Installing and Upgrading the IntelliSpace PACS 4.4 Client

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Table of Contents

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Installing and Upgrading the IntelliSpace PACS 4.4 Client

1 Introduction

Audience

This document is addressed to the PACS Administrators responsible for installing Philips IntelliSpace PACS Client or managing an upgrade of IntelliSpace PACS.

Purpose

This document explains how the Client software for IntelliSpace PACS 4.4 Enterprise and IntelliSpace PACS 4.4 Radiology are installed. It also provides information on system requirements, Clinical Applications installation, and upgrades.

Prerequisites

Refer to the "Client System Requirements" on page 15 section for the complete list of the system requirements for installing Philips IntelliSpace PACS Client.

NOTE

Certain plug-ins might need ".NET Framework 3.5, in such cases the ".NET Framework 3.5" should be installed along with ".NET Framework 4.6.1".

NOTE

IntelliSpace PACS Radiology can be installed only on a 64bit Operating system. IntelliSpace PACS Enterprise can be installed on both 32 bit and 64 bit Operating system.

NOTE

When using Windows 10, Internet Explorer 11 is required to launch the Client Web. Windows Edge browser is not supported.

Scope and Organization

This document includes the following chapters:

This Introduction, which describes the intended audience for this document, as well as the purpose, structure, and format of this document.

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Conventions

This guide uses the conventions below for special text.

WARNING

Messages that alert you to conditions that may result in death or serious injury.

CAUTION

Messages that alert you to conditions that may result in one or more of the following:

- **Minor or moderate injury to you or the patient**
- **Damage to the equipment or other property**
- **Data loss**

Important

Vital information that describes how to properly install, configure, or use the system.

NOTE

Additional information that may help explain an action or procedure.

All **WARNINGS** and **CAUTIONS** are noted in the appropriate sections of the manual, where procedures that warrant them are described.

This guide also uses the following general format conventions:

- **Consolas Font**

  Code and commands are formatted in `Consolas` font.

  For example:

