



SHOWCASE® Image Center Configuration

This quick guide describes how to configure the ShowCase Image Center to receive and store images from DICOM imaging devices (e.g. ultrasound machines) and how to configure Image Center to provide studies to local and remote ShowCase viewers.

Firewall and Network Settings

By default, the Image Center uses **port 104** for DICOM network traffic and **port 8080** for ShowCase Premier/Workstation and ShowCase Viewer for iPad access. These ports need to be open in your firewall. The Image Center computer should also be configured with a **static IP address**. Your imaging devices need this as well, as will your ShowCase viewer clients.

Default Configuration

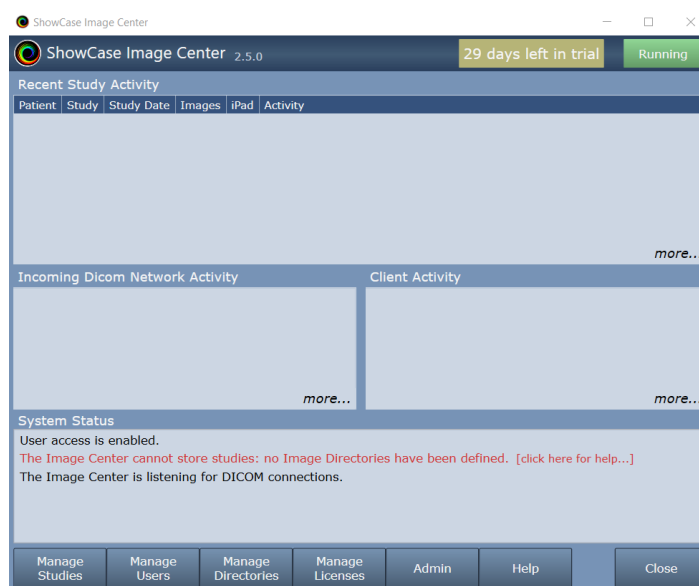
When first installed, the Image Center has default DICOM settings of **AE_Title = SHOWCASE_SCP**, **port=104**. There is a default user created using the Windows Login of the person logged into the machine when the installer was run. You must create an Image Directory to store images before sending studies to the Image Center. See Step 2 in this guide.

NOTE: The Image Center runs as several Windows Services in the background. The Image Center Console is used to monitor and configure the Image Center services and does not have to be running for the Image Center to work. You do not have to be logged in to your computer for the Image Center to run.

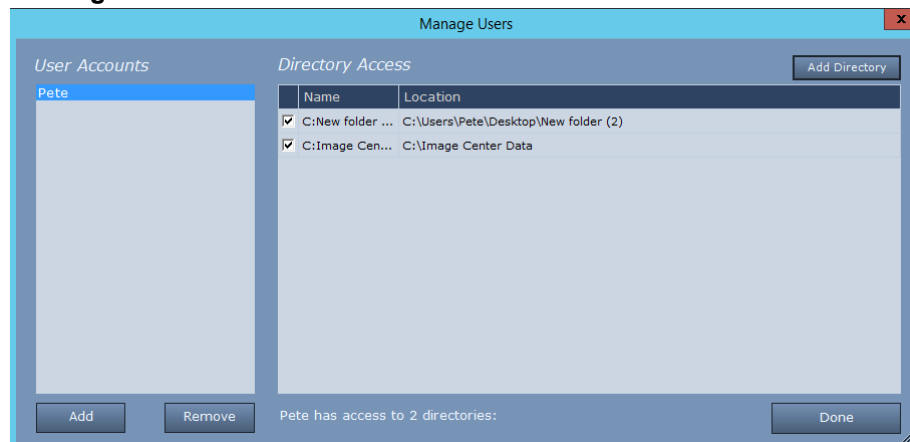
Step 1. Add Users to the Image Center

The Image Center uses Windows logins and passwords to control access to studies. Everyone who needs access to images must have a Windows login and password on the Image Center machine.

