



Merge PACS Workstation Client
Installation & “Get Started” User Guide

Merge PACS v6.4.2

Version 0.2

Document Purpose

The purpose of this document is to outline how to install the Merge PACS Workstation client application and how to “get started” with using this application to view patient reports and view and manipulate medical images.

Table of Contents

1.	General Information	4
1.1	Merge PACS	4
1.2	Merge PACS Workstation Client.	4
1.2.1	Merge Welcome window (only present if logged in via Internet Explorer)	4
1.2.2	Merge Browser (Query Search / Patient Record window)	4
1.2.3	Merge Halo Viewer window	4
2.	Pre-installation Prerequisite Checks & Specifications	5
2.1	Merge PACS - Server & Workstation Version	5
2.2	Computer Operating Systems	5
2.2.1	Windows “PCs” only	5
2.2.2	Apple OS X is not supported	5
2.3	PC System Requirements	5
2.4	PC Access to the Internet	5
2.5	PC Supported Web Browser – Internet Explorer only	5
2.6	PC Antivirus	5
2.7	PC User Permissions Requirements for Installation Only – Local Administrator	5
2.8	PC Windows Firewall Requirements	5
2.9	IE - Internet Options - Security - Trusted Sites	6
2.10	IE - Internet Options – Advanced (Temporary change)	6
2.11	Merge PACS Login	6
2.12	Radiology Provider’s Merge PACS server address	6
2.13	Radiology Provider’s Merge PACS Workstation MSI Installer Package Software	6
2.14	PC Java Requirements	7
2.14.1	What is Java?	7
2.14.2	Java Versions – Check which versions are installed on your PC	7
2.14.3	Supported Java Versions for Merge PACS Workstation 6.4.2	7
2.14.4	Unsupported Java Versions for Merge PACS Workstation 6.4.2	7
2.14.5	Merge PACS Workstation Java Auto-Install	7
2.14.6	Turn off Java Updates	7
2.14.7	Java website help – Top 14 Java Issues	7
3.	Workstation Client Installation Options - 2 ways to install	8
3.1	Method 1: Download over the internet	8
3.2	Method 2: Use software provided on a USB or CD	8
4.	Installation “Over the Internet” (Method 1)	8
4.1	Prerequisite checks and specifications	8
4.2	Internet Explorer Browser Window	8
4.3	Log in to Merge PACS Workstation	8
4.4	Auto-download & install Java	8
4.5	Install the Merge PACS Workstation	9
4.6	Test – Search for and launch an image study	9
4.7	Close windows and logout	9

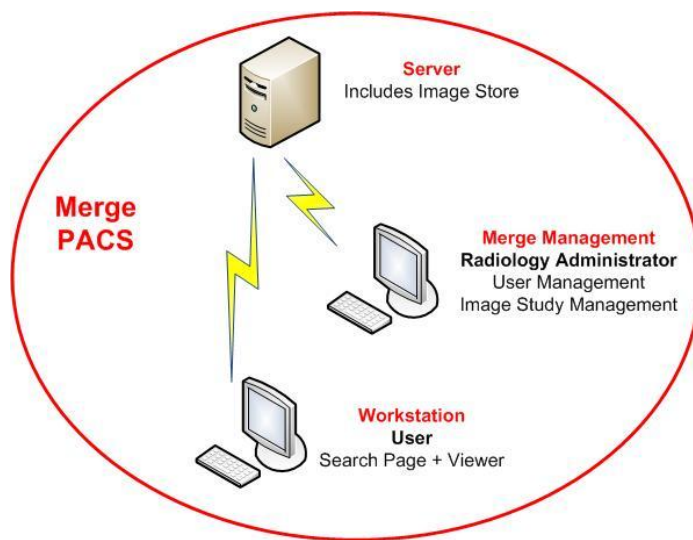
5.	Installation Using the “Installer Package”	10
5.1	Prerequisite checks and specifications	10
5.2	Locate the Windows Installer Package	10
5.3	Install the Merge PACS Workstation	10
5.4	Test – Launch from desktop icon	12
5.5	Test – Merge PACS Login	12
5.6	Test - Search for and launch an image study	12
5.7	Close windows	12
6.	Uninstallation of the MPACS Workstation Client – Correct Procedure	13
6.1	Close ALL open windows	13
6.2	Start > Control Panel > Programs & Features	13
6.3	Right-click on bottom Taskbar > Start task Manager	13
6.4	Start > Computer > Local Disk (C:) > Program Files	13
6.5	Start > Computer > Local Disk (C:) > Program Files (x86)	13
7.	Merge PACS Workstation “Get Started” User Guide	14
7.1	Self-Help!	14
7.2	Launch the Login window & Log in	14
7.2.1	Via Desktop Icon – only if installed via Windows Installer Package	14
7.2.2	Via Internet Explorer – if installed via Windows Installer Package or over the Internet	15
7.3	Merge PACS Workstation - Browser - Menu options	15
7.3.1	Query Search	15
7.3.2	Patient Record	15
7.3.3	Recently Viewed	15
7.4	Merge PACS Workstation - Query Search	16
7.4.1	Search for and launch an image study	16
7.5	Merge PACS Workstation - Query Search - View Reports	16
7.5.1	Validated Report available	16
7.5.2	Validated Report not yet available	16
7.6	Merge PACS Workstation - Query Search - Add/Remove Columns	16
7.7	Merge PACS Workstation - Query Search - Launch Patient Image Study	16
7.8	Merge PACS Workstation - Halo Viewer	17
7.8.1	Parts & Names for reference	17
7.8.2	Top Toolbar - Icon size optimisation	17
7.8.3	Top Toolbar - Tool Icon Options	18
7.8.4	Menu Options – Right-click anywhere/everywhere	18
7.8.5	Priors - ‘Load Comparison Study’ / ‘Pick Study’	18
7.8.6	Return to original single study view	19
7.8.7	Priors - ‘Pick Series’	19
7.8.8	Viewer Keyboard Shortcuts	19
8.	Document History	20

1. General Information

If a radiology provider has a **Merge PACS** server to manage their digital images, then a “user” (eg a radiologist or radiology referrer) needs to install the **Merge PACS Workstation client** in order to be able to be able to search for and view and manipulate radiology images on their Windows PC.

