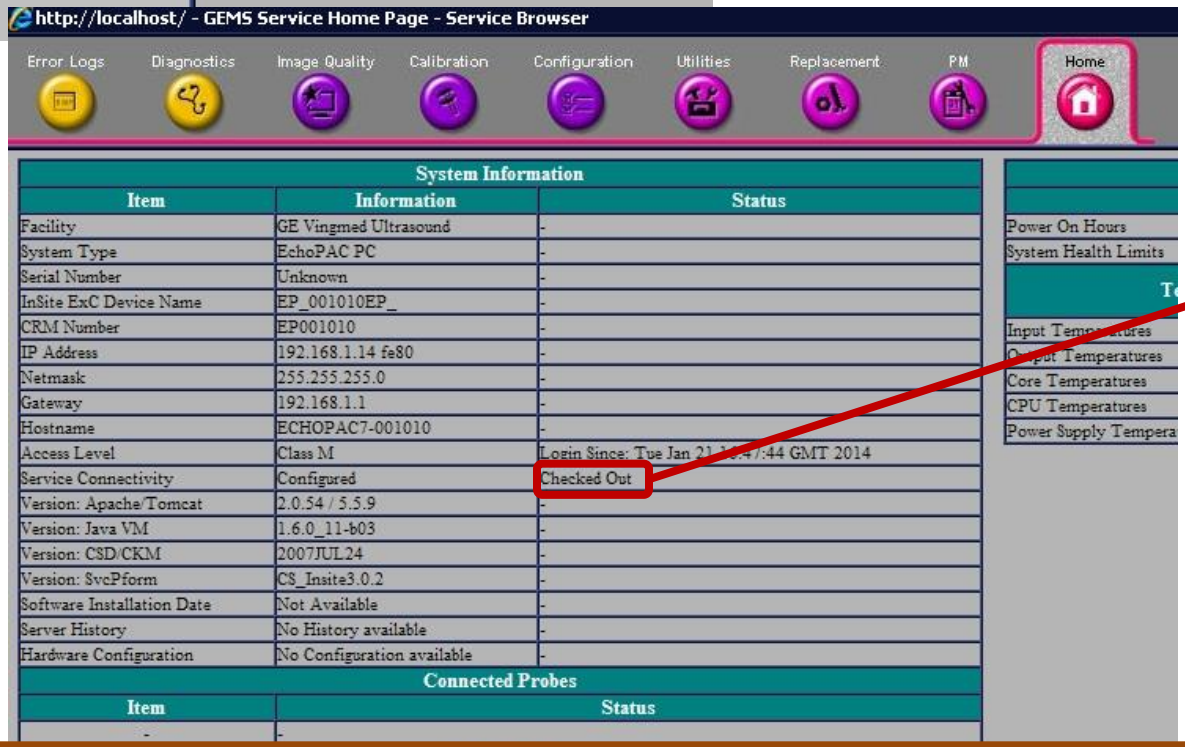
Proxy: Only needed if customer uses Proxy Server

7.
Select «Submit Changes»

Insite ExC

Configure Cont.