1. If needed, add Windows Logins to the computer where the Image Center is installed. Consult with your IT department how best to do this. Domains are supported.
2. Run the Image Center Console.



3. Click the **Manage Users** button at the bottom of the console.



4. Click on the **Add** button at the bottom of the User Accounts list.
5. An Add User dialog allows you to type in the Windows User Account name for each user who needs access to studies. After you enter the name, click **Add** or hit the **Enter** key. When you are finished adding users click on the **Done** button.

Users are displayed in the User Account list as you add them.



Step 2. Create an Image Directory

The Image Center stores your DICOM images and DICOM data in Image Directories. A single Image Directory can manage 200,000+ studies. This study data is vitally important to your practice. Most states require that you maintain an archive of this data for 7 years or more, so the choice of where and how you store your data is important.

This guide steps you through a simple Image Directory creation. We strongly recommend that you read the **Image Directory Creation and Maintenance** guide which goes into much greater detail.

Tips and Recommendations

- Purchase enough disk space to hold 5 years of studies.
- Set up offsite backup of your Image Directory using something like iDrive, Carbonite, etc.
- Put your Image Directories on quality hard drives, like a 5 year warranty WD Black or equivalent
- **DO NOT** delete or move files out of your Image Directory. This can result in loss of data.
- **DO NOT** set up an Image Directory on your C: drive or in Desktop folders.
- **DO NOT** attempt a 'small short term' Image Directory hand-copied to a 'larger long term' Image Directory.

Disk Space Requirements

The amount of storage you need depends on the number of studies you do and their size. An average ultrasound study takes up 150 MB of disk space. To budget five years of disk space, use the formula:

$$150 \text{ MB} \times (\# \text{ studies/day}) \times (250 \text{ working days/year}) \times (5 \text{ years}) = ? \text{ MB}$$

Example: Let's say you have 4 ultrasound machines doing 10 studies a day with average study size of 150MB:

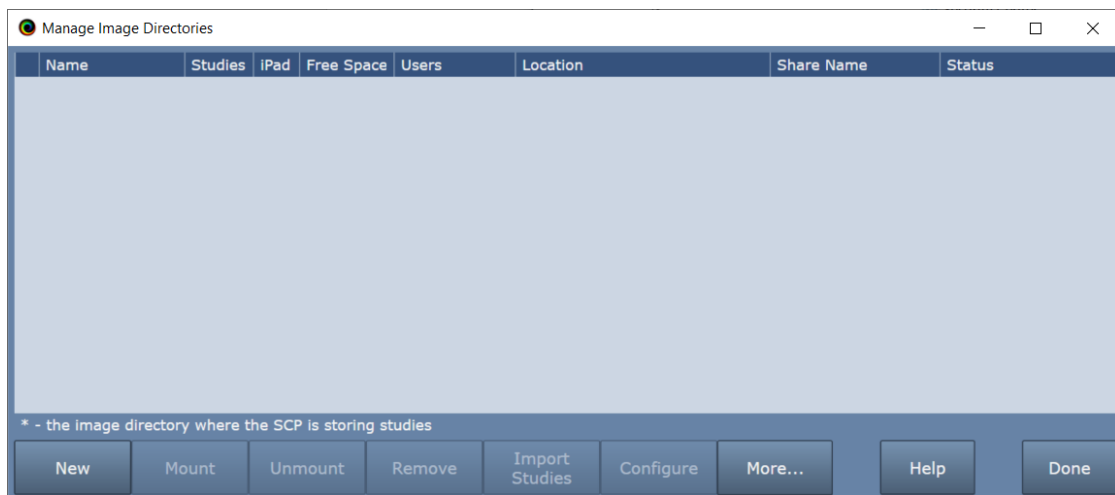
$$150 \text{ MB} \times 40 \text{ studies/day} \times 250 \text{ working days} \times 5 \text{ years} = 7,500,000 \text{ MB or } 7.5 \text{ Terabytes}$$

If you already have an archive in use, that's a great way to get real numbers. Don't forget to budget space for your existing archive *plus* the next 5 years.