1.1 Merge PACS

- PACS is an acronym for Picture Archiving and Communications System which is a radiology system used to store, retrieve, distribute, analyse, and digitally process medical images
- **Merge PACS** is a client-server PACS system owned and user-supported by a radiology provider
- Merge PACS from **Merge Healthcare** is supplied by and the radiology provider is supported by **Comrad Medical Systems** in Australia and New Zealand
- The system and the parts of it are sometimes referred to as “**MPACS**”



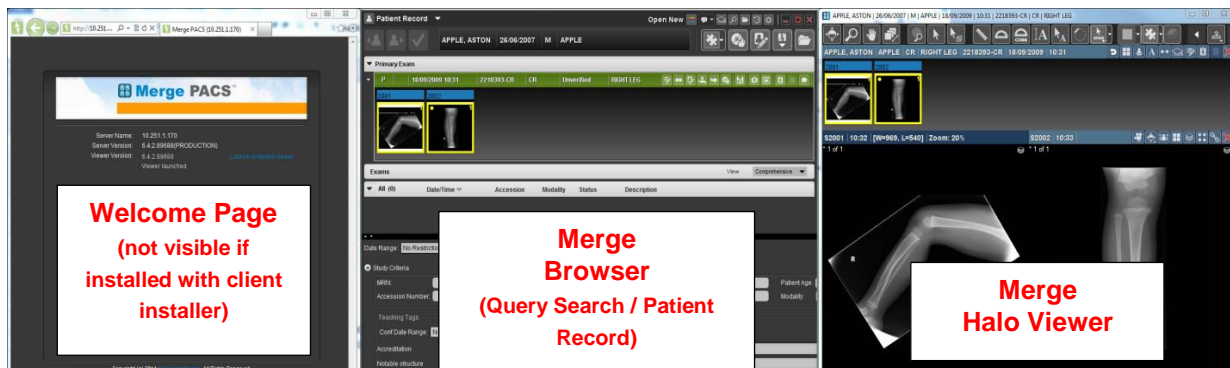
1.2 Merge PACS Workstation Client.

This “medical image viewer” application is called “**Merge PACS Workstation**” and is composed of 2 or 3 parts:

1.2.1 *Merge Welcome window (only present if logged in via Internet Explorer)*

1.2.2 *Merge Browser (Query Search / Patient Record window)*

1.2.3 *Merge Halo Viewer window*



2. Pre-installation Prerequisite Checks & Specifications

For the MPACS Workstation client installation to be successful, please ensure all parts of the “environment” support requirements are checked.

2.1 Merge PACS - Server & Workstation Version

- This guide is specifically for Merge PACS Server and Workstation application version 6.4.2

2.2 Computer Operating Systems

2.2.1 Windows “PCs” only

- The Merge PACS Workstation is supported only on a Windows PC
 - Windows XP Professional
 - Windows Vista Business
 - Windows 7 (32- and 64-bit)

2.2.2 Apple OS X is not supported

- Merge PACS Workstation is not supported on any Apple (“Macs”) OS X

2.3 PC System Requirements

- **# of CPUs:** 2 x Quad Core Processors
 - This is the vendor recommendation for a fully functioning Radiologist system
 - For a non-Radiologist system, 1x Quad Core Processor is most probably adequate
- **CPU Clock Speed:** 2.66 GHz or higher
- **RAM:** 4GB for 32-bit OS, 8GB for 64-bit OS

2.4 PC Access to the Internet

- The PC must have access to the Internet

2.5 PC Supported Web Browser – Internet Explorer only

- The only supported internet browser is Internet Explorer (IE)
- Only IE 7 and IE 8
- Note that, although unsupported, the Merge PACS Workstation seems to operate successfully with IE 9 and IE 10

2.6 PC Antivirus

Whether the PC has anti-virus installed, or not, is the choice of the user. If anti-virus is installed and “turned on” then

- Temporarily “turn off” to install the Merge PACS Workstation
- “Turn on” again after installation
- Note that depending on your anti-virus and environment configuration, you may need to add the Merge PACS URL to the “exceptions”

2.7 PC User Permissions Requirements for Installation Only – Local Administrator

- The user installing the software needs to be logged into the PC as a “Local Administrator”

2.8 PC Windows Firewall Requirements

If the Windows Firewall is “on” then

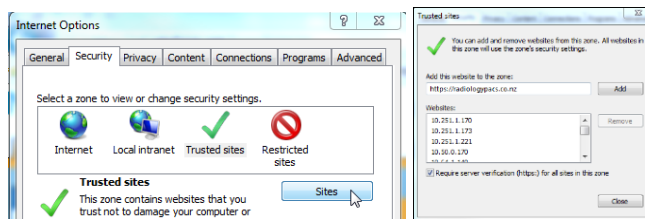
- Temporarily “turn off” to install the Merge PACS Workstation
- “Turn on” again after installation