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```
DNSCMD /ZONEADD www.microsoft.com /DsFORWARDER 207.46.66.126,
207.68.160.190
```

After typing `ClientApplication.SelectFrom(`, an enumerator displays available Folders lists for the application page.

- *Italic Font*

    The following elements are formatted in *italic* font:

    – References to sections or documents.

    – A reference to a variable.

    – Emphasis on a word or phrase for clarification.

- **Bold Font**

    The following elements are formatted in **bold** font:

    – UI elements, including buttons, field names, tabs, and windows.

    – File names, folder names, and file paths.

    – Application executables, DLLs, etc.

    – Classes, functions, methods, and variables.

    – Lead-in words or phrases in bulleted lists of paragraphs.

2 Overview

IntelliSpace PACS 4.4 includes software for servers, IntelliSpace PACS 4.4 Radiology clients, and IntelliSpace PACS 4.4 Enterprise clients. With the IntelliSpace PACS 4.4 Client/Server architecture and "service delivery" model, the customer's IntelliSpace PACS servers and server software are deployed and managed entirely by Philips Healthcare Informatics. The workstation Client portions of the architecture are deployed and managed by either customer IT staff or by the end user, depending on which party controls the user's workstation desktop software.

The IntelliSpace PACS 4.4 server is installed and configured remotely by Philips with you at a mutually convenient time. You are responsible for installing and configuring IntelliSpace PACS 4.4 Radiology and IntelliSpace PACS 4.4 Enterprise Clients. However, Philips IntelliSpace PACS Customer Care is available 24/7 if assistance is needed.

Important

The customer is responsible for configuring the client machine, including anti-virus software and required Microsoft patches.

Important

The customer is responsible for the security certificates used by the IntelliSpace PACS client.

This chapter includes the following topics:

Installation Options Summary

The following chart summarizes the installation options available for IntelliSpace PACS 4.4, including information on distribution, installation, and configuration. You can install the clients in English, Dutch, French, German, Spanish, Portuguese/Brazilian and Italian.

NOTICE

The information in the chart applies after the Server has been upgraded by Philips Technical Support.

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IntelliSpace PACS Client Installation Methods

	Supported?	SUPPORTED			NOT SUPPORTED
GENERAL	Access Method	WEB (IntelliSpace PACS Enterprise only)	DESKTOP (IntelliSpace PACS Enterprise and IntelliSpace PACS Radiology)		
	Attended?	yes	attended	unattended	
	Install Type	one-click	standalone	.MSI	
	Manual?	yes	yes	yes	automated
DISTRIBUTION & INSTALLATION	Step 1: Select the desired installer from the download page	`http://<server_IP>`	`http://<server_ip>/installers`	`http://<server_ip>/installers`	
	Step 2: Make installer available to client workstations.	N/A (installer is on server and already available)	N/A (installer is on server and already available)	N/A (installer is on server and already available)	Distribute installer to clients using automated deployment mechanism (for example, SMS).
	Step 3: Initiate installation.	N/A (Installation initiated automatically)	Install client individually on each client workstation.	Execute the installer	Execute the third-party automated process.
	Command line arguments	N/A	N/A	`msiexec.exe /i "C:\iIntelliSpace PACS Enterprise.msi" /qn ISITE_SERVER_IP_BOX="server name or IP" INSTALLDIR="dierctory for iIntelliSpace PACS Enterprise" INCLUDE_LANGUAGE_AA_AB="1" /l*v! "C:\log.txt"`	Per the third-party vendor's instructions
CONFIGURATION	Step 4: Configure connection to server.	N/A (connection automatically configured)	When prompted by Server Information dialog during installation, enter the hostname or IP address of the IntelliSpace PACS server, and click **Install**.		N/A (completed in Step 3)
	Optional: Reconfigure after installation to connect client to a different server.	Change the URL in the Internet Explorer Address Bar	Open the **iSite.ini** file at `C:\Program Files\Philips\IntelliSpace PACS Enterprise or IntelliSpace PACS Radiology \4.4`, change the server IP address in two locations, and save the file.	Open the iSite.ini file at `C:\Program Files\Philips\<ClientName>\<Intelli Space PACS Version>`, change the server IP address in two locations, and save the file.	Open the iSite.ini file at `C:\Program Files\Philips\<ClientName>\ <IntelliSpace PACS Version>`, change the server IP address in two locations, and save the file.
LAUNCH	Step 5: Launch the client.	From a client workstation, open Internet Explorer at URL above	From a client workstation, double-click the desktop client icon.	From a client workstation, double-click the desktop client icon.	From a client workstation, double-click the desktop client icon.

Distribution and Installation

There are three different installation options for the IntelliSpace PACS 4.4 Enterprise Client and two for the IntelliSpace PACS 4.4 Radiology Client. The installers are not interchangeable: you must deploy each installer by the mechanism appropriate for that installer.

See the following chapters for detailed Client installation information:

- "Standalone Manual Installation" on page 25
- "Unattended Silent Installation" on page 31
- "ClientWeb Installation" on page 39

4522 170 50531/730 * 2022-05-13

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Manually Uninstalling IntelliSpace PACS

Any version of IntelliSpace PACS 4.4 (standalone or silent install) can be uninstalled. IntelliSpace PACS 4.4 Enterprise ClientWeb cannot be uninstalled manually.

The following occurs after the software has been uninstalled:

- Files that were copied during installation or used by the client (including temporary files) are removed, except configuration files and log files.
- All configuration settings created during installation or use of IntelliSpace PACS 4.4 client are reverted, except configuration settings related to configuration files.
- The uninstall is registered with the operating system and appears as an option in the Control Panel Add/Remove Programs.

Only users with administrator rights can uninstall or upgrade IntelliSpace PACS 4.4 Enterprise or IntelliSpace PACS 4.4 Radiology clients, regardless of who performed the original installation.

If the user who originally installed the IntelliSpace PACS 4.4 Enterprise Client on the machine is not available, the PACS Administrator can do the following:

1. Change the user's password.
2. Log on as that user and use Add/Remove Programs,
3. Inform the user of their new password.
4. Log off.

Verifying that an Installation has been Successful

If an installation is successful, this is indicated in the final dialog box in the installer. To verify that the correct version has been installed, do the following:

1. Check the version number in the IntelliSpace PACS 4.4 Enterprise or IntelliSpace PACS 4.4 Radiology splash screen
2. Check the version number in Add/Remove Programs for IntelliSpace PACS 4.4 Enterprise or IntelliSpace PACS 4.4 Radiology.

Side-by-Side Installations

You can have an older version of the IntelliSpace PACS clients (such as iSite PACS 3.6) installed on the same machine as the current IntelliSpace PACS clients. The side-by-side install of the client is supported only if the major version or minor version of the product changes. If the maintenance release version of the product changes, it is an upgrade.

For example, iSite PACS 3.6 and 4.4.550.0 can be installed side-by-side. 4.4.540.0 and 4.4.550.0 cannot be installed side-by-side, but 4.4.540.0 can be upgraded to 4.4.550.0. Also, in side-by-side support, the uninstall of one of the clients will not affect the other (applicable to Standalone ISE and ISR (installed by exe and msi installers)).

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CAUTION

Although the software does not prevent users from working concurrently in more than one iSite PACS/IntelliSpace PACS client on a single workstation (e.g., running both iSite PACS Enterprise 3.6 and IntelliSpace PACS Radiology 4.4, or both IntelliSpace PACS Radiology 4.4 and IntelliSpace PACS Enterprise 4.4, at the same time), Philips strongly recommends that users do not work in this configuration. Doing so could cause an inadvertent mismatch of patient data among two or more patients, which in turn could result in misdiagnosis.

For example:

- **A user logs into both iSite Enterprise (ISE) 3.6.110.00 and IntelliSpace PACS 4.4.550.0**

- **In the ISE 3.6 client, the user opens an exam in the Canvas Page.**

- **The user then switches to the ISR 4.4 client.**

- **In the ISR 4.4 client, the user opens a second exam belonging to a different patient in the Canvas Page.**

- **The user then opens the Clinical Information: Exam Notes dialog to add an Exam Note.**

- **With the ISR 4.4 Exam Note dialog open, the user switches to the ISE 3.6 client. The ISE 3.6 client is now the active window, BUT the ISR 4.4 Exam Notes dialog remains on top of the ISE 3.6 client.**

  Depending on how the user's monitors are set up, the user can still make notes in the ISR 4.4 Exam Notes dialog while the ISE 3.6 client still appears to be the active window. The user is able to look at the images in the ISE 3.6 Canvas Page while making notes in the ISR 4.4 Exam Notes dialog.

  In this sample scenario, therefore, a user could enter data based on one patient's exam into another patient's exam.

3 Client System Requirements

System requirements vary, depending on whether the user will run IntelliSpace PACS Radiology or IntelliSpace PACS Enterprise with or without IntelliSpace PACS Volume Vision. Philips Customer Care can provide the latest IntelliSpace PACS system requirements for the Client.

IntelliSpace Volume Vision is the 2D/3D/4D enhanced viewing application part of IntelliSpace Clinical Applications R8.2, bundled with the comprehensive IntelliSpace PACS solution. IntelliSpace Volume Vision R8.2 is shipped only in combination with IntelliSpace PACS and is not available for the iSite PACS 3.6 or 4.1 installed base.

The installers check for appropriate software and hardware requirements of the client machine. A notification displays and the installation stops if the minimum requirements are not met.

WARNING

The IntelliSpace PACS Enterprise and IntelliSpace PACS Radiology client workstations must use monitors and video cards that have been validated by Philips Healthcare Informatics. Not doing so may result in incorrect measurements or inadequate image quality.

Diagnostic monitors for mammography reading in IntelliSpace PACS Radiology must be approved by Philips Healthcare Informatics. Not doing so may result in inadequate image quality or missing critical data at time of diagnosis. Mammographic images may only be interpreted using a United States Food and Drug Administration (FDA) approved monitor that offers at least 5 megapixel resolution and meets other technical specifications reviewed and accepted by the United States FDA, or the corresponding agency in your country.

The IntelliSpace PACS Enterprise and IntelliSpace PACS Radiology client workstations must have at least the minimum recommended amount of RAM in order for IntelliSpace PACS to operate correctly.

It is the user's responsibility to ensure that Philips network performance recommendations for IntelliSpace PACS are met.

NOTICE

IntelliSpace PACS stores all timestamp information in GMT. Microsoft Windows then localizes this information so that all timestamps are presented in local time (as configured on the workstation). Because Microsoft may make changes in its operating systems to account for Daylight Savings Time in various time zones around the world, please ensure that user machines have the most current Microsoft updates installed so that correct times are displayed in IntelliSpace PACS reports and in the timeline.

Important

IntelliSpace PACS supports only the Latin-1 character set.

NOTICE

It is the customer's responsibility to ensure that Philips network performance recommendations for IntelliSpace PACS 4.4.551 and higher versions are met. Minimum network adapters on workstations should be 100 Mb/s with 100 Mb/s end-to-end connection to the server. Sites reading large studies such as large CTs/MRs (number of slices > 1000) and mammography tomosynthesis studies require a 1 GB/s network adapter and 1 GB/s end-to-end connection to the server.

Hard disk requirements will depend on the usage of the Local Exam Caching functionality. Adequate free disk space needs to be reserved based on the number of exams that are expected to be cached into the workstation. The max cache size is computed by IntelliSpace Radiology or Enterprise based on the free available space on the OS drive.

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IntelliSpace PACS Anywhere 1.3

	Minimum
CPU	-
RAM	4 GB
Graphics Card	-
Diagnostic Displays	-
Navigation Monitor	1280 x 1024 True Color
Browser Compatibility	• Internet Explorer 10 and 11 • Firefox 33.1 and higher • Chrome 37.0 and higher • Safari 6 and higher • Microsoft Edge
OS Compatibility	• Windows 7 and 10, 32 bit • Windows 7 and 10, 64 bit • OS X • iOS 8 and iOS 9 on iPad 3 and above • Android 4.0 and higher
Additional Software	-

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NOTICE

IntelliSpace PACS Anywhere is not suited for usage on mobile phones.

IntelliSpace PACS Enterprise System Requirements

IntelliSpace PACS 4.4 Enterprise without Volume Vision (IntelliSpace Clinical Applications R8.2)

	Minimum
CPU	Intel i5 two logical processors @ 2.5 GHz or higher
RAM	4 GB
Graphics Card	Mid-range graphics card
Diagnostic Displays	-
Navigation Monitor	1280 x 1024 True Color
Browser Compatibility	Internet Explorer 10 and 11
OS Compatibility	Windows 7 and 10, 32 bit or 64 bit
Additional Software	Adobe Acrobat Reader

NOTICE

IntelliSpace PACS 4.4 Enterprise will run on a 64 bit OS using 32 bit emulation mode.

Important

Volume Vision is a module of IntelliSpace Clinical Applications.

IntelliSpace PACS 4.4 Enterprise with Volume Vision (IntelliSpace Clinical Applications R8.2)

	Minimum
CPU	Intel i5 with four logical processors @2.5 GHz or higher
RAM	6GB or more
Graphics Cards	Mid-range graphics card with OpenGL 3.2 support, 1 GB on-board memory

	Minimum
Diagnostic Display	Two 2, 3, or 5 MP color or grayscale monitors; one 4 or 6 MP wide-screen color monitor
Navigation Monitor	1280 x 1024 True Color
Browser Compatibility	Internet Explorer 10 and 11
OS Compatibility	Windows 7 and 10, 32 bit
Additional Software	Adobe Acrobat Reader

NOTICE

IntelliSpace PACS 4.4 Enterprise will run on a 64 bit OS using 32 bit emulation mode.

Important

Volume Vision is a module of IntelliSpace Clinical Applications.

IntelliSpace PACS 4.4 Enterprise with Cardiology Viewer R1

	Minimum
CPU	Intel i5 two logical processors @ 2.5 GHz or higher
RAM	4GB
Graphics Cards	Mid-range graphics card with OpenGL 3.2 support, 1 GB on-board memory (Optional)
Diagnostic Display	Two 2, 3 or 5 Mega Pixel Color or Grayscale monitors or One 4, 6 or 8 Mega Pixel Wide screen Color monitor (Optional)
Navigation Monitor	1280 x 1024 True Color
Browser Compatibility	Internet Explorer 10 and 11
OS Compatibility	Windows 7 and 10, 32 bit
Additional Software	.NET FrameWork 3.5 SP1

Adobe Acrobat Reader |

NOTICE

IntelliSpace PACS 4.4 Enterprise will run on a 64 bit OS using 32 bit emulation mode.

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IntelliSpace PACS 4.4 Enterprise with IntelliSpace Advanced Clinical Applications - CT Portal 9.0

	Minimum
CPU	Intel i5 two logical processors @ 2.5 GHz or higher
RAM	4GB
Graphics Cards	Mid-range graphics card with OpenGL 3.2 support, 1 GB on-board memory
Diagnostic Display	Two 2, 3 or 5 Mega Pixel Color or Grayscale monitors or One 4, 6 or 8 Mega Pixel Wide screen Color monitor (Optional)
Navigation Monitor	1280 x 1024 True Color
Browser Compatibility	Internet Explorer 10 and 11
OS Compatibility	Windows 7 and 10, 32 bit
Additional Software	.NET FrameWork 3.5 SP1
	Adobe Acrobat Reader

NOTICE

IntelliSpace PACS 4.4 Enterprise will run on a 64 bit OS using 32 bit emulation mode.

IntelliSpace PACS Radiology System Requirements

IntelliSpace PACS 4.4 Radiology without Advanced Mammography

	Minimum
CPU	Intel six logical processors or more @ 2.5 GHz or higher
RAM	16 GB or more
Graphics Cards	High-end graphics card with OpenGL 3.2 support, 2 GB on-board memory
Diagnostic Display	Two 2, 3, or 5 MP color or grayscale monitors; one 4 or 6 MP wide screen color monitor
	Two 5 MP monitors, 510K cleared- Required for Mammo
Navigation Monitor	1280 x 1024 True Color
Browser Compatibility	Internet Explorer 10 and 11
OS Compatibility	Windows 7 and 10, 64bit

	Minimum
Additional Software	Adobe Acrobat Reader

Minimum specifications listed for client workstations "without tomosynthesis" are sufficient for large CT/MR studies.

Important

Advanced Mammography includes viewing of tomosynthesis studies.

IntelliSpace PACS 4.4 Radiology with Advanced Mammography

	Minimum
CPU	Intel twelve logical processors or more @ 2.5 GHz or higher
RAM	24 GB or more
Graphics Cards	High-end graphics card with OpenGL 3.2 support, 2 GB on-board memory
Diagnostic Display	Two 2, 3, or 5 MP color or grayscale monitors; one 4 or 6 MP wide screen color monitor
	Two 5 MP monitors, 510K cleared- Required for Mammo
Navigation Monitor	1280 x 1024 True Color
Browser Compatibility	Internet Explorer 10 and 11
OS Compatibility	Windows 7 and 10, 64bit
Additional Software	Adobe Acrobat Reader

Important

Advanced Mammography includes viewing of tomosynthesis studies.

IntelliSpace PACS 4.4 Radiology with IntelliSpace Clinical Applications R8.2

	Minimum
CPU	6 Logical CPUs or more @ 2.5 GHz or higher
RAM	16 GB or more

	Minimum
Graphics Cards	High-end graphics card with OpenGL 3.2 support, 2 GB on-board memory
Diagnostic Display	Two 2, 3, or 5 MP color or grayscale monitors; one 4 or 6 MP wide screen color monitor
Navigation Monitor	1280 x 1024 True Color
Browser Compatibility	Internet Explorer 10 and 11
OS Compatibility	Windows 7 SP1 (64bit OS)
Additional Software	.NET FrameWork 3.5 SP1
	Adobe Flash Player/Adobe Acrobat Reader

IntelliSpace PACS 4.4 Radiology with IntelliSpace Advanced Clinical Applications - CT Portal 9.0

	Minimum
CPU	6 Logical CPUs or more @ 2.5 GHz or higher
RAM	16 GB or more
Graphics Cards	High-end graphics card with OpenGL 3.2 support, 2 GB on-board memory
Diagnostic Display	Two 2, 3, or 5 MP color or grayscale monitors; one 4 or 6 MP widescreen color monitor
Navigation Monitor	1280 x 1024 True Color