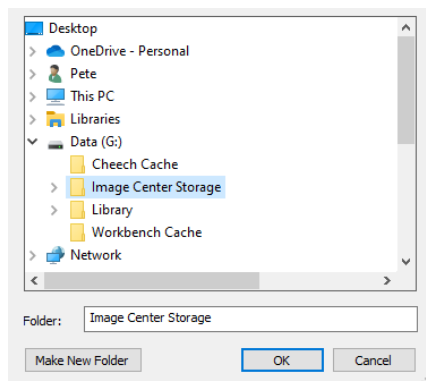
Creating An Image Directory

When the Image Center is first installed, it will be unable to store studies until you create an Image Directory for it.

1. Start the Image Center Console application.
2. Click the **Manage Directories** button. A dialog appears.



3. Click the **New...** button. A folder browser appears.

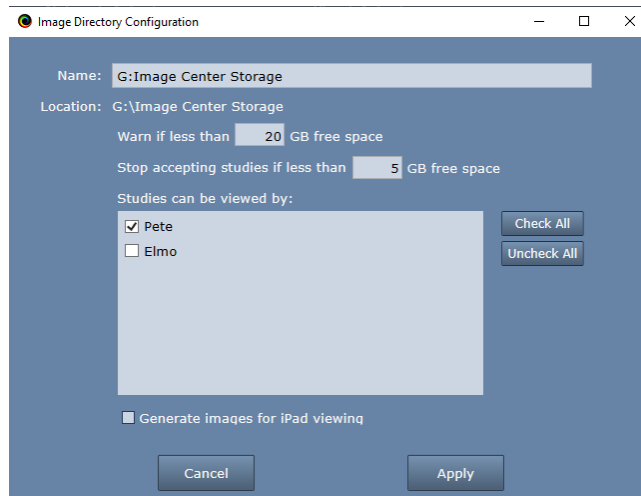


4. Select an empty folder (or click **Make New Folder**) on a disk that has plenty of disk space. If you want to set up Image Center to use a network share, enter the full UNC path name of the share in the **Folder:** text box, e.g. "\\25.66.165.65\Image Center Main Store" or "\\NAS34\Image Center

Main Store”. Please be sure to read the section “Setting up Image Directories on Network Shares” for more details on using network shares.

Note: Only create Image Directories in empty folders. Never try to place an Image Directory inside of another Image Directory. Do not attempt to create Image Directories on mounted drives, or other kinds of virtual drives that exist only when you are logged in.

5. Click OK. A Configuration screen appears:



6. Select the Users that will need access to this Image Directory.
7. Click **Apply**.

If you get a warning about the folder not being shared, you will need to manually share the Image Directory you just created so that ShowCase Premier and Workstation clients can access the studies. See the next sections.

Image Directories on Hard Drives

If you followed the instructions above and didn't get any warning dialogs, it's very likely your Image Directory is ready to go. But if you did get a 'sharing' warning, please read on.

Image Directories on Hard Drives Want to Be Shared

For ShowCase clients to access the studies managed by the Image Center, the Image Directories have to be shared. When you created the Image Directory, the software will try to share the folder for you, but if you saw a dialog saying it couldn't, then you're going to have to share the folder manually. Folder sharing is tied into the security practices of your clinic, so you should engage your IT support for this. Please let them know that they need to set the share to "Read" permission for the "Everyone" user.

Checking To See If the Folder Is Shared

To check and see if your folder is shared, look at the Image Center Manage Directories screen, under the **Share Name** column. If you see an entry in there, the folder is being shared.