2.9 IE - Internet Options - Security - Trusted Sites

The URL of the PACS server needs to be added to the Internet Explorer “Trusted Sites”

Go to Internet Options > Security

- Select **Trusted Sites**
- Select the **Sites** button
- Tick/un-tick “https” (depending on the Radiology PACS URL)
- Enter the PACS URL (website address)
- Add
- Close the window
- Close all Internet Explorer browsers (to save the changes)



2.10 IE - Internet Options – Advanced (Temporary change)

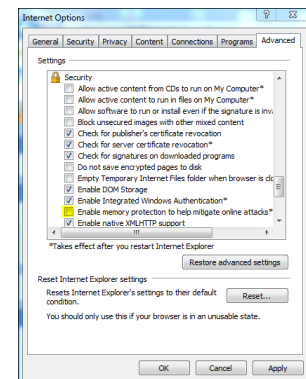
This temporary option disabling is **ONLY** required if there were issues installing the workstation without disabling this option... this change is not necessary in most environments.

Go to Internet Options > Advanced

- Un-tick "Enable Memory Protection to help mitigate online attacks"
- Apply
- OK
- Close the window
- Close all Internet Explorer browsers (to save the changes)

Attempt installation – **then please enable** this option again

If this option is “greyed out” then please check with the user’s IT that the user is a “Local Administrator” and also whether there may be any “Domain Restrictions”.



2.11 Merge PACS Login

- The person downloading, installing and using the Merge PACS Workstation needs a valid **User name and Password**

2.12 Radiology Provider’s Merge PACS server address

- The person downloading, installing and using the Merge PACS Workstation needs to know the **URL of the Radiology Provider’s Merge PACS**

2.13 Radiology Provider’s Merge PACS Workstation MSI Installer Package Software

- The person installing and using the Merge PACS Workstation with the MSI Installer package needs **access to the software** on a USB, CD or local or shared drive

2.14 PC Java Requirements


Merge PACS Workstation is a Java-based application. As with any Java-based software applications, there are specific requirements for supported and unsupported installed Java versions.

2.14.1 What is Java?

- Java is a programming language and computer platform without which lots of applications and websites will not work
- Developed by the company Oracle
- Oracle controls the release of new Java versions

2.14.2 Java Versions – Check which versions are installed on your PC

- Go to **Start > Control Panel > Programs & Features**

 Java(TM) 6 Update 7	Sun Microsystems, Inc.	18/11/2013	163 MB	1.6.0.70
---	------------------------	------------	--------	----------

2.14.3 Supported Java Versions for Merge PACS Workstation 6.4.2

- **Java 1.5 to Java 7 update 20 (inclusive)**

2.14.4 Unsupported Java Versions for Merge PACS Workstation 6.4.2

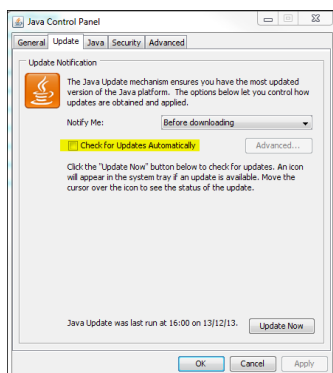
- **Java 7 update 21 or later (inclusive)**
- Uninstall any unsupported versions of Java on your PC

2.14.5 Merge PACS Workstation Java Auto-Install

- Note that if no version of Java is currently installed, Java 1.6.0.7 (Java 6 Update 7) will be automatically installed when the Merge PACS Workstation Welcome Screen is first accessed

2.14.6 Turn off Java Updates

- It is a good idea to stop any automatic installation of unsupported Java versions
- Go to **Start > Control panel > Java**
- Un-tick the “Check for Updates Automatically”



- OK
- Close window

2.14.7 Java website help – Top 14 Java Issues

- <http://java.com/en/download/help/index.xml>

3. Workstation Client Installation Options - 2 ways to install

The workstation client software can be installed in two ways; the best way of which will depend on the [restrictions of] the local environment. The two ways to install this viewing software are described as follows.

3.1 Method 1: Download over the internet

- This is the most simple option
- The PC's Internet Explorer browser address is pointed to the radiology provider's Merge PACS URL and the workstation software is "downloaded" over the internet (see section below for details)

3.2 Method 2: Use software provided on a USB or CD

- This method is used if there are problems with installing using Method 1
- The radiology provider supplies a mobile storage device (eg USB or CD) with the workstation software stored on it in the form of a Windows Installer installation package or "MSI" file (see section below for details)

4. Installation "Over the Internet" (Method 1)

4.1 Prerequisite checks and specifications

- Ensure all requirements and checks are met

4.2 Internet Explorer Browser Window

- Open an IE browser window
- In address bar, type in URL to radiology provider's PACS
- Enter
- The Merge PACS Workstation Login window appears



4.3 Log in to Merge PACS Workstation

- Login Name
- Password
- Login
- The "Welcome Page" appears

If the Merge PACS Workstation is already installed on this PC

- It will launch.