8.
«New agent configuration» screen will appear



9.
Close Service Desktop and Reboot the system. Repeat steps 1-3

10.
Select «Home» screen
Service Connectivity Status will change to «Checked Out»

11.
All new connected systems to Insite should be reported to your OLC to initiate a «Device Grouping Request»

Insite ExC

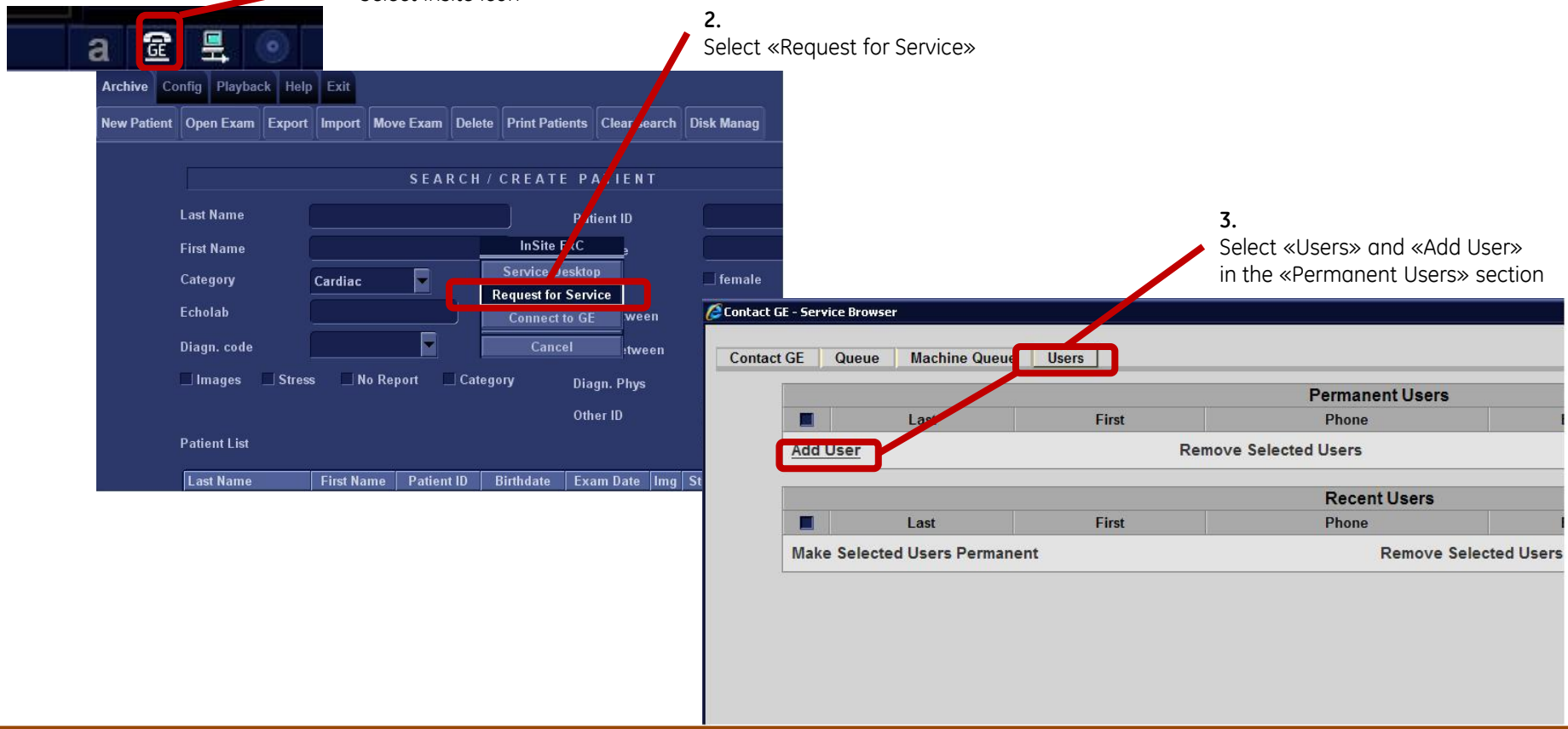
RFS User Configuration

These Configuration steps are needed for the Auto Request For Service feature and must be repeated after each software update

1.
Select Insite icon

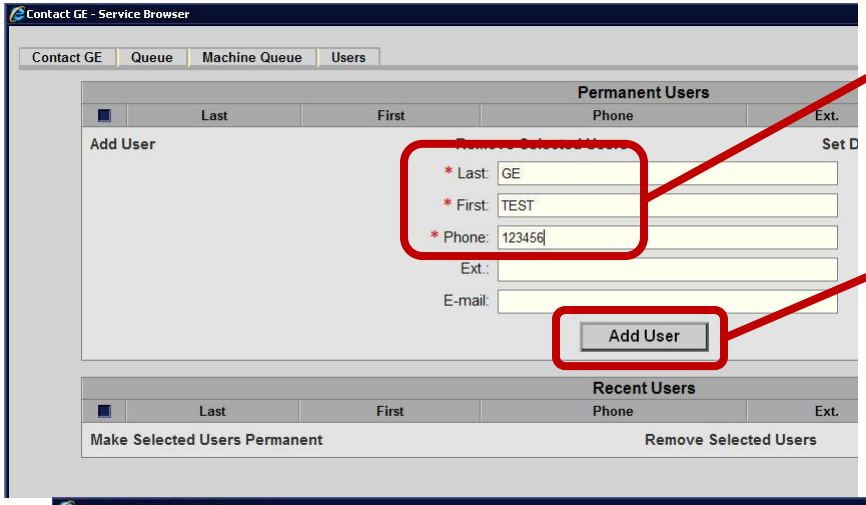
2.
Select «Request for Service»