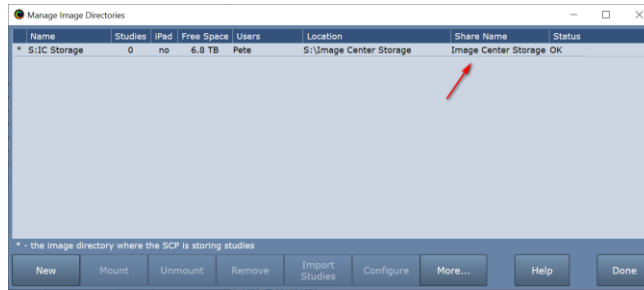


Image Directories on Network Shares (NAS)

Make sure you entered the full UNC pathname to the NAS share as was recommended in step 4 above.

The Image Center has two Windows Services that access Image Directories: the **ShowCase Image Center Service** and the **ShowCase Image Center Web Service**. For the Image Center to use network shares, these two services must have full read/write/create permission for the network share. One way to accomplish this is to configure the services to use login credentials that have full access permissions to those shares.

1. Open the Windows Services dialog
2. Right click on the ShowCase Image Center Service and select Properties
3. Click on the Log On tab
4. Select the "This account:" option and enter an account name and password. You may need to Browse to get the exact name for the account you want to use. Make sure this account has full access to the folder share.
5. Stop and Start the ShowCase Image Center Service
6. Repeat this procedure for the ShowCase Image Center Web Service.

These steps may vary, depending on the Windows operating system you are using. This is only one way to approach providing proper access to the network shares for the Image Center's Windows Services. Your IT policies may dictate another.

You will also need to make sure that your ShowCase viewer clients have at least read access to the network share. If you have problems with this, see the "Image Center Sharing Enabled Troubleshooting" guide.

Warning: Image Directories are managed solely by the Image Center. **Do not** move, delete, or modify the files stored in an Image Directory, or you may lose all access to your studies or even experience permanent loss of your study data. **Do not** "Browse" to an Image Directory using ShowCase; Instead, configure access through the ShowCase Settings in the ShowCase Edit menu. **Do not** move an image directory without following the instructions outlined in the *Image Directory Creation and Maintenance* guide, available on <http://www.triltech.com/documents.html>.

Step 3. Configure Settings for Incoming Studies (SCP Settings)

1. On the main Image Center console window click **Admin**. The DICOM settings are in the Incoming Studies portion of the dialog:

Incoming Studies (DICOM SCP)

DICOM AE Title: SHOWCASE_SCP

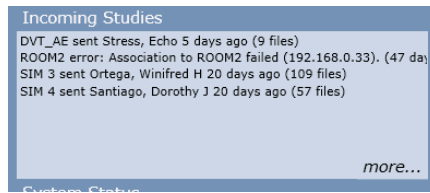
DICOM Listening Port: 104

Store Images To: C:\Image Center Data

2. Set the AE Title and DICOM port as needed, or leave the default SHOWCASE_SCP / port 104.
3. Select the Image Directory where studies should be saved.

Test your DICOM configuration

1. Close the Admin dialog.
2. Configure an ultrasound machine to send to the Image Center.
3. Send a study. If it is successful, you will see activity in the Incoming Studies window on the main console:



You will also see the study in the Recent Study Activity window on the main console:

Recent Study Activity					
Patient	Study	Study Date	Images	iPad	Activity
M-MODE		6/6/2009 7:14:24 AM	13	0	sent from ROOM2
PW/CW DOPPLER		6/6/2009 6:52:44 AM	36	0	sent from ROOM2
COMPLETE, ECHO M MR III	Echo Study	8/23/2005 7:28:02 AM	10	0	sent from ROOM2
COMPLETE, GYN M MS III	OB/GYN Study	8/19/2005 8:02:55 AM	6	0	sent from ROOM2
ECHO, PHILIPS HD15		3/30/2009 5:15:49 AM	47	0	sent from ROOM2

4. If it is not successful, check your firewall settings and your ultrasound machine settings. If that does not solve the problem, please see the *Image Center Study Transfer Troubleshooting* guide for detailed instructions for diagnosing your problem.

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