Browser Compatibility	Internet Explorer 10 and 11
OS Compatibility	Windows 7 SP1 (64bit OS)
Additional Software	.NET FrameWork 3.5 SP1
	Adobe Flash Player/Adobe Acrobat Reader
Remote (home) connection bandwidth	5 Mbit/sec or higher
Network adapter speed	100 Mbit/sec or better

No other applications running on client. If running more than two applications at the same time, then use recommended specifications

The RAM requirement also needs to be in consideration of the operating system. Example: Windows 7 Home Premium 64 bit OS can support max 16 GB of RAM.

1024 x 768 is supported as a minimum only for navigation if another higher resolution (1280 x 1024 or higher) color monitor is available for IntelliSpace Clinical Applications.

For all graphics cards, use the latest driver version provided by the manufacturer, such as NVIDIA, ATI, Barco or Eizo.

- For systems with a 32-bit operating system (such as Windows 7), effective performance improvement can be expected from graphics cards with up to 1 GB memory. Cards with more memory should only be used with the very latest video drivers in order to avoid adverse impact on available system memory for images, especially when multiple graphics cards are installed. With a 64-bit operating system, such as Windows 7 x64, the memory restriction for the graphics card is removed, so 2 GB or even 4 GB cards will work OK.

- Video memory above 1 GB will not contribute to the ability to read larger datasets. The better processing capabilities of the high-end cards will improve rendering performance. Guidelines for graphics cards:

Graphics card guidelines for Volume Vision MPR, MIP and 3D acceleration, using OpenGL 3.2 or higher: Recommended brands:	
nVidia brand:	Quadro- and Quadro FX graphics cards and GeForce graphics cards
ATI brand:	FirePro graphics cards
Eizo:	Firepro Graphic cards v4900
Barco:	MXRT graphics cards
Graphics card onboard memory:	1.0 GB loads up to 1600 images of 512x512 16-bit (CT/MR)
	2.0 GB loads up to 1600 images of 512x512 16-bit (CT/MR)

Diagnostic monitors (either grayscale or color) must be DICOM-calibrated for grayscale response.

Supported operating systems and compatibility with Internet Explorer versions:

- Windows 7, 32-bit and 64-bit (in 32-bit simulation mode) with IE 11
- Windows 8.1, 64-bit with IE 11

Not supported:

- Windows 98, 2000, XP, NT, ME, and VISTA

[6] For power users viewing large multi-frame data series or cine clips, 4 GB is recommended.

IntelliSpace PACS Radiology Workspace Solution without Advanced Mammography

	Minimum
CPU	Intel six logical processors or more @ 2.5 GHz or higher with a turbo frequency of at least 3.0 GHz
RAM	16 GB or more
OS	Windows 7 and 10 64bit
Diagnostic Displays	Two 2, 3, or 5 MP color or grayscale monitors; one 4 or 6 MP wide screen color monitor
	Two 5 MP monitors, 510K cleared- Required for Mammo

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	Minimum
Graphics Cards	High-end graphics card with OpenGL 3.2 support, 2 GB on-board memory
Browser compatibility	IE 11 only
Additional Software	Adobe Acrobat Reader

Important

IntelliSpace PACS Radiology Workspace Solution incorporates: Advanced Workflow Solution, Canvas, Workflow Cockpit and IntelliSpace PACS. Please contact your Philips representative for version compatibility.

IntelliSpace PACS Radiology Workspace Solution with Advanced Mammography

	Minimum
CPU	Intel twelve logical processors or more @ 2.5 GHz or higher with a turbo frequency of at least 3.0 GHz
RAM	24 GB or more
OS	Windows 7 and 10, 64 bit
Diagnostic Displays	Two 2, 3, or 5 MP color or grayscale monitors; one 4 or 6 MP wide screen color monitor
	Two 5 MP monitors, 510K cleared- Required for Mammo
Graphics Cards	High-end graphics card with OpenGL 3.2 support, 2 GB on-board memory
Browser Compatibility	IE 11 only
Additional Software	Adobe Acrobat Reader

Important

IntelliSpace PACS Radiology Workspace Solution incorporates: Advanced Workflow Solution, Canvas, Workflow Cockpit and IntelliSpace PACS. Please contact your Philips representative for version compatibility.

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API Integrations

It is important to keep in mind that system plug-ins will be loaded and used by every IntelliSpace PACS Enterprise or IntelliSpace PACS Radiology workstation in the enterprise so it is important to govern what is loaded. Here are a few additional best practice guidelines.

- Avoid using plug-ins for easy access to non-internal web sites. Navigating the internet within IntelliSpace PACS can load Flash, Media viewer, html scripting modules, or other services which would use additional system resources normally reserved for IntelliSpace PACS. Such use of memory and CPU resources needed by IntelliSpace PACS can negatively impact end user response time.

- Be sure to correctly setup plug-ins that do not use the IntelliSpace PACS API. Incorrect setups can lead to crashes throughout the enterprise. Be sure that the option **Disable API** is checked for plug-ins that do *not* integrate with IntelliSpace PACS using the API. When in doubt, do not uncheck this option.

- We recommend that you add memory beyond the minimum system requirements if you plan to install and use plug-ins.

- You should only use plug-ins that support Windows 7/8.1 and Internet Explorer 8, 9, 10 or 11, 64 bit in emulation mode.

⚠ **CAUTION**

Running third-party software on IntelliSpace PACS Radiology workstations can greatly impact the amount of memory available to IntelliSpace PACS Radiology, and can therefore impact the RAM requirements. Also, third-party applications can cause potential problems within the application.

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4 Standalone Manual Installation

This chapter includes the following topics:

Overview

This chapter describes how PACS Administrators and IT staff can install IntelliSpace PACS Enterprise or IntelliSpace PACS Radiology on a Client workstation for the first time.

In a standalone installation, you place the installer in a location that can be accessed by all end-users (for example, on a shared network drive or on a CD). Then the appropriate `.exe` installer is run on each Client workstation to install the IntelliSpace PACS Client in the desired language. In addition to the language chosen on individual workstations, English is always installed.

In the standalone manual installation method, the server information you enter is placed in the configuration file (in the root directory of the folder where the IntelliSpace PACS Client was installed). When you launch the IntelliSpace PACS Enterprise or IntelliSpace PACS Radiology Client, the Client reads the information in this file and connects to the server specified. To connect the Client to a different server (other than the one you specified during installation), change the server information in the configuration file, save the file, and restart the Client.

Note the following:

- The default language used to install IntelliSpace PACS is the workstation's default language. However, the language used to install IntelliSpace PACS can be changed by the user via a drop-down menu when the installation begins. If desired, additional languages can be specified after the initial installation. However, to do this IntelliSpace PACS must first be uninstalled and then reinstalled with a different set of languages.

- In addition to the chosen installation language, English is always installed.

- You cannot have different versions of IntelliSpace PACS Enterprise or IntelliSpace PACS Radiology on the same machine.

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NOTICE

From 4.4.553 release, IntelliSpace PACS Radiology supports Side By Side installation, which accommodates installation of more than one version of IntelliSpace Radiology clients in a single machine. See "Side By Side Installation - IntelliSpace PACS Radiology 4.4" on page 28.

In the machines where Side By Side Installation is present, the `isite.ini` file can be located only in the following path: `<drive>\Program Files\Philips\Intellispace PACS Radiology\`. Right clicking on the IntelliSpace PACS Radiology desktop icon in the machines with Side By Side installation will take you to `%CommonProgramFiles% \Philips\ISPACSClientLauncher` folder path.

Standalone Installer File Locations

Philips provides a customer viewable download page as part of the standard server install.

Use the following links for standalone installations of IntelliSpace PACS Enterprise and IntelliSpace PACS Radiology:

- `IntellispacePACSEnterpriseSetup.exe` – the EXE installer for IntelliSpace PACS Enterprise for end-users, provided they have the proper privileges.

- `IntellispacePACSRadiologySetup.exe` – the EXE installer for IntelliSpace PACS Radiology for end-users, provided they have the proper privileges.

IntelliSpace PACS Enterprise Standalone Installation

1. On the Client workstation, access the download page at `https://<servername_or_IP>/ClientWeb/installers/`.

2. Select `IntellispacePACSEnterpriseSetup.exe`.

3. Select the desired setup language and click **OK**.

4. Click **Next**.

5. Select the desired languages and options in the **Custom Setup** dialog box.

6. Click **Next**.

7. In **Client Configuration Info**, enter the hostname or IP address of the IntelliSpace PACS server and click **Install**. (This page only displays the first time you install IntelliSpace PACS on the client workstation.)

8. When the installation is complete, click **Finish**.

IntelliSpace PACS Radiology Standalone Installation

1. On the Client workstation, access the download page.

2. Select `IntellispacePACSRadiologySetup.exe`.

3. Select the desired setup language and click **OK**.

4. Click **Next**.

5. Choose a **Setup Type** of **Complete** or **Custom** and click **Next**.

6. In **Client Configuration Info**, enter the hostname or IP address of the IntelliSpace PACS server (this page only displays the first time you install IntelliSpace PACS on the client workstation), and click **Next**.

   The **Ready to Install the Program** page of the wizard displays.
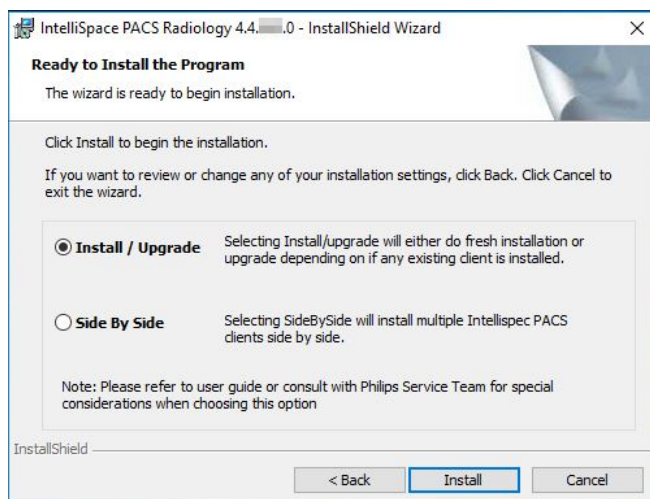
7. Select the **Install / Upgrade** radio button to either perform a fresh installation or an upgrade. Incase of an upgrade the existing version of the IntelliSpace PACS Radiology application will be overwritten.

8. Click Install to proceed.

9. When the installation is complete, click **Finish**.

    A desktop shortcut will be created to launch the application from the desktop.

NOTICE

By selecting the Install/Upgrade option, all the previous version(s) of IntelliSpace PACS Radiology client will be uninstalled. Incase if the silent installation method is used then, only one of the oldest version of the IntelliSpace PACS Radiology client will be uninstalled. Refer for more information.

NOTICE

For any hot fix release installation, the desktop shortcut name of IntelliSpace PACS Radiology will display only the major version of the product and will not display the hot fix release version.

Example: If IntelliSpace PACS Radiology of 4.4.554.xx is installed in a client workstation, the desktop shortcut name will be "IntelliSpace PACS Radiology 4.4.554" and not IntelliSpace PACS Radiology 4.4.554.xx.

Side By Side Installation - IntelliSpace PACS Radiology 4.4

Side By Side installation allows you to install three versions of IntelliSpace PACS Radiology on the same machine (4.4.554, 4.4.553 and any one version lesser than 4.4.553 for example, 4.4.552.0).

This section will guide you to perform the Side-by-Side installation of the IntelliSpace PACS Radiology application.

NOTICE

In the machines where Side By Side Installation is present, the `isite.ini` file can be located only in the following path: `<drive>\Program Files\Philips\Intellispace PACS Radiology\`. Right clicking on the IntelliSpace PACS Radiology desktop icon in the machines with Side By Side installation will take you to `%CommonProgramFiles% \Philips\ISPACSClientLauncher` folder path.

Prerequisites

Any IntelliSpace PACS Radiology version lower to IntelliSpace PACS Radiology 4.4.554.0 should be installed prior to installing IntelliSpace PACS Radiology 4.4.554.0 application.

Follow these steps to the perform the Side by Side installation:

1. On the Client workstation, access the download page of IntelliSpace PACS Radiology 4.4.554.0.

2. Select `IntellispacePACSRadiologySetup.exe`.

3. Select the desired setup language and click **OK**.

4. Click **Next**.

5. Choose a **Setup Type** of **Complete** or **Custom** and click **Next**.

    The **Ready to Install the Program** page of the wizard displays.
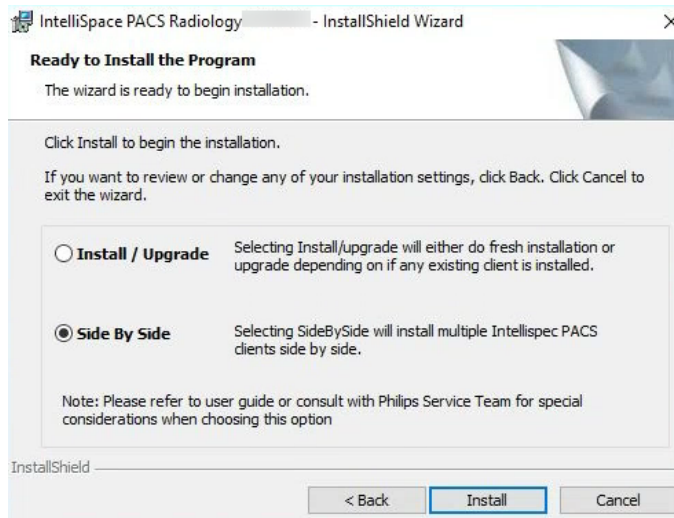
6. Select the **Side By Side** radio button.

7. When the installation is complete, click **Finish**.

8. Now you can see the desktop icons for multiple version of the IntelliSpace PACS Radiology.

    – For 554.0 version: **IntelliSpace PACS Radiology_4.4.554.0**

– For earlier versions: **IntelliSpace PACS Radiology**

NOTICE

Once Side By Side installation is successfully performed, the Machine Preferences of the earlier version will be automatically mirrored to the 554.0 version.

NOTICE

When upgrading to IntelliSpace PACS Radiology 4.4.554 in a system where multiple InstelliSpace PACS Radiology clients are installed, it is recommended to install IntelliSpace PACS Radiology 4.4.554 using Side-by-Side mode, and uninstall the version that was meant to be upgraded.

5 Unattended Silent Installation

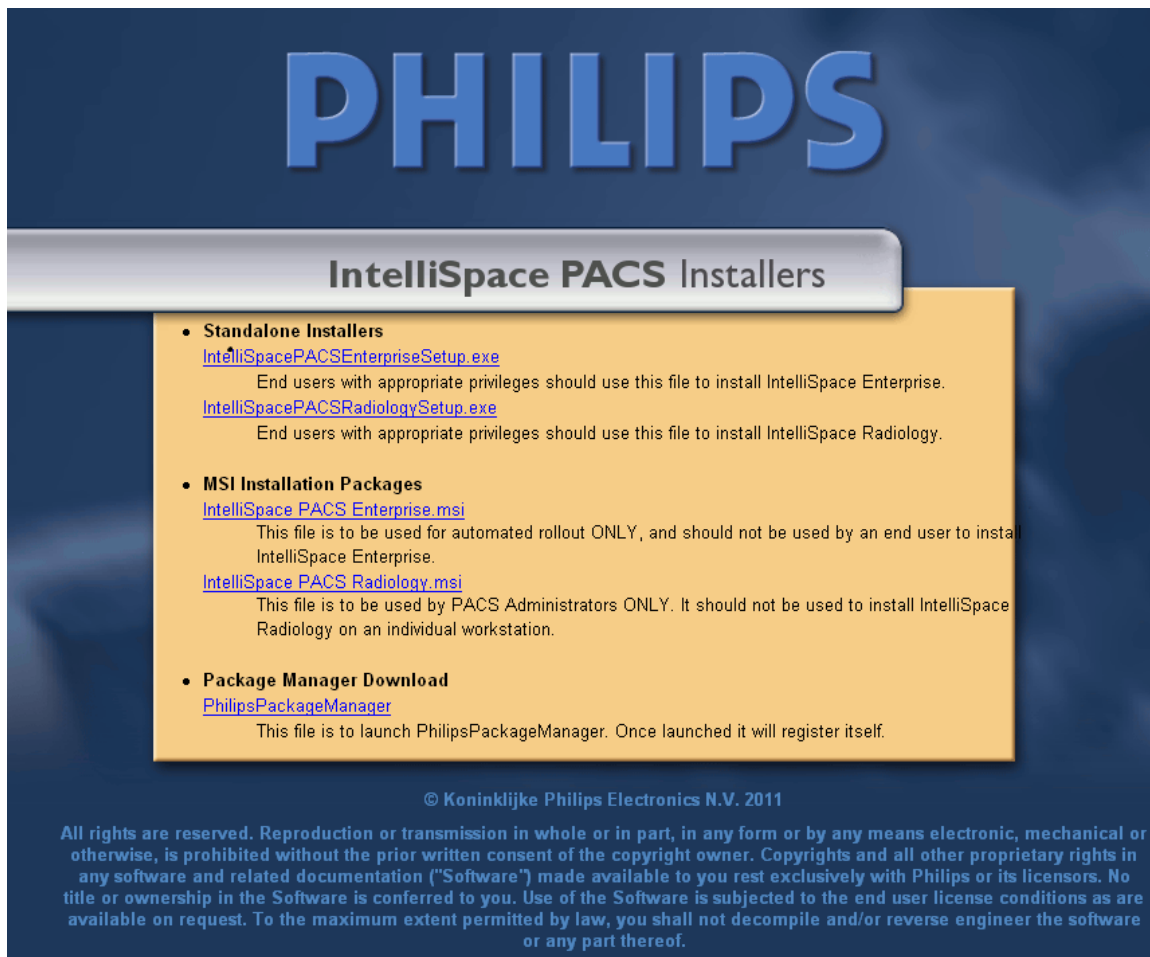This chapter contains the following topics:

Overview

To install IntelliSpace PACS Enterprise or IntelliSpace PACS Radiology silently (without visual indicators or prompts for user input), the IT department can execute an *.msi* file installer from the command line to install the IntelliSpace PACS Enterprise Client to a single workstation. This method is most often used when the IT department controls the software content of user workstations or when user workstations are distributed in different physical locations.

In the unattended silent installation method, the server information you enter is placed in the configuration file (in the root directory of the folder where the IntelliSpace PACS Client was installed).

When you launch the IntelliSpace PACS Enterprise Client, the Client reads the information in this file and connects to the server specified. To connect the Client to a different server (other than the one you specified during installation), change the server information a configuration file and save the file.

To determine if a silent installation has succeeded, you must specify that the silent installation creates a log file and check the log file. See "Logging" on page 35. If the operation failed, the log displays the string "Installation operation failed." If a crash occurs during silent installation, no string is displayed in the log and the installation will be considered to be unsuccessful.

Philips provides a customer viewable download page as part of the standard server install.

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Use the following links for unattended silent installations of IntelliSpace PACS Enterprise or IntelliSpace PACS Radiology:

- `IntelliSpace PACS Enterprise.msi` – the MSI installer for automatic rollout of IntelliSpace PACS Enterprise. This file should not be used by an end-user to install IntelliSpace PACS Enterprise.

- `IntelliSpace PACS Radiology.msi` – the MSI installer for automatic rollout of IntelliSpace PACS Radiology.

NOTE

Philips does not provide Automation scripts for mass deployment and does not support the mass deployment of Philips products.

Note the following differences when installing the ocx version or the full standalone version:

- If you install the OCX version instead of the full standalone version, there is no desktop shortcut. The user must start IntelliSpace PACS Enterprise by opening Internet Explorer.

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- The ocx control is installed either through ClientWeb or through the silent installer with the OCX-only command line parameter. See .

Silent Install Command Line Parameters

The following table describes the command line parameters used in the silent installation of IntelliSpace PACS Enterprise or IntelliSpace PACS Radiology. See "Command Line Examples" on page 34 for sample command lines.

Silent Install Command Line Parameter	Description/Example	First-time install	Upgrade install	Uninstall
/qn	Indicates that the install requires no user interface and has no progress bar.	Mandatory	Mandatory	Mandatory
ISITE_SERVER_IP_BOX	Specifies the name or IP address of the IntelliSpace PACS server to which the Client should connect. There is no default value. If a value is not entered, the user must manually modify the configuration file after installation. Example: ISITE_SERVER_IP_BOX="10.10.10.10"	Recommended	Prohibited (enforced)	Prohibited (not enforced)
INSTALLDIR	Directory where IntelliSpace PACS Enterprise or IntelliSpace PACS Radiology should be installed. If no path is specified, the default installation directory for a full installation is used (%ProgramFiles%\Philips\IntelliSpace PACS{Enterprise|Radiology}\<version>). Example: INSTALLDIR="c:\IntelliSpace PACS Enterprise"	Optional	Prohibited (enforced)	Prohibited (not enforced)

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Silent Install Command Line Parameter	Description/Example	First-time install	Upgrade install	Uninstall
INCLUDE_LANGUAGE_AB_CD="1"	Two character abbreviations for the languages supported in the release you are installing. The first abbreviation is the language, and the second abbreviation is the region. Note that EN-US is always included and cannot be specified separately. Example: INCLUDE_LANGUAGE_NL_NL="1"	Optional	Prohibited (enforced)	Prohibited (not enforced)
/l*v!	Invoke the installation using verbose logging. This can affect performance but is necessary for troubleshooting and for programmatically detecting if the install has completed successfully. Example: /l*v! "c:\log.txt"	Recommended	Recommended	Recommended
INSTALL_OCX_VERSION="1"	Installs only the OCX version of the product.	Optional	Optional	Optional
/X	Invoke the uninstallation.	Prohibited	Prohibited	Mandatory
INSTALLATIONTYPE=1	Use this command to perform an **Install / Upgrade** of the IntelliSpace PACS Radiology application.	Optional	Optional	Prohibited
INSTALLATIONTYPE=2	Use this command to perform a Side By Side installation of the IntelliSpace PACS Radiology application	Optional	Optional	Prohibited

Command Line Examples

The following command line would install / Upgrade IntelliSpace PACS Radiology application:

- ```
  msiexec.exe /i "c:\IntelliSpace PACS Enterprise.msi" /qn
  ISITE_SERVER_IP_BOX="10.10.10.10" INSTALLDIR=" INSTALLATIONTYPE=1
  ```

NOTICE

By using the INSTALLATIONTYPE=1, only one of the oldest version of the IntelliSpace PACS Radiology client will be uninstalled.

The following command line would perform the Side By Side Installation of the IntelliSpace PACS Radiology application:

- `msiexec.exe /i "c:\IntelliSpace PACS Enterprise.msi" /qn ISITE_SERVER_IP_BOX="10.10.10.10" INSTALLDIR=" INSTALLATIONTYPE=2`

The following command line would install IntelliSpace PACS with verbose logging and include the Dutch language.

```
msiexec.exe /i "c:\IntelliSpace PACS Enterprise.msi" /qn
ISITE_SERVER_IP_BOX="10.10.10.10" INSTALLDIR="c:\iSite\4.4"
INCLUDE_LANGUAGE_NL_NL="1" INSTALL_OCX_VERSION="1" /l*v! "c:\log.txt"
```

The following command line could be used for an upgrade:

```
msiexec.exe /i "c:\IntelliSpace PACS Enterprise v.1.1.msi" /qn/
INCLUDE_LANGUAGE_NL_NL="1" l*v! "c:\foo.txt"
```

NOTICE

When upgrading to IntelliSpace PACS Radiology 4.4.554 in a system where multiple InstelliSpace PACS Radiology clients are installed, it is recommended to install IntelliSpace PACS Radiology 4.4.554 using Side-by-Side mode, and uninstall the version that was meant to be upgraded.

Refer "Side By Side Installation - IntelliSpace PACS Radiology 4.4" on page 28 for more information on Side-By-SIde installation.

Logging

There are two ways to log a Windows Installer installation:

- Individually (per install)

- Per-machine (for all MSI installs of any software on that machine): Does not require a separate manual command line parameter and can log installations that the user doesn't initiate directly, such as through the ClientWeb or Auto-Upgrade. However, it logs all installations, even those the user might not be interested in.

Logging slows down an installation by up to 100%. Therefore, if you can do individual logging (per install), do so. Otherwise, do a per-machine logging, then turn it back off again when you are done.

Per-execution logging (for standalone and local machine .msi installations)

For installer files ending in . `msi`:

```
msiexec.exe /i "c:\IntelliSpace PACS Enterprise.msi" /l*v! "c:
\log.txt"
```

or

```
msiexec.exe /i "c:\IntelliSpace PACS Radiology.msi" /l*v! "c:\log.txt"
```

For installer file sending in . exe:

```
IntelliSpacePACSEnterpriseSetup.exe /V"/l*v! \"c:\log.txt\""
```

or

```
IntelliSpacePACSRadiologySetup.exe /V"/l*v! \"c:\log.txt\""
```

Make sure to Copy and Paste these lines, because the capitalization and spacing is critical.

Machine-wide logging (required for logging ClientWeb and Auto-Upgrade installations)

1. From the **Start** menu, select **Run** and enter `gpedit.msc`.
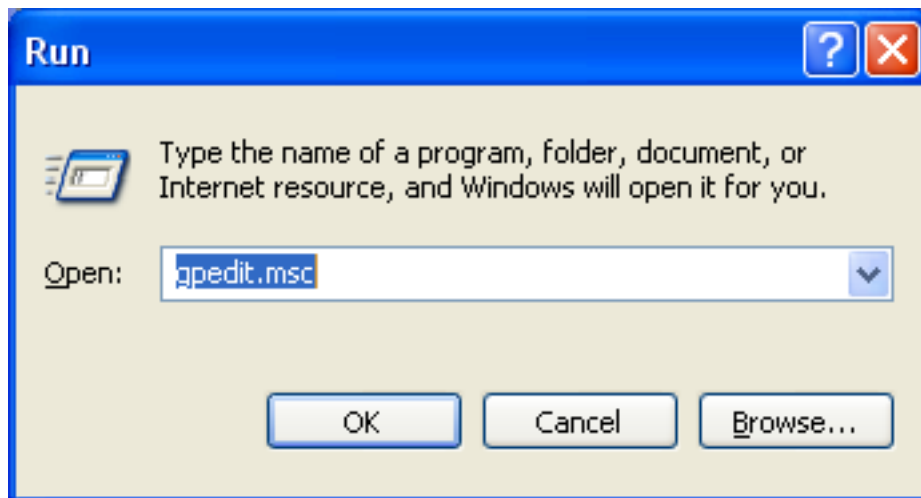
2. In the **Local Computer Policy** tab, click **Computer Configuration**, click **Administrative Templates**, click **Windows Components**, click **Windows Installer**, and double-click **Logging**.
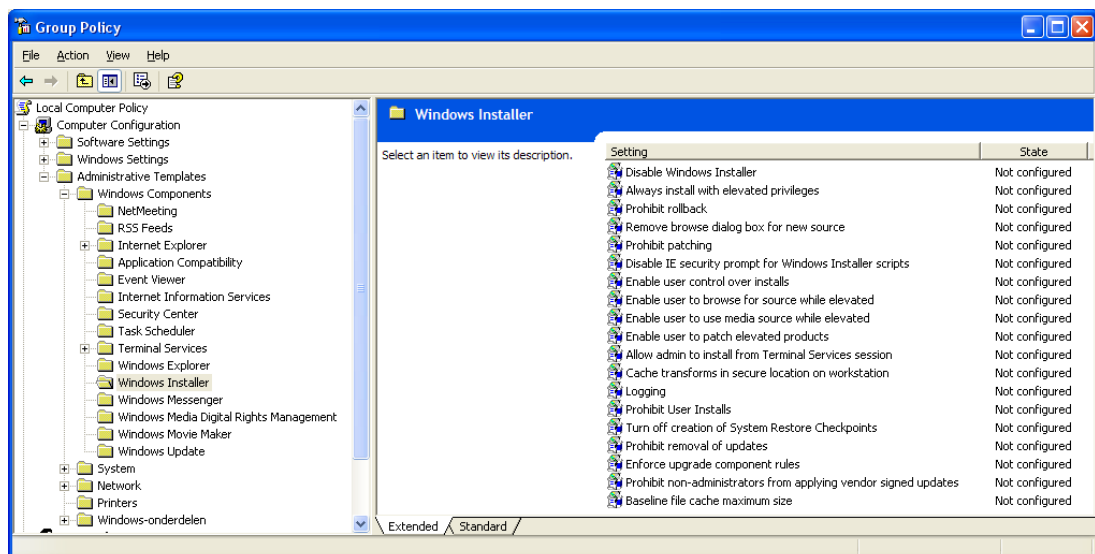
3. Set **Logging** to **Enable**.
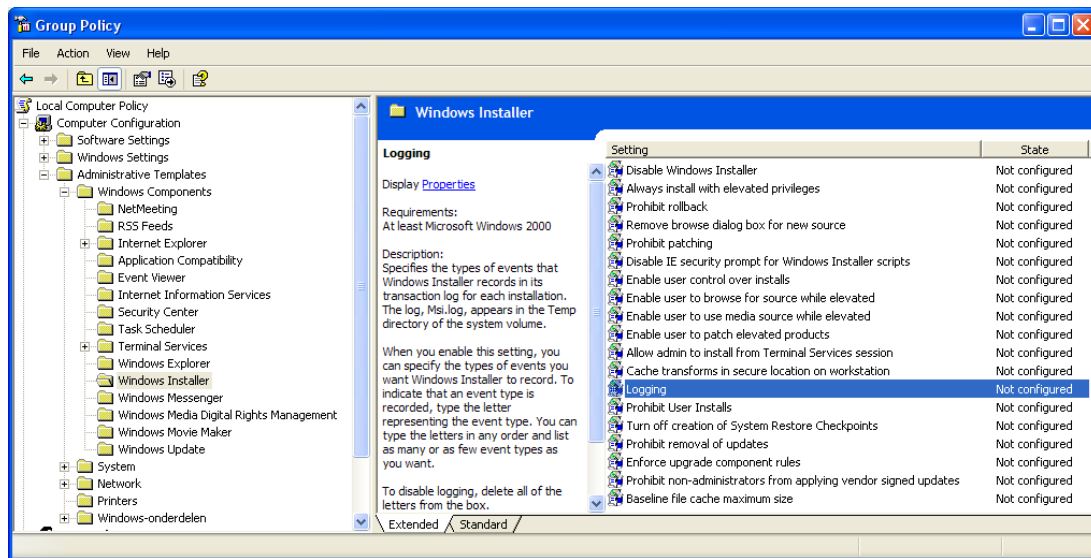
4. Enter the string provided in the dialog box, `voicewarmup!`, in the **Logging** text field and click **OK**.

5. Close the **Group Policy Editor**.

After you have performed these steps, in the `%TEMP%` folder, whenever a file that uses Windows Installer technology (regardless of whether it ends in **.msi** or **.exe**) is run, a new file with the name `MSI*.log` will be created. You can enter the string `"%TEMP%"` without quotes in the Address Bar of Windows Explorer to find that folder for the user executing the installation.

Determining if a Silent Installation has Completed and is Successful

You can use following methods to detect if a silent installation has competed and whether or not it has been successful:

- Call the installer (from the command line or other), and wait for the call to return. After it has returned, the installation may not yet have been completed because the Microsoft Windows Installer process (msiexec.exe) is a client-server model which runs asynchronously. If you use this method, you must invoke the installation using verbose logging. Use the "tail" or similar command to poll the Log file (for example, every five seconds). When it has completed, it will contain one of the following strings at the end of the log:

  Success:

  "Installation operation completed successfully."

  Failure:

  "Installation operation failed."

- If you use the MsiInstallProduct() method, check the result code returned from the function. msiInstallProduct() returns ERROR_SUCCESS or a detailed error code.

Uninstalling a Silent Installation

You use the following command line parameters to uninstall a silent installation. The required fields are in bold.

```
msiexec.exe /X "c:\IntelliSpace PACS Enterprise.msi" /qn /l*v! "c:
\foo.txt" or
```

```
msiexec.exe /X "c:\IntelliSpace PACS Radiology.msi" /qn /l*v! "c:
\foo.txt"
```

You must specify the identical .msi file which was originally used to install the product. If you do not have it, you can use the following command:

```
msiexec.exe /X{GUID} /qn
```

where {GUID} is the Product Key of the to-be-uninstalled installation. The product key can be obtained from the registry. One of the GUIDs in HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\Uninstall is the product key. Each GUID has multiple string values. To find the product key for IntelliSpace PACS Enterprise or IntelliSpace PACS Radiology, check the DisplayName and DisplayVersion string values.

Automated Installation on Remote Machines (not supported)

The IntelliSpace PACS Enterprise client.msi installer has been verified to install silently from the command line on a single workstation. Deploying to multiple workstations may be achieved using third-party deployment mechanism (for example, Group Policy, SMS, or Marimba). With mass deployment mechanisms, however, it is *your responsibility* to configure your third-party software and to ensure that installation via your selected method works properly.

When running the ".msi" version of the Client installer, on Windows 7, a UAC Administrator must manually pre-elevate the process from which he is executing the installer.

Important

Philips recommends setting up a test environment to verify installation on a limited number of Clients before fully deploying the installation to all Clients.

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6 ClientWeb Installation

Overview

The ClientWeb installation method allows you to install IntelliSpace PACS Enterprise by pointing Internet Explorer to the web page URL (provided by the customer PACS administrator or IT department) of the customer's IntelliSpace PACS servers. Upon navigation to that URL, you can click a link to install IntelliSpace PACS Enterprise if the version of the Client available on the Server is not already installed on that user's workstation.

The ClientWeb link can be added to a hospital Intranet after the server has been installed. Any user, with or without administrative rights, can click on that link and load the most recent version of IntelliSpace PACS Enterprise.

During a ClientWeb install, an installation progress bar is displayed. Successful completion of a ClientWeb install is indicated by the appearance of the IntelliSpace PACS Enterprise login screen. The ClientWeb install does not place a configuration file on the workstation. Instead of using a configuration file, a URL is entered into the IE browser to point to the correct IntelliSpace PACS server.

The installer for IntelliSpace PACS Enterprise web Clients has changed from the ActiveX model available in some earlier releases to one utilizing Microsoft Windows Installer (MSI) technology. The installation package for IntelliSpace PACS Enterprise resides on the IntelliSpace PACS web server and cannot be run from any other location. If the web server is running a higher version or Maintenance Release of IntelliSpace PACS Enterprise than the Client, a download page is displayed, allowing the user to click a link to download the correct version.

Note the following:

- If a user connects to two different servers running two different versions of IntelliSpace PACS Enterprise, the ClientWeb installation method activates whichever version of the software is required by the server.

- If the IntelliSpace PACS Enterprise Client was installed via ClientWeb and it accesses an IntelliSpace PACS server at a higher Version Maintenance Release level, the newer Version Maintenance Release level is automatically initiated and completed before the IntelliSpace PACS Enterprise login screen is displayed. If the installation fails there may no longer be a valid IntelliSpace PACS Enterprise Client on the workstation and a new install needs to be reinitiated by pointing the Internet Explorer browser to the IntelliSpace PACS server.

- If you install via the .msi or standalone methods (.exe), Philips does not support the coexistence of multiple versions of the client. To avoid problems (for example, conflicts with shared applications), Philips strongly recommends that you upgrade your site to the newer version of IntelliSpace PACS Enterprise Client after test deployment has been successfully completed, and remove all older Client versions.

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Installing IntelliSpace PACS Enterprise with ClientWeb

- From a Client workstation, open Internet Explorer and enter `http://<server IP>`. This launches the new installation of the IntelliSpace PACS Enterprise Client.

NOTICE

In Secure Mode (https), the option **Do not save encrypted pages to disk** must be disabled in the client machine. Go to **Internet Options**> **Advanced**> **Security** and disable the option **Do not save encrypted pages to disk**.

Deploying the Package Manager

ClickOnce deployment is used to download and launch the Philips Package Manager executable. It is part of the.NET framework, starting with version 2.0, and enables users to install and launch the application using a single dialog box. When the user clicks **Run**, the Package Manager is launched which downloads, registers, and launches IntelliSpace PACS Enterprise.
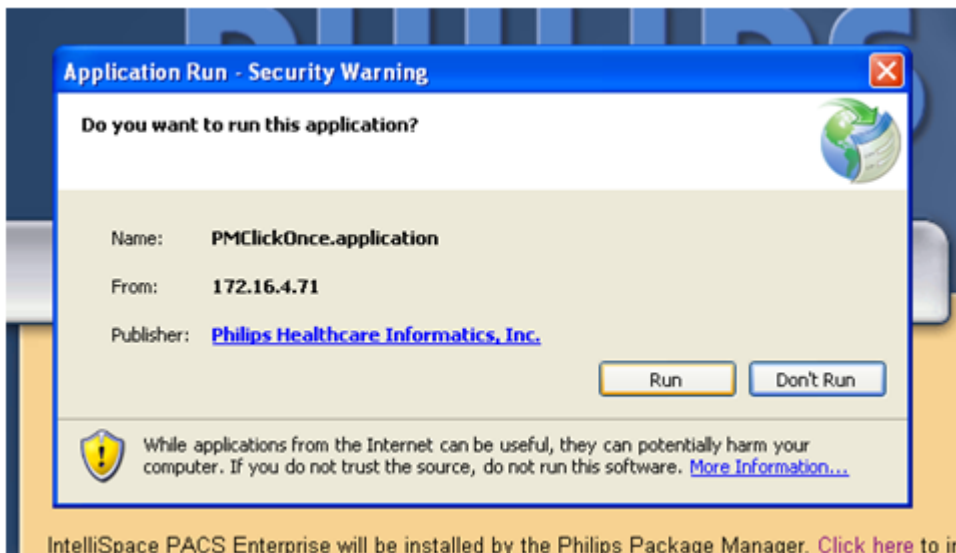
NOTE

If ClickOnce fails to launch Package Manager, the Package Manager can be launched from the `http://<server>/installers` page.

If .NET 2.0 or newer is not installed, the Package Manager is launched, instead of ClickOnce.

Note the following file locations for the Package Manager:

Item	Location
Packages on the server	`http://<server>/InfrastructureServices/PackageService/PackageService.svc/packages`
Deployed package version	`http://<server>/InfrastructureServices/PackageService/PackageService.svc/Philips/ISE/deployed`
Package Manager version	`http://<server>/InfrastructureServices/PackageService/PackageService.svc/Philips/PPM/deployed`
Log file (Windows 7)	`%PUBLIC%\Philips\PM`
Log file (Windows 8.1)	`%PUBLIC%\Philips\PM`

Internet Explorer Settings (Trusted Sites Only)

This section will guide you to configure Internet Explorer for Client Web.

1. On the client machine, open the **Internet Explorer.**

2. Click on **Tools** and select **Internet Options**.

3. Click on the **Security** tab.

4. Click on **Trusted sites**.

5. Ensure that the **Enable Protected Mode (requires restarting of Internet Explorer)** check box is not checked.

Setting Group Policy Object (GPO) from Domain Controller

This section will guide you to push the **Disable Protected Mode** settings to all clients using domain controller.

1. Open Control Panel.

2. Click on **System and Security**.

3. Click on **Administrative Tools**.

4. Click on **Group Policy Management**.

   The **Group Policy Management** window displays.

5. In the right pane, expand **Domains** to select your domain of the client machine.

6. Right click on the Domain and select **Create a GPO in this domain, and Link it here**.

   The New GPO screen displays.

7. Enter the **Name** for the new GPO and click **OK**.

   The new GPO will appear under the selected Domain.

8. Right click on the new GPO and select **Edit**.

   The **Group Policy Management Editor** displays.

9. On the right pane, expand **User Configuration**--> **Policies**--> **Administrative Template** --> **Windows Components** --> **Internet Explorer** --> **Internet Control Panel** --> **Security Page** --> **Trusted Sites Zone**.

10. In the right pane, locate and click on **Turn on Protected Mode** settings.

    The **Turn on Protected Mode** window displays.

11. Select the **Disabled** radio button.

12. Click **OK** to close the **Turn on Protected Mode** window.

13. Execute below command from the command prompt on the client machine to update GPO policy:

    – gpupdate /force

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7 Installing IntelliSpace PACS Clinical Applications

This chapter describes how to install the following Philips IntelliSpace Clinical Applications on IntelliSpace PACS IntelliSpace PACS 4.4:

- Philips IntelliSpace Volume Vision

This chapter is addressed to the PACS Administrators or the end user, depending on which party controls the user's workstation desktop software.

> **NOTE**
>
> In this chapter, the Philips IntelliSpace Clinical Applications are referred to as "Volume Vision", "Pulmonary Embolism Assessment", "Vessel Explorer" and "CT Colonography."

This chapter includes the following topics:

Overview

The Clinical Applications installation is part of the client and server setup: the installer for Clinical Applications is copied onto the IntelliSpace PACS server by Philips; end-users need to install Clinical Applications manually on each PACS client. Only members of the Administrators group can install Clinical Applications.

The Clinical Applications can also be remotely distributed and installed under the LOCAL SYSTEM account (as used, for example, by SMS). This is an internal Windows account which is the most trusted and most powerful.

Volume Vision can be installed on any IntelliSpace PACS Enterprise and IntelliSpace PACS Radiology client and offers multi-modality, multi-vendor 2D/3D viewing.

Volume Vision offers a clinical workspace that allows faster and easier diagnosis and review of image data. The tools extend the IntelliSpace PACS capabilities by adding MPR, MIP, 3D as well as other advanced visualization tools:

- Import, create and modify hanging protocols

- Endoluminal viewing

- 3D segmentation editor

- Linked 2D and 3D views

- Merge viewing

- Movie creation

- Volume of Interest viewing

Volume Vision can be used by any Windows user, who is a member of the Windows groups **Users**, **Power Users** or **Administrators**. If a site has implemented specific group-policies that affect the user rights, a problem may occur when accessing the shared folder, which is used to store intermediate DICOM files.

Volume Vision does not require a license key. The following Clinical Applications are optional and licensed. These applications provide a clinical workspace with a suite of clinical functionality.

- CT Colonography

- CT Pulmonary Emboli

- Vessel Explorer

Workstation Requirements and Recommendations

Volume Vision has a video card validation tool that determines if the card can be used for OpenGL acceleration of MPR, MIP and Volume Rendering. Most nVidia Quadro and Quadro FX cards and most ATI FirePro cards and Barco cards are compatible with Volume Vision.

The video card validation tool analyses any video card on its OpenGL functionality (not Image Quality). The new render drivers in Volume Vision are based on OpenGL 3.2, so for Volume Vision OpenGL 3.2 (or better) is recommended.

If the OpenGL version on the system is older, Volume Vision switches back to OpenGL 2.1. If there is no OpenGL on the system, Volume Vision switches to software (CPU) rendering.

Information about the video card and the OpenGL version on the system can be found in the Volume Vision Video board settings panel: **Options**, **Edit system settings**, **Video board settings**.