3.
Select «Users» and «Add User»
in the «Permanent Users» section



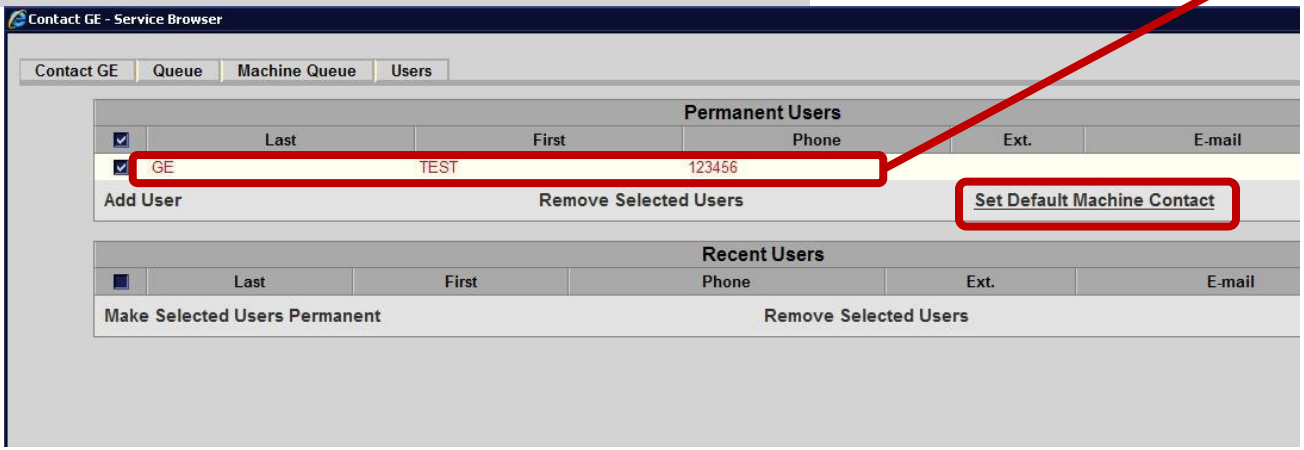
Insite ExC

RFS User Configuration



4.
Complete all records marked with *

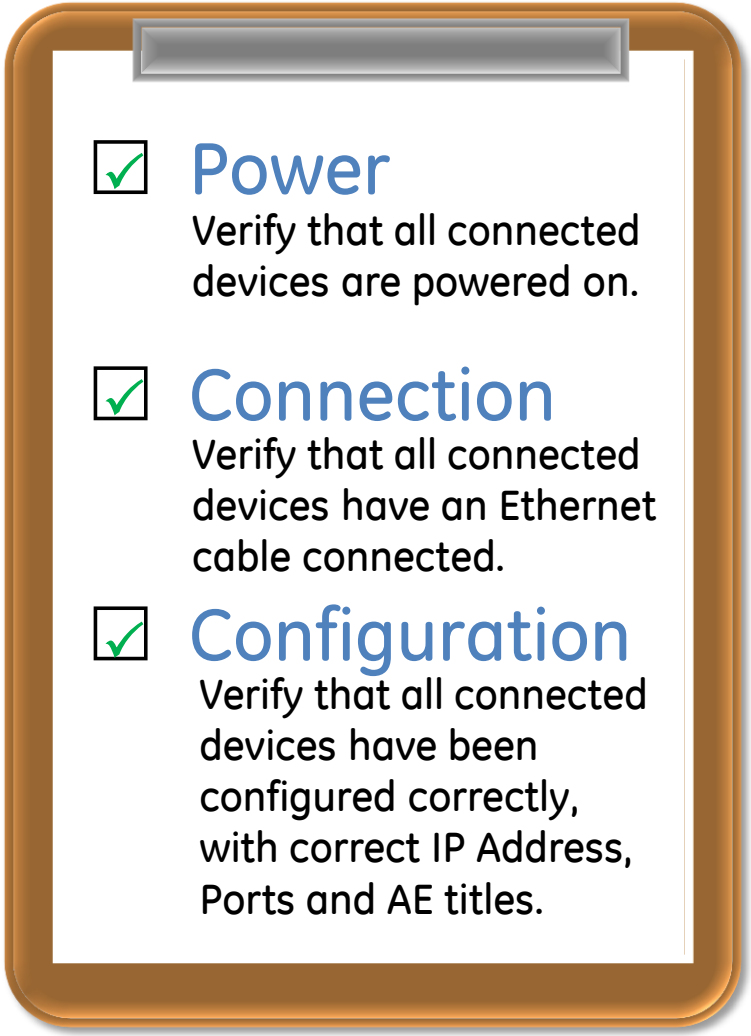
5.
Select «Add User»