4.4 Auto-download & install Java

If a supported version of Java is not installed, and, there is no unsupported Java version detected, then

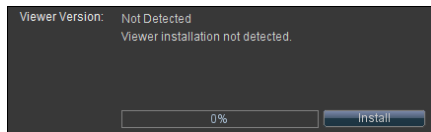
- Java 6 Update 7 will be installed

If the "Viewer Version:" shows "Not Detected"

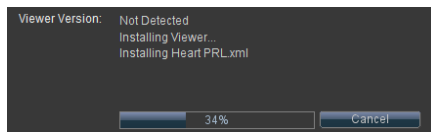
- Then proceed to install

4.5 Install the Merge PACS Workstation

- Select the “Install” button (*be careful not to select the “3rd Party Software: Click here to install”*)



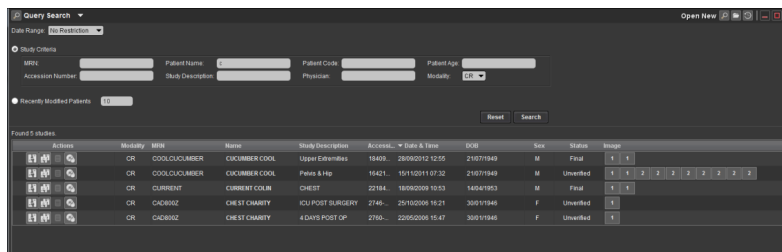
- Watch the progress bar



When the progress bar reaches 100%, the **Merge PACS Browser** window will launch.

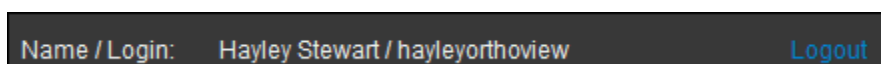
4.6 Test – Search for and launch an image study

- Set “Date Range”
- Set “Study Criteria”
- Select the “Search” button
- Click on the “**patient’s name**” in the study line to launch the Halo Viewer



4.7 Close windows and logout

- Close the “Halo Viewer” window
- Close “Browser” window (“Query Search” window)
- On the “Welcome Page”, click the “Logout” button



5. Installation Using the “Installer Package”

5.1 Prerequisite checks and specifications

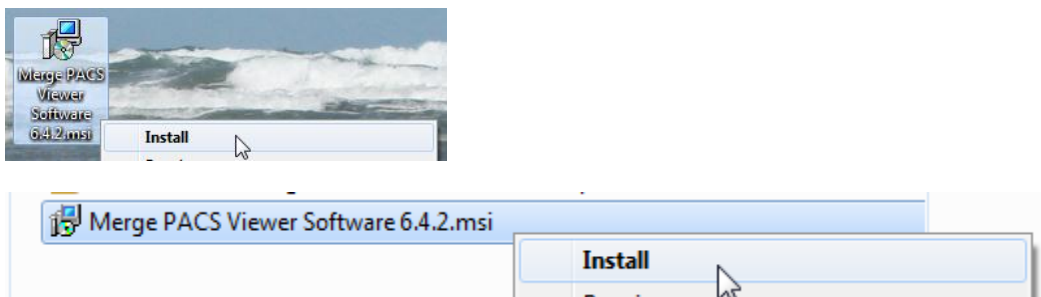
- Ensure all requirements and checks are met

5.2 Locate the Windows Installer Package

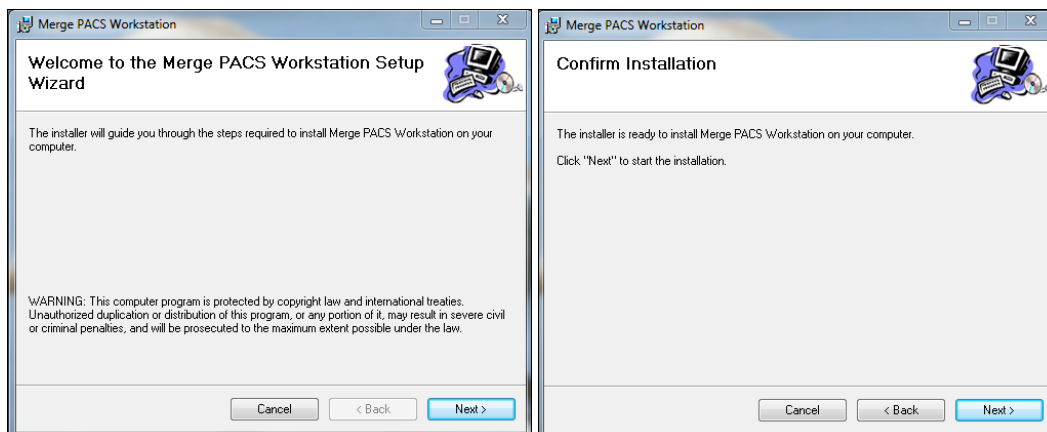
- On the PC, **locate the Windows Installer package**, whether it is stored on a USB, CD, in a local folder or on the desktop
- If the software is not stored locally, but on a shared drive, then first copy it to the local PC

5.3 Install the Merge PACS Workstation

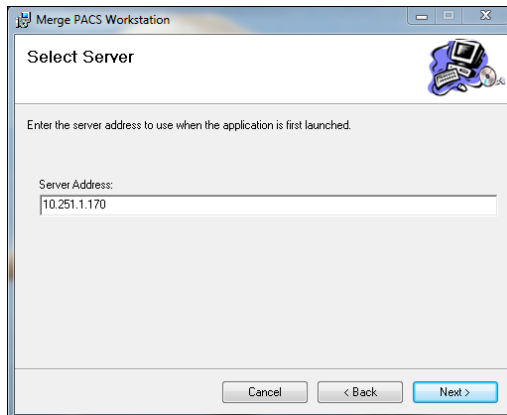
- **Right-click on the file** (wherever it is located) and select “**Install**”