For a maximum render performance, the entire series should fit in the memory of the video card. The number of images that can be loaded is linear with the amount of memory on the video card.

Rule of thumb: 1 GB video card loads 1600 CT or MR images (512 x 512 x 16).

If problems such as render artifacts are observed if the video card is used, the video card should be disabled in the Video board settings panel. It is also possible that the video card passes the Volume Vision validation, but gives less render performance than the CPU. In this case, it is advised to disable the video card as well.

Preparing to Install the Clinical Applications

To install IntelliSpace Clinical Applications, the logged on user must be a member of the local Administrators group. Any user who is a member of this group can install the software, including members who are also in the Domain Administrators group.

Checking the Video Driver Version

It is recommended to install the latest video driver provided by the video board manufacturer.

Customizing the Monitor Settings (Windows 7)

The monitors can be aligned in the Windows Screen Resolution settings.

1. Go to **Start**, **Control Panel**.
2. Click **Appearance and Personalization**, **Display**, **Adjust resolution**.

3. Drag the monitor icons to align the monitors in the preferred position.

4. Click **OK**.

Installing Clinical Applications Software From Removable Storage

The Clinical Applications installer is stored on the IntelliSpace PACS server. The Clinical Applications can be installed manually from IntelliSpace PACS Radiology or IntelliSpace PACS Enterprise. However, the Clinical Applications software can be installed locally without running IntelliSpace PACS Radiology or IntelliSpace PACS Enterprise or remotely distributed and installed (with SMS, for example). The following files are required for installation:

File	Size (approx)
VF_IS_Installer.exe	120 MB
Philips.VolumeVision-8.2.6.1.xml	1 kB
dotNET35_SP1_32bit.exe	80 MB
dotNET35.xml	1 kB

File	Size (approx)
Win 7 (64 bit) VF_IS_Installer.exe	120 MB
Philips.VolumeVision-8.2.6.1.xml	1 kB
dotNET35_SP1.exe	230 MB
dotNET35.xml	1 kB

Ask your Philips representative to provide the files and put these files on the media you want to use (for example, USB or CD).

Installing the IntelliSpace PACS Clinical Applications Software

To install IntelliSpace Clinical Applications, the logged on user must be a member of the local Administrators group. Any user who is a member of this group can install the software, including members who are also in the Domain Administrators group.

Installing through IntelliSpace PACS Enterprise or IntelliSpace PACS Radiology

The Clinical Applications installer is stored on the IntelliSpace PACS server, which distributes the software to client machines.

NOTE

The Clinical Applications software installs .NET framework version 3.5 SP1. This might affect other applications on the client PCs that use an older version of .NET framework. An error message displays if .NET framework version 3.5 SP1 is not available.

1. Start IntelliSpace PACS Radiology or IntelliSpace PACS Enterprise and log on as user with local Administrator rights.

2. Select **Installed Programs**. If the Clinical Applications software is not installed or a newer version of the software is available on the server, the text is displayed in red.

3. Select the new version to install; the **Install** button is enabled.

4. Click **Install** to start downloading the installer from the PACS server.

5. Click **OK** in the pop-up message, stating that the application will be terminated if you proceed with the installation.

    The previous version is uninstalled (if present). The user settings of the previous installation are preserved. Several messages are displayed during the un-installation. After uninstalling the previous version, the installer starts to install the latest version.

6. Click **OK** when the installation is finished.

Installing by Removable Media

Before installing Clinical Applications software on IntelliSpace PACS clients, verify that the files in "Installing Clinical Applications Software From Removable Storage" on page 46 are available on the media you want to use (for example, USB or CD).

Local Installation

Local installation is the same kind of installation as installing via the IntelliSpace PACS Radiology or IntelliSpace PACS Enterprise application. The installation is started from removable media using Windows Explorer.

1. Close all programs.

2. Open Windows Explorer.

3. Browse to the media that contains the files provided by Philips.

4. Copy all files to:

   - Win 7: C:\ProgramData\Philips\Packages

5. Rename **Manifest file dotNET35.xml** to **Philips.dotNET_VolumeVision-3.5.xml**.

6. Double-click **dotNET35_SP.exe** (Win 7 (64 bit)) or **dotNET35_SP_32bit.exe** (Win 7 (32 bit)), which will start the installation of .NET framework 3.5 SP1. Use default settings during installation.

7. When the installation of .NET framework 3.5 SP1 has finished, double-click **VF_IS_Installer.exe**, which will start the installation of the Clinical Applications.

   The previous version is uninstalled (if present). The user settings of the previous installation will be preserved. Several messages are displayed during the un-installation. After uninstalling the previous version, the installer starts installing the latest versions.

8. Click **OK** when the installation is finished.

Remote Distribution and Installation

When Volume Vision needs to be deployed to a large number of clients, the software can be distributed remotely from a distribution server or PC and installed accordingly. Commonly used software tools which are used for deployment are SMS and SCCM.

Before starting the deployment of the Clinical Applications software remotely make sure that:

- IntelliSpace PACS clients are running and logged on with local administrator rights;

- IntelliSpace PACS Radiology or IntelliSpace PACS Enterprise are not running;

- When installing on Windows 7, file and printer sharing is turned on, which can be set using **Change advanced sharing settings**.
- Rename **Manifest file dotNET35.xml** to **Philips.dotNET_VolumeVision-3.5.xml**.

During the deployment and installation, make sure that the deployment tool copies the files mentioned 'Installing Clinical Applications Software From Removable Storage' (see page 51) to:

- Win 7: C:\ProgramData\Philips\Packages

Make sure that the deployment tool will first run .NET framework 3.5 SP1 and after that the Clinical Applications installer.

System Restore after Installation

During each installation of the Clinical Applications software, a system restore point is created (provided that the System Restore setting is not disabled in Windows). If, for some reason, the Clinical Applications installation fails (for example, due to low disk space on the client), the system can be recovered to the situation right before the installation of the Clinical Applications software. To restore the system, make sure to log on as a user with local administrator rights.

System Restore (Windows 7)

1. Go to **Start**, **All Programs**, **Accessories**, **System Tools** and select **System Restore**.
2. Select **Choose a different restore point** and click **Next**.
3. Select the appropriate Restore Point (typically the most recent) and click **Next**.
4. Click **Finish** and click **Yes** to reboot the system.
5. Log on as user with administrator rights and click **Close** on the **System Restore** panel. At this point, the system has been restored.

User Permission Management

Users are associated with groups. Any user who is a member of a group gets the application rights specified by the policies to which that group is assigned, and gets the organization specific tasks specified by the roles assigned to the group.

For a complete overview of tasks, rights, roles, policies and groups, see the IntelliSpace PACS Admin Tool documentation.

The usage of Clinical Applications is also based on policies and roles. These can be defined by logging on to http://<IP_SERVER>/pacsadministration.

Rights

The following rights are applicable for Clinical Applications:

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Display Name	Description
System Settings: Manage System Hanging Protocols	Grants the user the ability to create, read, update and delete System hanging protocols.
System Settings: View System Hanging Protocols	Grants the user the ability to view System hanging protocols.
User Settings: Manage User Hanging Protocols	Grants the user the ability to create, read, update and delete User hanging protocol groups.
VolumeVision: iSyntax Application Server	Grants the user the ability to access the Application Server.
VolumeVision: Store To PACS	Grants the user the ability to store captures and movies into the patient folder.

NOTE

The right "VolumeVision: iSyntax Application Server" grants the user the ability to access to the application server with a thin client. The application server is applicable for clinical evaluation purpose only.

Tasks

Depending on the provided license file, the following tasks are applicable for Clinical Applications:

Display Name	Description
VolumeVision: Clinical Science Key	Grants the user the ability to import and view CAD data.
VolumeVision: CT Colonography	Grants the user the ability to open a study with CT Colonography.
VolumeVision: CT Pulmonary Emboli	Grants the user the ability to open a study with CT Pulmonary Emboli.
VolumeVision: Vessel Explorer	Grants the user the ability to open a study with Vessel Explorer.

NOTE

The task "VolumeVision: Clinical Science Key" grants the user the ability to import and view CAD data and is only applicable when combined with the role "VolumeVision: CT Pulmonary Emboli." The Clinical Science Key is for clinical evaluation only. A separate key is needed, which is part of the clinical evaluation contract.

Verifying Installation

1. Start IntelliSpace PACS Radiology, and log in with administrator rights.

2. Open the **Preferences** dialog box (**P** at right top) dialog box to verify that the plug-in is configured properly.

3. Expand **Machine Preferences** and select **Plug Ins**.

4. Select **ViewForum ISR** and click **Properties**.

5. Check to make sure the installation directory contains VolumeVision.htm:

   - Windows 7 (64-bit): C:\Program Files (x86)\PMS\ViewForum\iSite

6. Close the **Preferences** dialog box.

7. Check to make sure the **Install** button cannot be enabled. This indicates that the current version is the latest version.
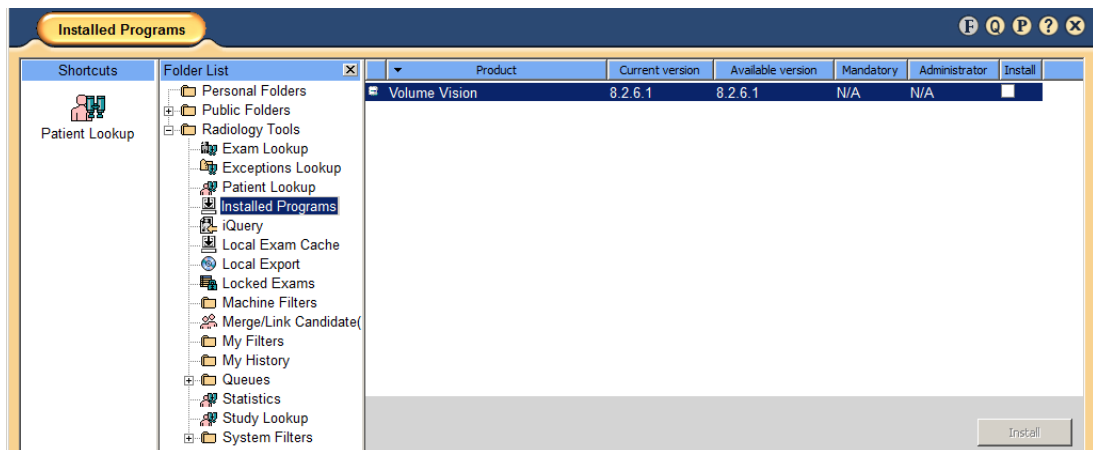
8. Open the IntelliSpace PACS Radiology or IntelliSpace PACS Enterprise Canvas Page and right-click on an image. The Clinical Applications menu items (MPR, MIP, Volume Rendering and Restore Bookmark) should be present, as well as Philips Applications.

NOTE

If the Clinical Applications have not completed loading, STARTING is displayed instead of these menu items.