6.
Verify that there is a User marked in red in the «Permanent Users» section. If not, activate the desired user in the list and select «Set Default Machine Contact»

Quick Aid

Checklist



Quick Aid

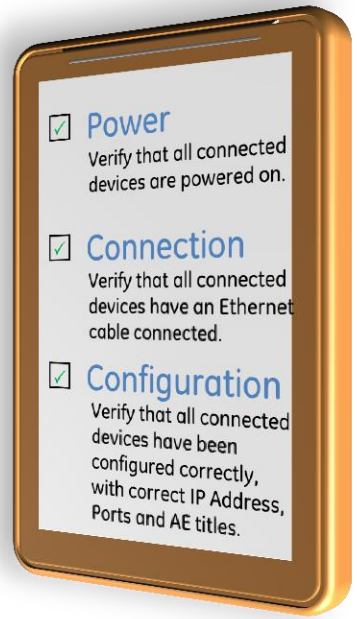
Troubleshooting Guide

Note!
Make sure to apply the GEHC Global Service Privacy and Security Standards to protect Sensitive Personal Information. (DOC1487129)

Network

Symptoms	Possible Causes	Possible Solutions
- Spooler full - Not able to export or import from a remote device - Not able to store images to a remote device - Timeout when connecting to a Remote Workflow - The Network Status icon shows the following status: 	- Network cable dis-connected, bad or loose - Hospital network down - Incorrect Network settings - Defective BEP	- Reseat Network cable - Replace Network cable - Verify TCP/IP settings in Connectivity page - Verify «Troubleshooting Remote Archive» and «Troubleshooting EchoPAC » sections - Contact Hospital IT for support
- Intermittent slowdown/ lockup/freeze - System halts/pausing - Erratic movements of Cine loops	- Unstable Network - Slow network - Reading data from a Remote device on a slow network	- Contact IT for support and monitor Network - Contact IT to verify network speed

Before performing advanced trouble-shooting, always assure that the following steps have been checked:

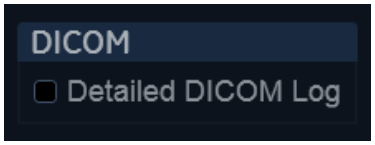


Regularly check the Network Status Icon at the lower left corner of the screen. When the Network Status Icon shows the following status :  The network connection is OK.

Quick Aid

Troubleshooting Guide

DICOM

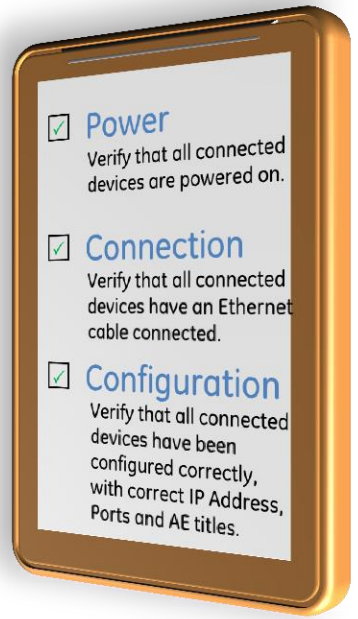


Detailed DICOM Log
Always enable this for DICOM related problems, this will add detail DICOM information to the errorlogs. Found in the **Connectivity** menu in the **Tcpip** tab

Note!
Make sure to apply the GEHC Global Service Privacy and Security Standards to protect Sensitive Personal Information. (DOC1487129)

Symptoms	Possible Causes	Possible Solutions
- System images update freezes/halting - Not able to export to a DICOM Server - Not able to store loops in DICOM - Timeout when connecting to DICOM Device - Not able to transfer measurements to a DICOM Device	- DICOM Spooler full - Incorrect DICOM connectivity settings - Incorrect Workflow used - Slow Network speed - Incorrect DICOM SR configuration	- Empty DICOM Spooler. - Verify that the DICOM Device IP address, Port nr. and AE Title are correct - Change to Correct DICOM Workflow - Adjust timeout in DICOM connectivity settings - Adjust DICOM SR settings for the DICOM Device
- Not able to load DICOM Image - Images are not stored correctly	- DICOM dir may be corrupt - Incorrect DICOM connectivity settings	- Perform a repair DICOM DIR - Verify that DICOM Image settings are correct

Before performing advanced trouble-shooting, always assure that the following steps have been checked:



Regularly check the Network Status Icon at the lower left corner of the screen. When the Network Status Icon shows the following status :  The network connection is OK.