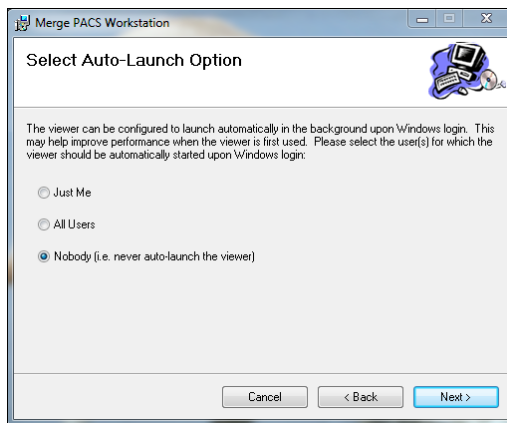
- The “**Merge PACS Workstation Setup Wizard**” will launch
- Follow the Wizard steps – select “**Next**” on each window below



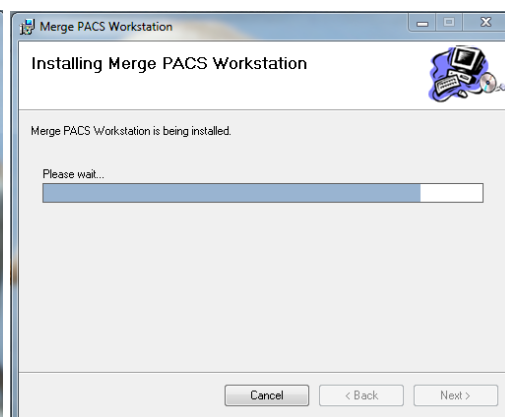
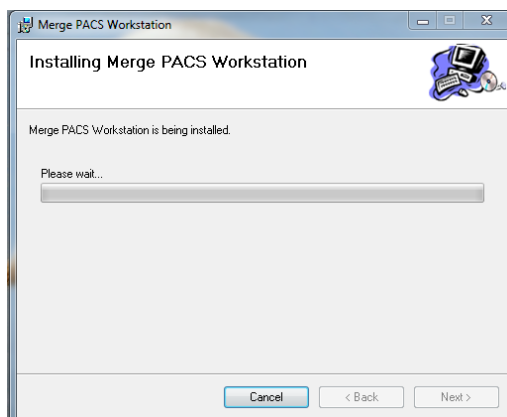
- Type the radiology provider’s Merge PACS server address
 - For example “smartradiology.pacs.co.nz” or “192.168.XXX.XXX”
 - It is **NOT** necessary to add http:// or https://
- Select “**Next**”



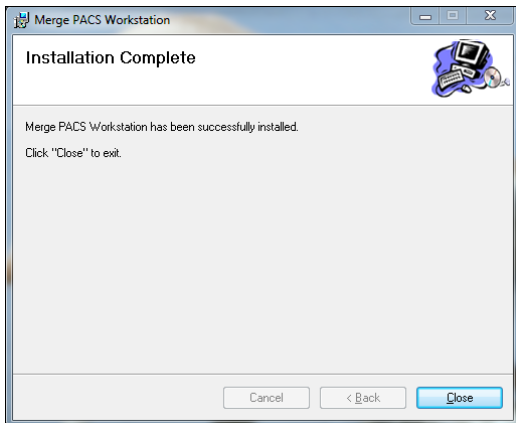
- Select **"Nobody (ie never auto-launch the viewer)"**
- Select **"Next"**



- **Wait!** (this bit may take a few minutes)

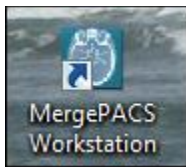


- When the **“Installation Complete”** window appears, the installation is finished
- Select **“Close”** to exit



5.4 Test – Launch from desktop icon

- Locate the **desktop icon**
- Double-click to launch the **Merge PACS Login**



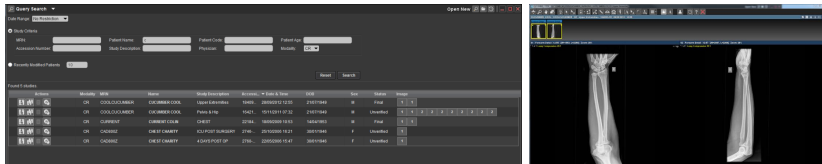
5.5 Test – Merge PACS Login

- **Select the server** from drop-list
- Tick the **“Use HTTPS”** if required (the radiology provider will tell you if the access is via https)
- Type **“Login name”**
- Type **“Password”**
- Click the **“Login”** button

The **Merge PACS Workstation Browser** (“**Query Search**” window) will launch

5.6 Test - Search for and launch an image study

- Set **“Date Range”**
- Set **“Study Criteria”**
- Select the **“Search”** button
- Click on the **“patient’s name”** in the study line to launch the Halo Viewer



5.7 Close windows

- Close the “**Halo Viewer**” window
- Close “**Browser**” window (“**Query Search**” window)

6. Uninstallation of the MPACS Workstation Client – Correct Procedure

The “uninstallation” of the Merge PACS Workstation Client is different depending on which method was used to install the Workstation client.