Post-Installation

Changing the Memory/Monitor Settings

1. Log into IntelliSpace PACS Radiology or IntelliSpace PACS Enterprise.

2. Select **Patient Lookup**.

3. Expand a patient from the list and open an exam.

4. On the Canvas Page, right-click on an image and select MIP, MPR, or Volume Rendering from the context menu.

5. In Clinical Applications click **Options**, then **Edit System Settings**.

6. Select the **Memory/Monitor Settings** tab.

7. The slide bar can be used to adjust the memory size. Click **Optimal** to return to the default values for your system.

8. Enable the monitors that will be used for the Clinical Applications.

9. Select the correct monitor type per enabled monitor if necessary. The number of monitors and the order as specified in Windows will also appear in the system settings **Memory/Monitor settings** tab.
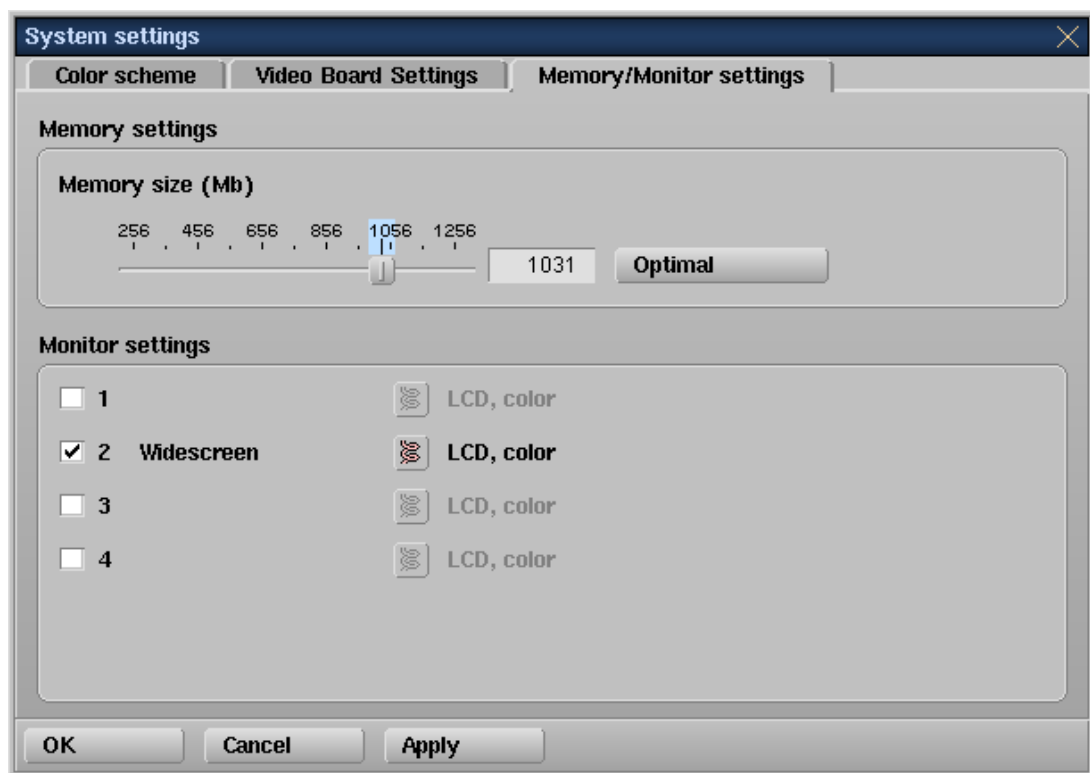
10. Click **OK**.

11. Restart IntelliSpace PACS Radiology or IntelliSpace PACS Enterprise.

Customizing the Virus Scanner

Make sure you are logged in to the Operating System with local administrator rights.

For performance improvement, we recommend excluding following files from scanning (on access and on-demand scanning) for all users:

*This should be done for all Windows users who use Clinical Applications

Windows 7 (32-bit):

- C:\ProgramData\PMS\ViewForum*.*
- C:\Program Files\Philips*.*
- C:\Program Files\PMS*.*
- C:\Pagefile.sys

Windows 7 (64-bit):

- C:\ProgramData\PMS\ViewForum*.*
- C:\Program Files (x86)\Philips*.*
- C:\Program Files (x86)\PMS*.*
- C:\Pagefile.sys

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Upgrading

Software upgrades including upgrades classified by Philips as mandatory are communicated to your site by a Philips representative (that is, the Technical Account Manager). Mandatory upgrades must be installed. Upgrading the Clinical Applications software is the same as a clean installation.The current software is removed and the new software is installed.

 NOTE

 During an upgrade, the user settings of the previous installation (R7.4 onwards) are preserved.

Uninstalling Clinical Application Software

To uninstall IntelliSpace Clinical Applications, the logged on user must be a member of the local Administrators group. Any user who is a member of this group can uninstall the software, including members who are also in the Domain Administrators group.

Windows 7:

1. Go to **Start**, **Control Panel**, **Uninstall a Program**.

2. Select **Philips Medical Systems IntelliSpace PACS Clinical Applications**.

3. Click **Uninstall**.

4. Click **Yes** to confirm removal of the program.

Logging

If a problem occurs during the use of Clinical Applications, log files should be collected and sent to Philips for further investigation. The **Log Files** menu with various options can be found in the Start menu: **Start**, **All Programs**, **IntelliSpacePACSClinicalApplications**, **Service**, **LogFiles**.

Philips
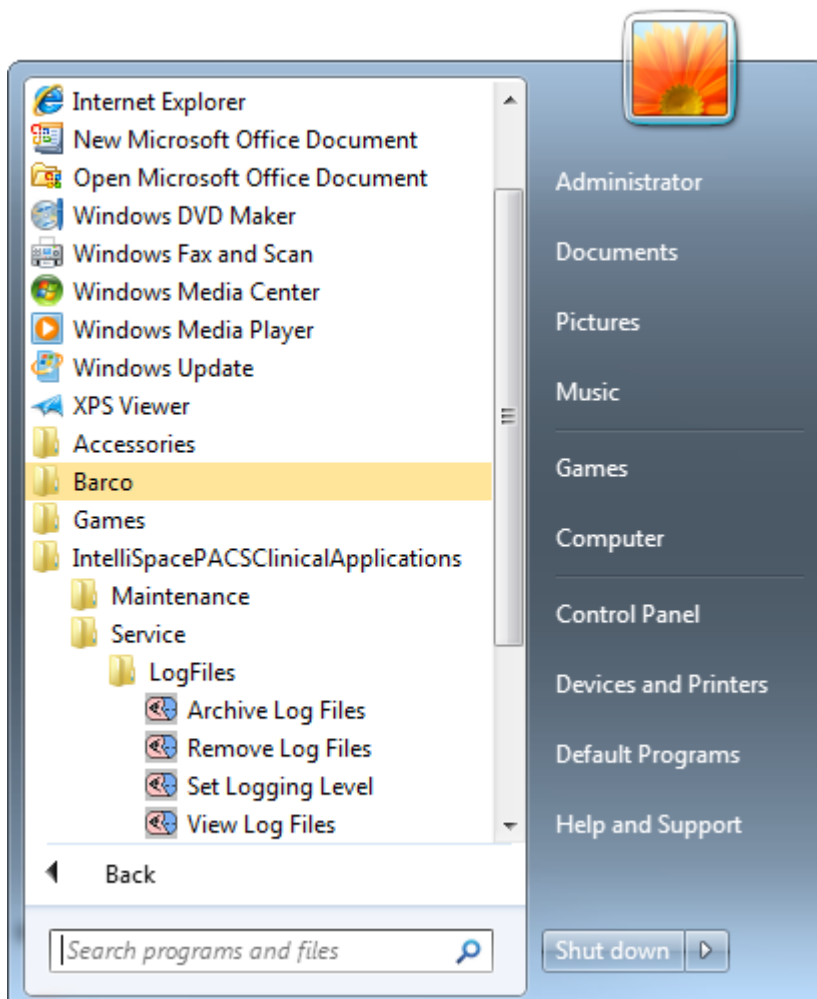
Archiving the Log Files

Log files are archived in a ZIP file.

1. Select **Archive Log Files** from the menu.

2. Click **Browse**.

Philips
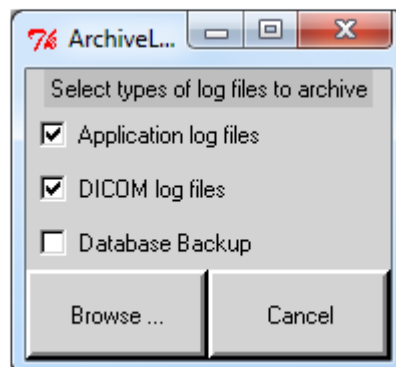
3.   Choose the media on which the log files should be saved (for example, USB disk).

Removing Log Files

Under normal conditions, the storage on the disk is large enough to hold years of log files. However, it is possible to remove the log files.

1.   Select **Remove Log Files** from the **Log Files** menu.

2.   Click **OK**.

Setting Logging Levels

If extended logging is required, you can set logging levels. Be aware that enabling logging can influence the performance of your system. Remember to disable the logging levels once it is not required anymore.

1.   Select **Set Logging Level** from the **Log Files** menu.
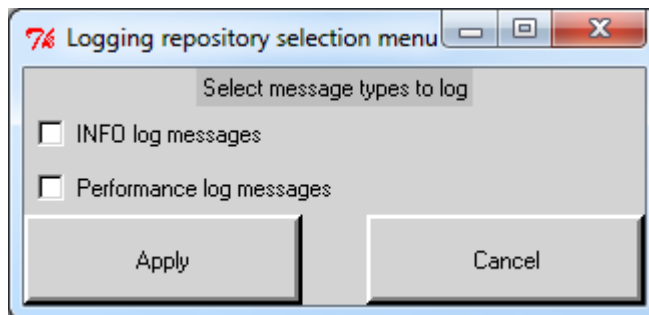
2.   Enable the required options.

3.   Click **Apply**.

Viewing the Log Files

1.   Select **View Log Files** from the menu.

2.   Select the log file that you would like to see.

3.   Click **Select**.

8 Upgrading IntelliSpace PACS

This chapter includes the following topics:

Note the following about upgrades:

- Major and minor upgrade installation always happens in a new, default folder (except for auto-upgrades and silent install upgrades).

- Previous major and minor versions can either run side-by-side with a new version of IntelliSpace PACS, or they can be uninstalled. However, you cannot have more than one maintenance release versions of the IntelliSpace PACS client on the same machine. For example, iSite PACS 3.6 and IntelliSpace PACS 4.4.540 can be installed side-by-side. IntelliSpace PACS 4.4.540.0 and IntelliSpace PACS 4.4.550.0 cannot be installed side-by-side, but 4.4.540.0 can be upgraded to 4.4.550.0 Also, in side-by-side support, the uninstall of one of the clients will not affect the other (applicable to Standalone ISE and ISR (installed by exe and msi installers)).

- If the major or minor upgrade fails, the installer rolls back any changes made to the system.

- The installer tracks who ran the installer, and the success or failure in a log file and the System Event log.

- Upgrades to a new Maintenance Release can be automated for each IntelliSpace PACS Radiology or IntelliSpace PACS Enterprise workstation if the AutoUpgrade flag is set to TRUE in the configuration file on the workstation and the Microsoft Windows user has Administrator access level. Note that this only applies to theIntelliSpace PACS Enterprise and IntelliSpace PACS Radiology . **exe** and silent installations, not ClientWeb. When this flag is set, the IntelliSpace PACS Client is upgraded whenever it attempts to access an IntelliSpace PACS server at a higher Maintenance Release of the same Version running on the Client.

- If the AutoUpgrade flag is set to FALSE, the new Maintenance Release will need to be installed using one of the methods described in "Installation Options Summary" on page 11.

Side-by-Side Install with an Earlier Version

You can install the IntelliSpace PACS clients on the same machine with an earlier version of the iSite or IntelliSpace PACS clients. This is called a side-by-side install. The earlier version could be any version from iSite 3.6 to iSite 4.3. For a side-by-side install, the major or minor version must be different.

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NOTE

For IntelliSpace PACS 4.5, for example, the "4" is the major version and the "5" represents the minor version.

You can't have two instances of the same major and minor release installed side-by-side where only the release versions are different (for example, 4.4.540.0 and 4.4.550.0). In that case, the 4.4.540.0 clients could be upgraded to 4.4.550.0, but you could not have both releases installed side-by-side on your client machine.

You could, for example, have both iSite PACS 3.6.130 and IntelliSpace PACS 4.4.550.0 installed on the same client machine. If you uninstall one client (for example, iSite PACS 3.6.130), the other client (for example, IntelliSpace PACS 4.4.550.0) would not be affected, regardless of whether they were installed by .exe or .msi installers.

Using the Auto-Upgrade Feature

The Auto-upgrade feature is one way to automatically update the IntelliSpace PACS Client. After you configure the Auto-upgrade feature, you will not have to set up this feature again.

1. In the IntelliSpace PACS Client workstation, open Windows Explorer and browse to the configuration file in the root directory of the folder where the IntelliSpace PACS Client was installed.

2. Double-click the configuration file to open it in Notepad.

3. Set the following parameters:

   - **iSyntaxServer**: Enter the Server IP address

   - **AutoUpgrade**: Set to "TRUE"

   For example:

   ```
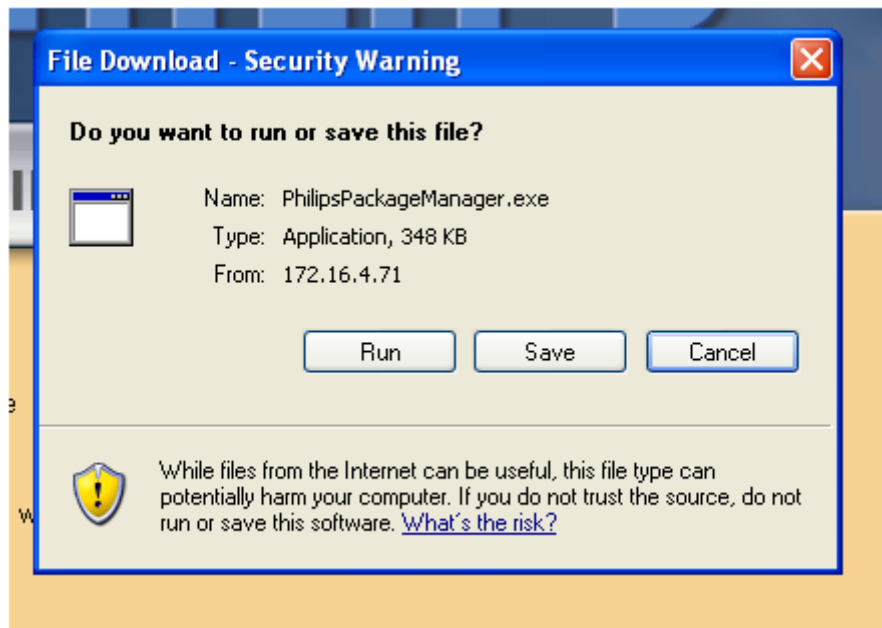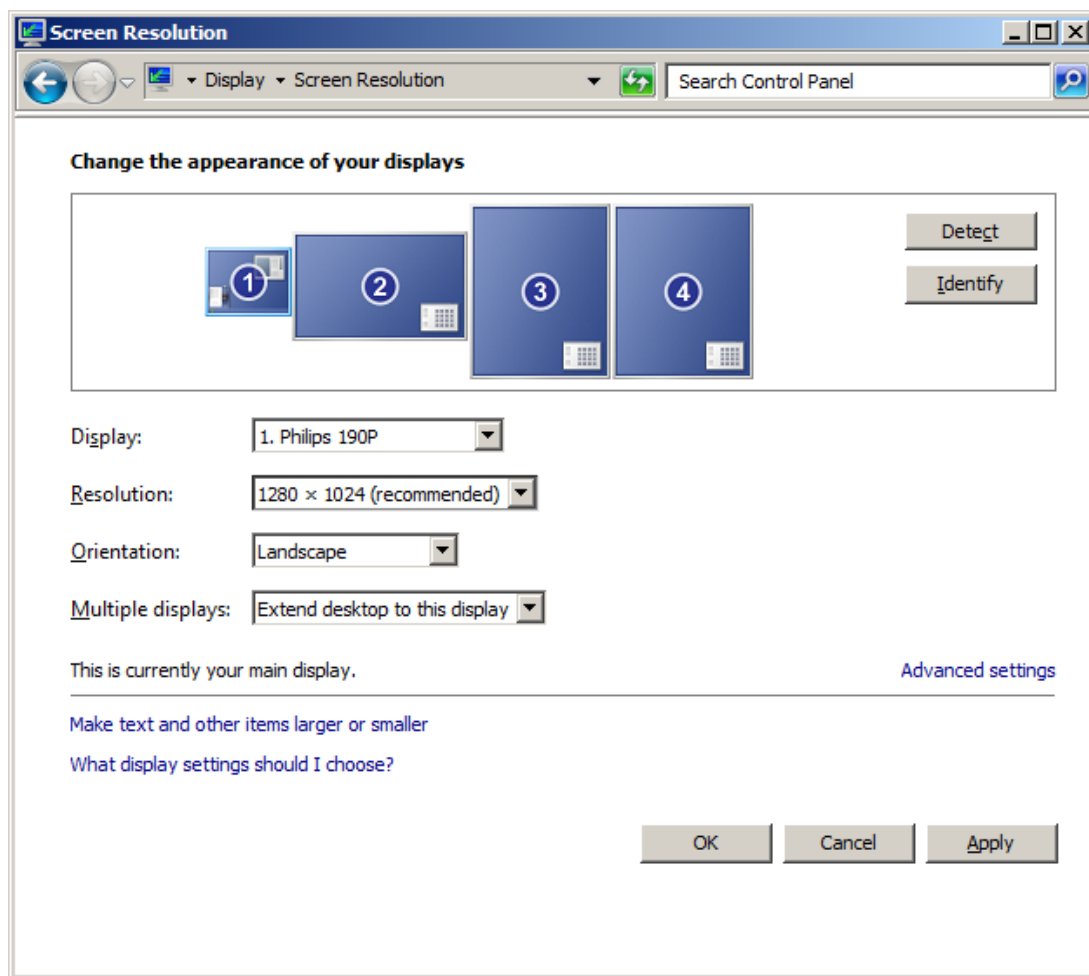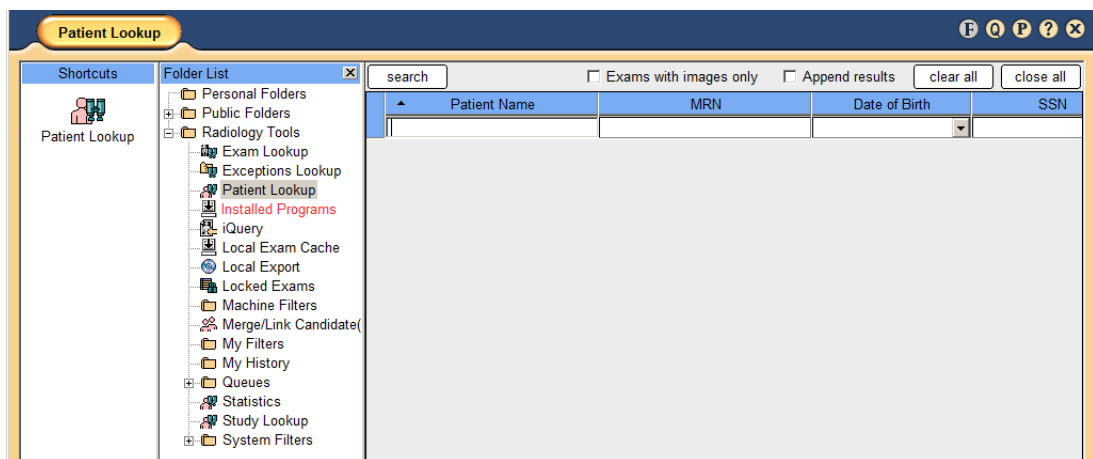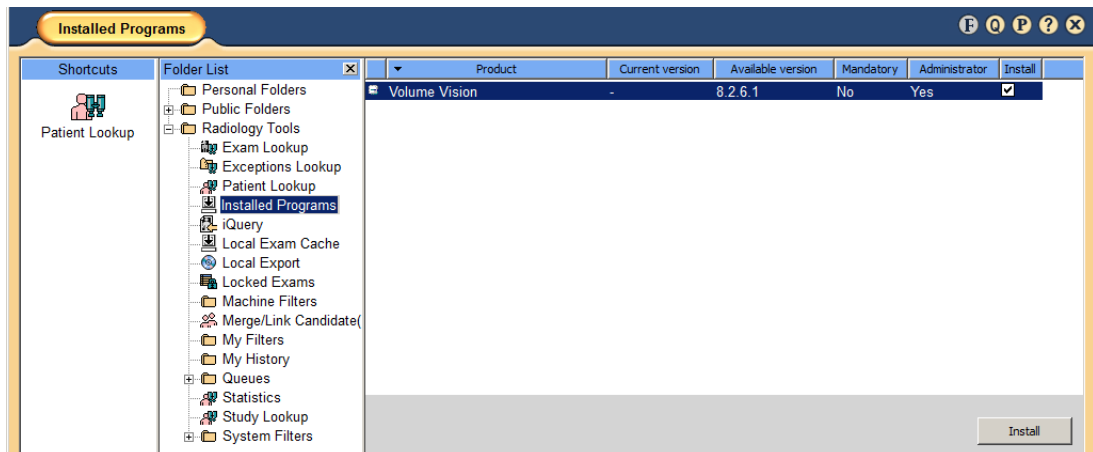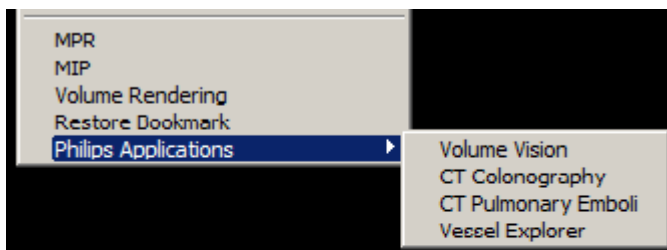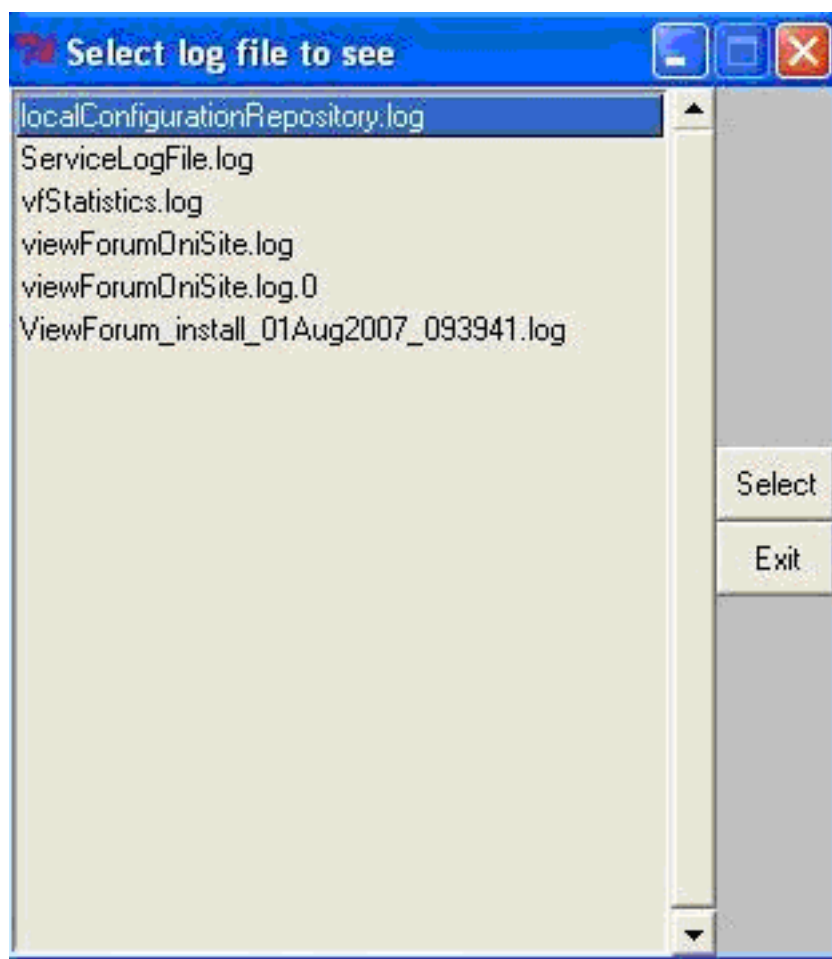   [Server]
   Options= "StentorBackEnd"
   Port= "6464"
   iSyntaxServer="172.16.8.133"
   AutoUpgrade= "TRUE"
   ImageSuiteDSN= "iSite"
   ImageSuiteURL= "http://172.16.8.133/iSiteWeb/WorkList/
   PrimaryWorkList.ashx/"
   ```

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NOTE

When performing an auto-upgrade from 4.4.550 to higher versions such as 4.4.551 (Windows 2012 server), "FQDN" must be used in the "iSite ini file" instead of the IP address. Also, ensure that valid security certificates are installed on the client machine before starting the auto-upgrade.

4.   Save and then close the configuration file.

Estimated Downtime Periods

Before an upgrade, you should communicate estimated downtime periods. Customers with large study volumes or large databases should consult with Customer Care on estimated downtime.

Upgrade Checklist

The following table can be used as a checklist for the high-level steps that need to occur for an IntelliSpace PACS Client upgrade to be successful. See the *IntelliSpace PACS Planning Guide* for more detailed information.

Step
Philips Technical Account Managers notify individual customers of the general release of IntelliSpace PACS, provide appropriate documentation, and schedule the upgrade process.
Customers have the Test Server upgraded first. (Test Servers are standard with HL7 Integration.)
Customers receive "Train the Trainer" training for PACS Administrators.
Customers test the upgrade in their Test Environment, as follows: • Follow "Life of a Study" workflow (Registration, Admission, Order Entry, Procedure Scheduling, Query DMWL, Begin Procedure, Complete Procedure, Dictate Report, Preliminary Report, Final Report). • Evaluate specific Use Cases from Philips. • Perform API integrations.
Customers provide training to "key personnel."
Customers contact their Technical Account Managers to arrange for the upgrade (on production systems).
Customers develop Communication Plan for the Upgrade.

Step
Customers develop Training Plan for the Upgrade.
Customers develop the Client-side Upgrade Deployment Plan and communicate the Upgrade to their healthcare enterprise.
Customers provide training to users and confirm upgrade date/time.
Customers switch over to PICS (following Downtime Procedures).
Philips Customer Care upgrades the production system.
Customers switch back from PICS.
If the PACS Administrator had to change the password on the local machine to have the IntelliSpace PACS Client removed from a User workstation, they should notify users about the new password.
Customers deploy the Client-side upgrade.

Upgrade Best Practices

The planning steps and procedures in this section assume the following:

- If your site is equipped with a test server, you prepare to use it to conduct pre-upgrade testing.
- If you have a Philips Image Continuity Server (PICS), you prepare to use it as a limited PACS server during downtime in the upgrade procedure.