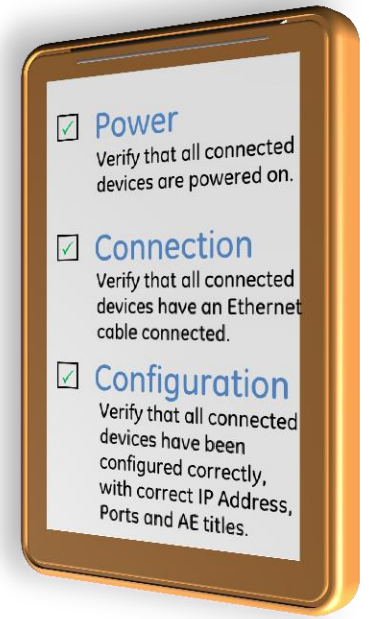
Quick Aid

Troubleshooting Guide

Printer

Symptoms	Possible Causes	Possible Solutions
- Unable to connect	- Network cable dis-connected or loose - Printer IP Settings are incorrect	- Reseat Network cable - Replace Network cable - Configure Printer with correct IP Address
- Reports not printing	- Wrong Printer selected - Printer Driver Corrupt - Printer defective	- Verify default printer is correct - Restore Printer Driver - Reload Software - Replace Printer
- Bad image printout	- Low Ink - Printer Heads	- Replace Ink Cartridges - Replace printer
- Report printout incorrect	- Printer Layout Settings are incorrect - Corrupt report templates - Corrupt Printer Driver - Defective Printer	- Verify and adjust Printer Layout settings - Redo the Report template - Restore Printer Driver - Reload Software - Replace Printer

Before performing advanced trouble-shooting, always assure that the following steps have been checked:



Regularly check the Network Status Icon at the lower left corner of the screen. When the Network Status Icon shows the following status :  The network connection is OK.

Quick Aid

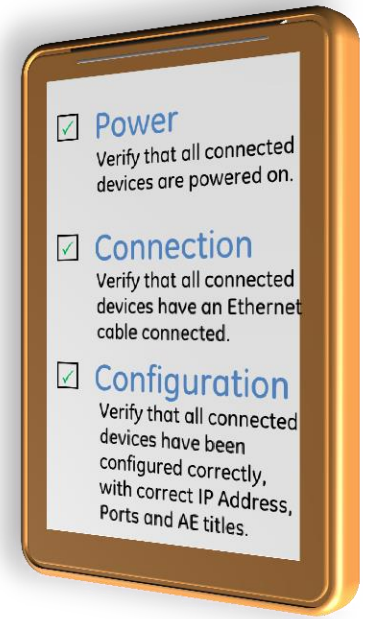
Troubleshooting Guide

Note!
Make sure to apply the GEHC Global Service Privacy and Security Standards to protect Sensitive Personal Information. (DOC1487129)

Archive

Symptoms	Possible Causes	Possible Solutions
- Database corrupt - «No Archive» - Can not access internal Archive - Unable to log on	- Database corrupt due to improper shutdown or sudden Power Loss	- If no images stored, back up user presets, reload SW - Contact Service
- Not Archiving	- Harddrive full	- Perform a Disk Management Move
- Not able to store to Remote Archive	- Network down - Incorrect Network settings	- Verify «Troubleshooting Remote Archive» and «Troubleshooting EchoPAC» sections
- Not able to store to DVD	- Incorrect CD/DVD disks used. DVD Drive defect	- For Image archiving use CD/DVD –R/–RW disks - Replace DVD drive

Before performing advanced trouble-shooting, always assure that the following steps have been checked:



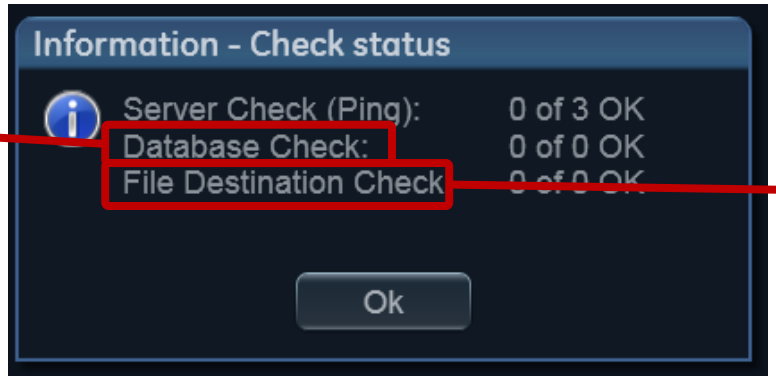
Regularly check the Network Status Icon at the lower left corner of the screen. When the Network Status Icon shows the following status :  The network connection is OK.

Quick Aid

Troubleshooting, Remote Archive

Note! EchoPAC sw version must be equal or higher than scanner sw version. ImageVault must be version 5.0.1.

Database Check: remote Sybase SQL Database of the EPPC/IV which listens for incoming Database traffic on TCP Port 2638.



File Destination Check: connection to the shared folder of the EPPC/IV which listens to TCP Port 445 for file Transfer (Image Files and Report Files).

Troubleshooting – Remote Archive

Database Check

Possible causes for failing:

- Remote Database not running.
- Too many DB connections - check "EchoShare" option on EPPC.
- Firewall closing inbound port 2638.
- Be sure you have compatible versions of EP or Image Vault software. EchoPAC must be at a version as high or higher than the version on the Vivid.

File Destination Check

Possible causes for failing:

- File and Printer Sharing is disabled on the Remote Archive.
- Shared Folder not properly shared for users EchoClient and E1c2h3o4C5l6i7e8n9t, make sure that "Simple File Sharing" is turned off on the Remote Archive.
- Firewall on Remote Archive preventing File Sharing (make sure that Firewall allows file sharing and inbound port 445).

Quick Aid

Troubleshooting, EchoPAC

1.
Refer to «Readme» file on the installation media for minimum requirements like supported operating system, memory requirements, display settings, supported graphic boards. EchoPAC SWO requires **Win7 32 bits (or 64 bits). Win 8** is ok. Resolution of minimum **900 (in height**). EchoPAC SWO requires **Direct3D Feature Level 11**. (Most graphics cards newer than 3 years old computer have this)

2.
The application must be installed with Administrator rights. Start EchoPAC SWO once with administrative rights after installation. If not, Local Archive will not work.

Note: On Windows 7 or newer: EchoPAC will not as default run with administrate rights even if user has administrative rights. To run EchoPAC with administrative rights: hold shift button, right-click on icon, select "Run As Administrator"

3.
Remote shared folder connectivity issues. Make sure that the share is not mapped on Windows level or disconnect all existing shares on Windows level and do a complete restart of Windows. Disable the "User Acount Control" UAC before the installation of EPPC SWO

4.
If the PC is a member of Domain, the Domain Administrator must join the PC to a Workgroup before EPPC SWO installation

5.
Also refer to section Troubleshooting - Remote Archive:

Quick Aid

Repair DICOM Dir

This process is useful when copying multiple DICOM images to a read/writeable media,
If the DICOMDIR file is missing or corrupted, the DICOM Images are unreadable

Select 

on the **Connectivity** tab to repair DICOMDIR

Select the appropriate USB Memorystick or RW CD/DVD, from the Media pulldown menu. If media do not show, select **Refresh** button

If no DICOMDIR was found the field DICOMDIR is set to **No**

Select the 

button, and verify a DICOMDIR file is created

Refresh screen by selecting 

Verify the field DICOMDIR has changed and is set to **Yes**

Quick Aid

Note! A corrupt archive may occur as a result of a improper or abnormal shut down.

Local Archive Database Corrupt

This process will guide you in creating a new empty local archive database, if the current database has been corrupted. A typical symptom of a corrupt Local Archive database is that you are not able to connect to **LocalArchive-Int.HD** dataflow.

- Use service dongle to log onto Windows on scanner.

- Stop the SQL Anywhere – LocalArchive10 service

- Move or rename the database files (.db, .dbs, .txt) from E:\Archive\LocalArchive (Images and reports are stored within Files folder)

- Restart system. An empty database will now be created.

Note! Ensure that the Patient Archive is backed up regulary to avoid loss of data