Follow **ALL of the steps below**. This will ensure FULL uninstallation of ALL files. Note that all steps may not be necessary.... *but please check them all.*

6.1 Close ALL open windows

- **Close** all Merge PACS windows
- **Close** all Internet Explorer open browsers

6.2 Start > Control Panel > Programs & Features

- If the Workstation software was installed via the MSI installer package, the program will be listed as installed
- Highlight the **Merge PACS Workstation**
- **Uninstall** the Program

6.3 Right-click on bottom Taskbar > Start task Manager

- Select the **Processes** tab
- If any of the following processes are still running, then **highlight** and “**End process**”
 - aViewer service
 - aRmiRegistry.exe
 - aStudyCacheMgr.exe
 - a3DServer.exe

6.4 Start > Computer > Local Disk (C:) > Program Files

- If the **AMICAS** or **Amicas** folder is there, then delete this folder (and all of its contents)

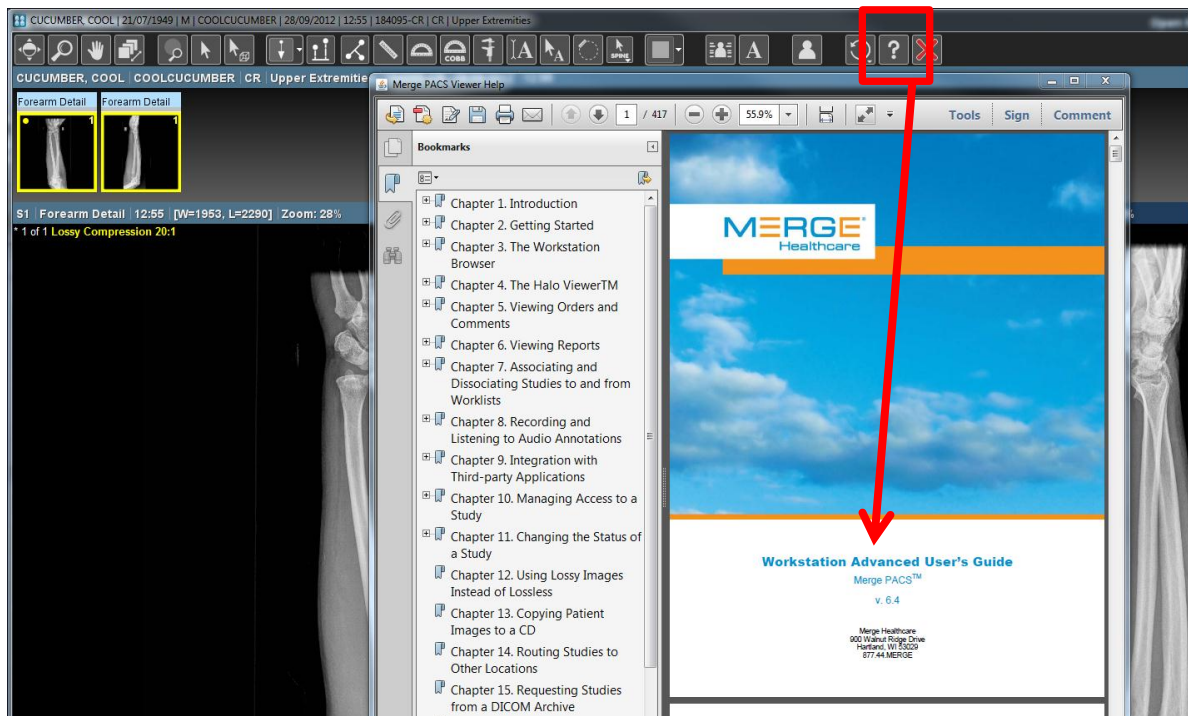
6.5 Start > Computer > Local Disk (C:) > Program Files (x86)

- If the **AMICAS** or **Amicas** folder is there, then delete this folder (and all of its contents)

7. Merge PACS Workstation “Get Started” User Guide

7.1 Self-Help!

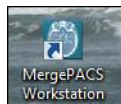
- Either, refer to a **PDF** file of the “**Merge Healthcare Advanced User’s Guide**” (ask your radiology provider for a copy – note that this file is 13.4 MB and 417 pages – probably too large to email)
- Or, select the “?” (**Help**) button on the top tool bar to launch the “**Merge Healthcare Advanced User’s Guide**”



7.2 Launch the Login window & Log in

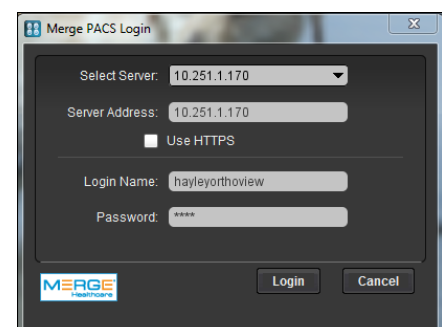
7.2.1 Via Desktop Icon – only if installed via Windows Installer Package

- Locate the **desktop icon**



- Double-click to launch the **Merge PACS Login**

- **Select the server** from drop-list
- Tick the “**Use HTTPS**” if required (the radiology provider will tell you if the access is via https)
- Type “**Login name**”
- Type “**Password**”
- Click the “**Login**” button

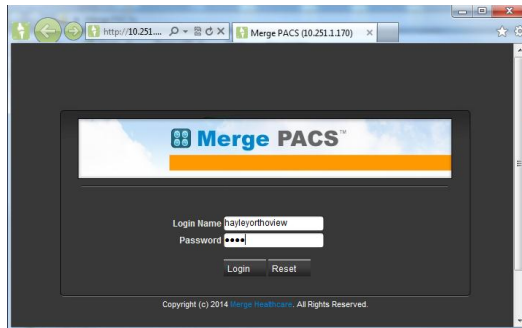


The **Merge PACS Workstation Browser** (“**Query Search**” window) will launch.

7.2.2 Via Internet Explorer – if installed via Windows Installer Package or over the Internet

- Either, open an **Internet Explorer** window
 - Type the **radiology provider's "PACS" address** in the browser address bar and "Enter"
- Or, open an **Internet Explorer** window
 - Select a **"Saved Favourite"**
- Or, select a **"Saved IE Shortcut"** from your desktop
- Or, click on a **"Link"** on the radiology provider's website

The Merge PACS web browser Login page will launch.



- Type **"Login name"**
- Type **"Password"**
- Click the **"Login"** button

The **Merge PACS Workstation Browser ("Query Search" window)** will launch.

7.3 Merge PACS Workstation - Browser - Menu options



7.3.1 Query Search

- Find any images saved in PACS, tag studies, burn CDs

7.3.2 Patient Record

- Shows thumbnails of displayed study, list and launch prior image studies, burn CDs

7.3.3 Recently Viewed

- List and launch image studies recently opened



Opening the windows from the **drop-list at the top left** will **replace the current window** with the new selection.

Opening the windows from the **icons at the top right** will open **new windows**.

7.4 Merge PACS Workstation - Query Search

7.4.1 Search for and launch an image study

- Set “**Date Range**”
- Set “**Study Criteria**”
- Use a “**wildcard**” (the * asterisk) if required
- Select the “**Search**” button to return the search results

7.5 Merge PACS Workstation - Query Search - View Reports

7.5.1 Validated Report available



- Click on **active Report** icon

7.5.2 Validated Report not yet available



The Report is not yet ready to view

☐ Select
 ☒ Actions
 ☒ Name
 ☒ MRN
 ☒ DOB
 ☒ Sex
 ☒ Date & Time
 ☒ Study Description
 ☒ Modality
 ☒ Accession Number
 ☒ Status
 ☐ Station
 ☐ Institution
 ☐ Reading Physician
 ☐ Referring Physician
 ☒ Image
 ☐ Patient Age

7.6 Merge PACS Workstation - Query Search - Add/Remove Columns

- Right-click on the **column heading bar**
- **Select** or **De-select** the column

7.7 Merge PACS Workstation - Query Search - Launch Patient Image Study

- As you move your cursor over the column items in the patient row, the mouse-cursor changes to a “**hand**” when the field can be selected
- Click on the “**patient’s name**” in the study line to launch the Halo Viewer

Query Search

Open New

Date Range: No Restriction

Study Criteria

MRN

Patient Name

Patient Code

Patient Age

Accession Number

Study Description

Physician

Modality

CR

Recently Modified Patients

Reset

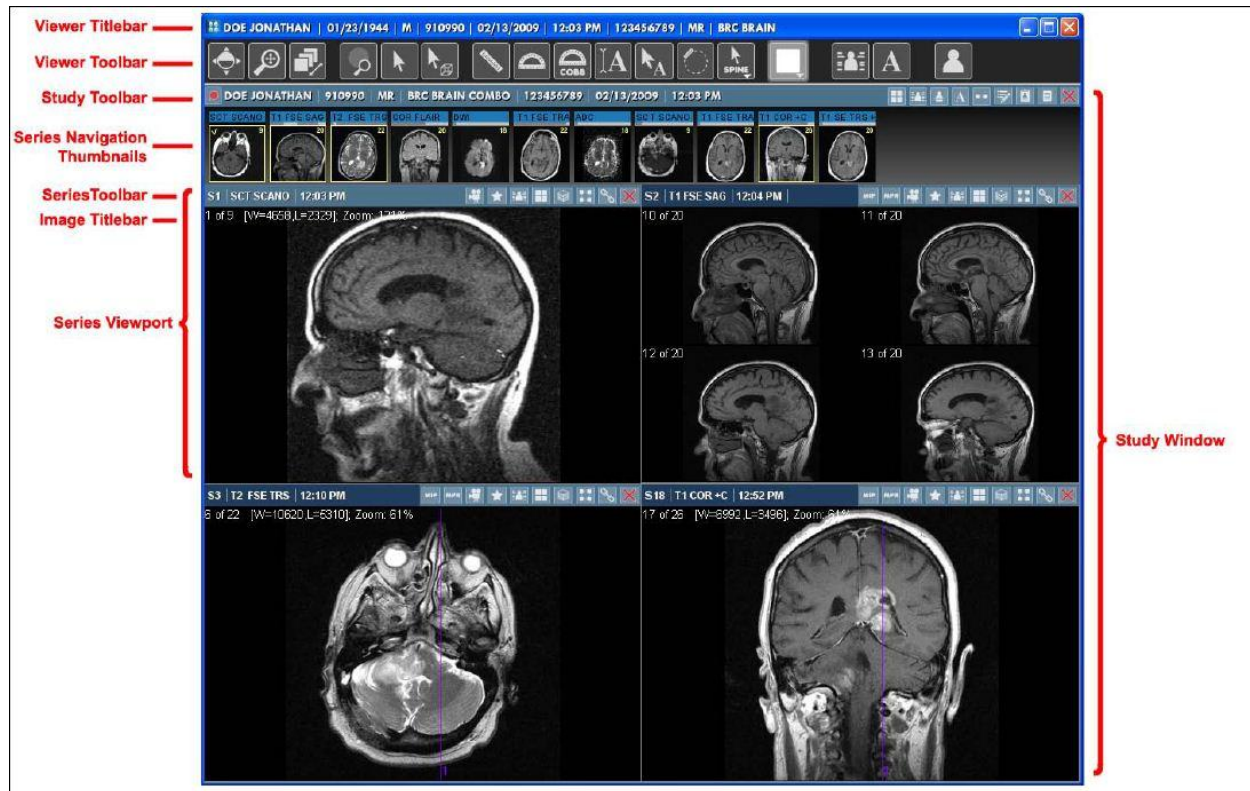
Search

Found 5 studies.

Actions	Modality	MRN	Name	Study Description	Access...	Date & Time	DOB	Sex	Status	Image
	CR	COOLCUCUMBER	CUCUMBER COOL	Upper Extremities	18409...	28/09/2012 12:55	21/07/1949	M	Final	1 1
	CR	COOLCUCUMBER	CUCUMBER COOL	Pelvis & Hip	16421...	15/11/2011 07:32	21/07/1949	M	Unverified	1 1 2 2 2 2 2 2 2 2
	CR	CURRENT	CURRENT COLIN	CHEST	22184...	18/09/2009 10:53	14/04/1953	M	Final	1 1
	CR	CAD8002	CHEST CHARITY	ICU POST SURGERY	2746...	25/10/2006 16:21	30/01/1946	F	Unverified	1
	CR	CAD8002	CHEST CHARITY	4 DAYS POST OP	2760...	22/05/2006 15:47	30/01/1946	F	Unverified	1

7.8 Merge PACS Workstation - Halo Viewer

7.8.1 Parts & Names for reference



7.8.2 Top Toolbar - Icon size optimisation

In order to see all options on the toolbar, the **viewer icon size** needs to be **small enough that all options can be viewed**. The toolbar icons are not 'wrapped' and there is no 'arrow' (or similar) to view those that are 'off the page'.

To set the viewer icon size:

- **Right-click-and-hold** anywhere on viewer to see **right-mouse menu**
- Select **'User Preferences'**
 - **'User Interface Options'**
 - **'Viewer Icon Size'**

Select the size that suits your viewer resolution from **'Largest, Large, Medium, Small, Smallest'**

Icon size too large (cannot see the "red X" on the far right):



Icon size good:



7.8.3 Top Toolbar - Tool Icon Options

To view the list of options for the MP Halo Viewer top toolbar icon buttons:

- **Right-click** on the Halo Viewer top toolbar
- **Select** or **deselect** an item

7.8.4 Menu Options – Right-click anywhere/everywhere

The availability of the various sub-menus will depend on how your system is set up and what your login privileges are. So your menu items may not match those in the user guide or those of a colleague.

Note: Each time you select/deselect, the menu disappears. Repeat process for each option change.

- **Right-click anywhere and everywhere** to see the options for that part of the Halo Viewer
- There are two types of “right-click” – a “**right-click-&-hold-down**” and a “**quick-right-click**”
 - Try both and see what happens
- Note that if the “Three-in-one” tool is active, the “right-click menu” is not available



- Select another tool (eg “Window Level”) before accessing “right-click menu”



7.8.5 Priors - ‘Load Comparison Study’ / ‘Pick Study’

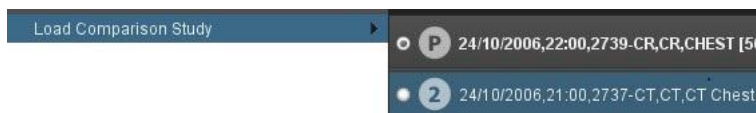
By default, only the ‘Primary’ study launches in the Halo Viewer. Use the ‘**Load Comparison Study**’ feature to load **Priors / Comparisons**.

- Open an image study in the Halo Viewer



This study opens in **single viewing panel** as seen on the top Toolbar

- **Right-click** on the thumbnail bar or anywhere over an occupied viewport to show menu options
 - Select ‘**Load Comparison Study**’
 - Then select the study you wish to load
(note the radial button is already selected for the study/studies that are already loaded)



- A right-click over a **blank viewport** and ‘**Pick Study**’ will load that study in another viewing panel (as it does with ‘Load Comparison Study’)


7.8.6 Return to original single study view

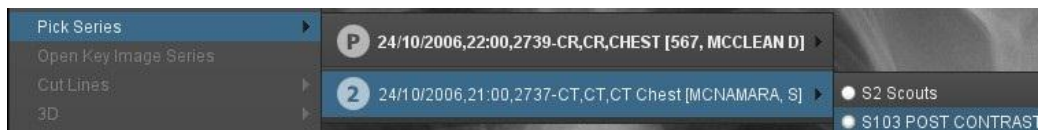
- Click the '**Comparison Toggle**' tool to return to the single viewer view



7.8.7 Priors - 'Pick Series'

After the 'Primary' study launches in the Halo Viewer, use the '**Pick Series**' feature to load any series from any 'Comparison Study' into an occupied viewport (replacing the current series) or into a blank viewport

- Open an image study in the Halo Viewer > opens in **single viewing panel** 
- Right-click** over an occupied viewport or over a blank viewport in the viewer to show menu options
 - Select '**Pick Series**'
 - Then select the study, then the **series** you wish to load
(note the radial button is already selected for the study/studies/series that are already loaded)



7.8.8 Viewer Keyboard Shortcuts

To customise your own keyboard short-cuts:

- Right-click (and hold) on viewer
- Select "**User Preferences**"
- Select "**Customize Keyboard Shortcuts..**"

In this window:

- Select/highlight the **tool/function** in the list on the left
- Click inside the "**Press new shortcut key or key sequence**" field
- On your **keyboard**, press **new shortcut key** or **key sequence**
- Assign**
 - Either, "**Close**"
 - "**View All Assigned**" and "**Print**"

8. Document History

<i>Revision Number</i>	<i>Date</i>	<i>Description of Changes</i>	<i>Author / Editor</i>
0.1	20 th Feb 2014	Initial draft	H Stewart
0.2	3 rd March 2014	Minor changes	H Stewart