The upgrade process includes roles for both you (the customer) and for Philips Healthcare Informatics (Philips). The upgrade process includes the following parts:

- (see below)
-
-

Test Deployment

When IntelliSpace PACS is released for distribution, the software is installed first in a test environment at your site. This test environment allows you to use the software with a small number of Clients to identify and resolve any issues before deploying to the production system.

During the testing phase, a Philips Applications trainer schedules training with your PACS team to review IntelliSpace PACS and learn new features and functionality.

Important

Philips provides Release Notes detailing the new and enhanced features in IntelliSpace PACS. You are responsible for developing a detailed Test Plan to ensure that all relevant features and functionality and all third-party integrations work in the test environment. You can use the IntelliSpace PACS test server for both internal training at your site and upgrade preparation.

Production Upgrade

Before upgrading the production environment, you must:

- Ensure that the Philips Image Continuity Server (PICS) is functioning as desired and can serve the roles needed during downtime.
- Develop and disseminate an Upgrade Communication Plan.

When the upgrade has been scheduled:

1. Philips Customer Care will confirm the duration for the upgrade, as well as the duration for rolling back the upgrade, should that be necessary.
2. Philips Customer Care will contact you at the beginning of the scheduled downtime.
3. When downtime commences, your PACS team will notify users to shift their access to the PICS server.
4. Philips Customer Care will perform the upgrade to all of the IntelliSpace PACS servers, and will notify your PACS team when the upgrade has been completed.
5. When the IntelliSpace PACS Server upgrade procedure is complete, Philips Customer Care will contact you to verify that the system is online and accessible, and that all pre-upgrade configurations are intact. This will require your PACS team to access the system and validate the basic functionality of the system.
6. The site will upgrade the IntelliSpace PACS Client software.
7. After the upgrade is successfully validated, you will notify users that they can access the production system once again.

Post-Upgrade Validation

When the production system upgrade is complete:

1. You will move operations off of downtime procedures and back onto the production system. You should continue to monitor the system to verify successful operations.
2. Philips Customer Care will monitor the system Heartbeat dashboard and will respond as required to any errors reported. Philips Customer Care will communicate to you any issues that potentially impact operations.
3. Philips Customer Care will upgrade the PICS server to sync up with the production system.

NOTE

For all clinical uses of IntelliSpace PACS, the release level of the IntelliSpace PACS Enterprise Client and IntelliSpace PACS Radiology Client must match the release level of the IntelliSpace PACS Server. However, there may be situations where a Client may be able to access a Server of a different release level. Release level mismatches do not conform to the intended use of IntelliSpace PACS and are not officially supported by Philips.

9 Prefetcher Configuration

Introduction

The Prefetcher feature enables IntelliSpace Radiology Client to download series images in background without any interference to the main thread or user workflows. This helps Radiologists scroll through the images as well as play Cine in a seamless manner. Prefetcher starts immediately after loading a study.

This section explains various Prefetch configuration options available in IntelliSpace Radiology client version 4.7 and above.

NOTICE

Prefetcher Configuration is not available for Enterprise client.

Images to Prefetch is determined by the following criteria

1. Mouse hover: If you hover mouse on diagnostic window, the images belonging to that exam will get precedence and downloaded first. Each Diagnostic Monitor can have multiple Diagnostic windows, each with a stack of images.

2. Popup Prefetcher: Images of the series hung on the Popup Window.

3. Diagnostic Monitor: All images of the exams hung on all the diagnostic monitors. There can be multiple Diagnostic Montiors.

4. Main Exam: All images of the Main Exam.

5. Prior Exams: All images of the Prior Exams.

NOTICE

Prefetching for prior exams are disabled by default. However, this can be overridden by placing reticule or opening a popup window on a prior exam's thumbnail.

The user can alter the Prefetching sequence by moving the cursor, dragging and placing the reticule on a different exam, opening/closing shelfs, opening popup window etc.

iSiteWeb Configuration Options

The configurations explained in this section are applicable to all IntelliSpace Radiology clients connected to the server.

Size of each chunk for Image Fetching (MB)

This configuration allows the user to disable/enable Prefetcher or to choose whether to go for traditional style Single Image Prefetch or Range Image Prefetch. With Single Image Prefetch option, only one image will be prefetched in a single call. With Range Image Prefetch option, a group of images will be prefetched in a single call. For optimal performance, it is recommended to use Range Image Prefetch. With Range Image Prefetch option, fewer calls are made to the server.

Following are the list of options available for the parameter **"Size of each chunk for Image Fetching (MB)"**.

Value	Description
0	Disable new prefetch logic and fallback to older prefetch algorithm (i.e. prefetching happens only when mouse is hovering over a window).
>=1	Enable new Prefetch logic (i.e. mouse hover, diagnostic monitor, main exam, prior exam) with Range Image Prefetch.

Login to iSiteWeb interface and go to the tab **General** under **Client Configuration** (Refer the image below).

It is recommended to set the value to >= 1 to get optimal performance.

NOTICE

The value configured in iSiteWeb is not related to the chunk size configured in IntelliSpace Radiology Client. Chunk Size for Range call can be configured in Client in the Preferences.

General Configuration

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Client Workstation Specific Configuration

This section describes various isite.ini file parameters and Client Preferences related to Prefetcher. These parameters are applicable to the machine on which you are currently working.

Isite.ini file configurations

Default parameters are enough for most of the scenarios. Modify these parameters only if you want to override the default behavior.

Section	ini file option:	Description
[Server]	Options= "DisableInMemPrefetcher"	Specify this parameter to disable prefetcher. By default, Prefetcher is enabled. E.g. [Server] Options= "StentorBackEnd,DisableISSA,DisableInMemPrefetcher"
	Options= "EnableRangeLocalCaching"	Add this parameter to enable LocalExamCache to make range calls to retrieve data when there is no "merge condition" for users connecting to remote locations with Network Affinity WAN but not a Virtual Remote Location. Each range call will retrieve multiple images in a single call. The chunk size of each range call is determined by isiteweb RemoteTransfer chunk size attribute which is 25MB by default.

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Section	ini file option:	Description
[Prefetcher]	ThreadCount	Number of prefetching jobs that can be executed in parallel at a given time. This value should be chosen carefully, for most of the processors ideal value would be half of the logical processor count. Also consider the bandwidth speed while choosing this value as increasing the count will throttle the network bandwidth.
		Default value: 4
	ExtraJobCount	Number of extra prefetching jobs that will be queued in advance to make sure threads are not starved for jobs to start. It is not recommended to change this value.
		Default without ini override: 2
	PhysicalMemoryLimit Percent	Defines the % of Physical memory use threshold to be reached before prefetching will be stopped. Default without ini override: 60%
		Maximum allowed value is 80.
	ModalityList	Defines the list of modality types that will utilize the number of threads defined in ThreadCount value. If ModalityList is present in ini file with modality types other than that of the exam being displayed, only a single thread will be utilized for prefetching. If the ModalityList parameter is not defined in the ini file, all modality types will use the number of threads defined in ThreadCount. Multiple modalities can be specified as comma separated string as shown below ModalityList = CT,MR,MG
	PassiveModeThreadC ount	When a value < ThreadCount is set, gives preference to Cine by switching the prefetcher to passive mode with less number of parallel prefetch jobs at a time. Value >= ThreadCount or Value <=0 or not specified(default) then stops Prefetcher when Cine is ON.

ISR Client Machine Preferences

These parameters determine some of the characteristics of Prefetching. Open **Preferences** Window and go to **General Preferences** under **Machine Preferences** to modify these parameters.

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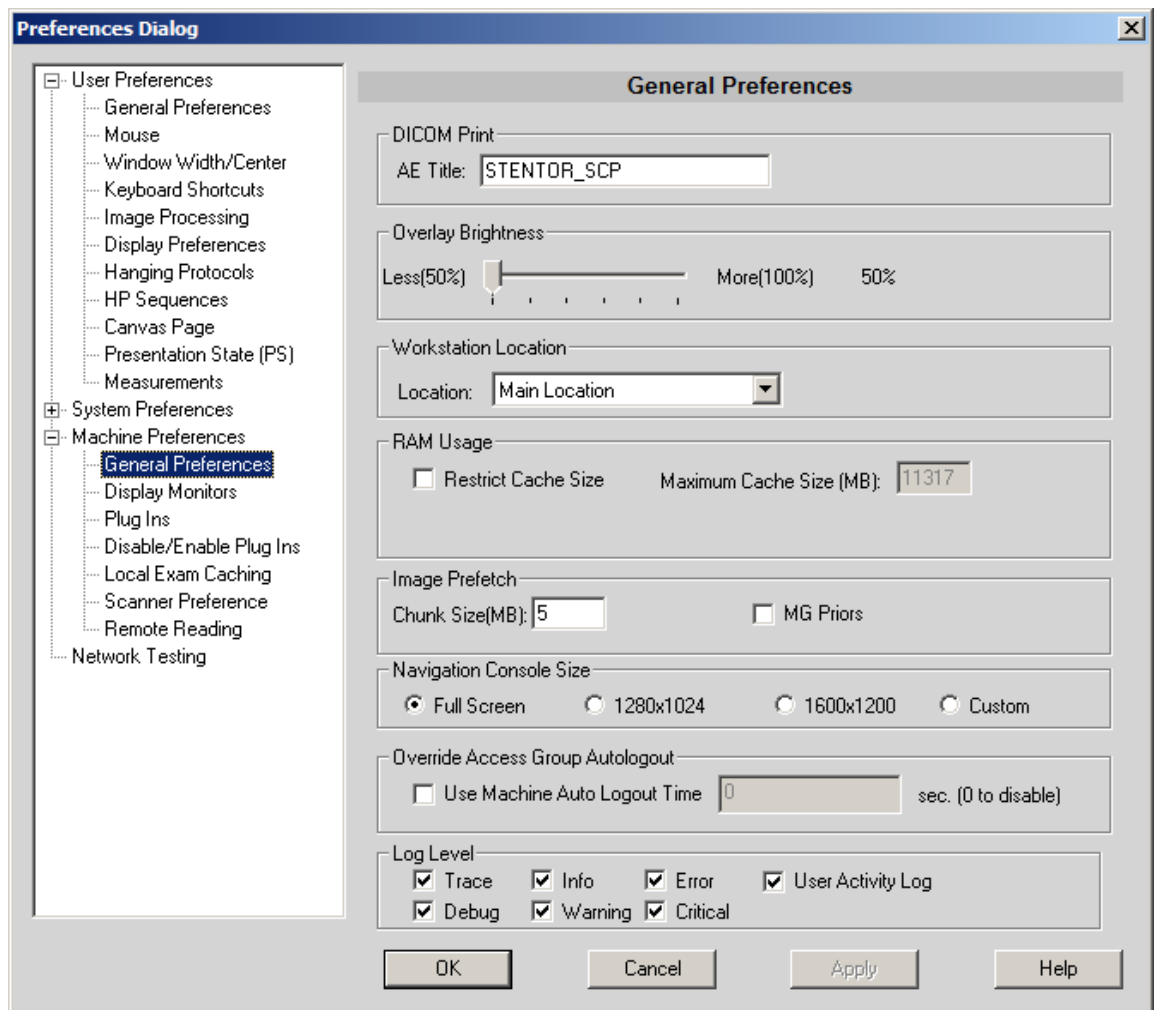
Do the following in the Image Prefetch region:

► In the **Chunk Size(MB)** field, specify the chunk size in MB for prefetching. Prefetcher will fetch as many images as can fit within the specified chunk size in a single request. Allowed range: 2 – 25. Default chunk size: 5 MB

► Select **MG Priors** option to enable prefetching of MG prior exams. Default setting: unchecked

"5" is the recommended value for Chunk Size, however higher value of this field coupled with a higher value of ThreadCount may give better results on high configuration machines connected to high bandwidth networks. Optimal results are dependent on Hardware capabilities such as number of Cores and band width speed. The best value can be arrived at trial and error method.

ISR Client Overlay configuration

"*Cached Percentage*" displayed in overlay, if configured indicates the percentage of images downloaded by Prefetcher. This should be configured separately for all required modalities.

Viewing Cache Percentage on the Screen Overlay

Follow these steps to view the Cache Percentage on the Screen Overlay:

1. Click the **P** icon in the upper right corner of the IntelliSpace Radiology Control Strip.

2. Click the **"+"** sign next to **System Preferences**.

    The list of available system preferences displays.

3. Select **Screen Overlays**.

    The Screen Overlays options displays on the right pane.

4. Select the modality to display the cache percentage.

    The **Overlay Dialog** displays.

5. Expand Calculated.

6. Locate **Cached Percentage**.

7. Drag and drop the Cached Percentage onto the Screen mockup region on the left side.

    Selected overlay is outlined with a red box.
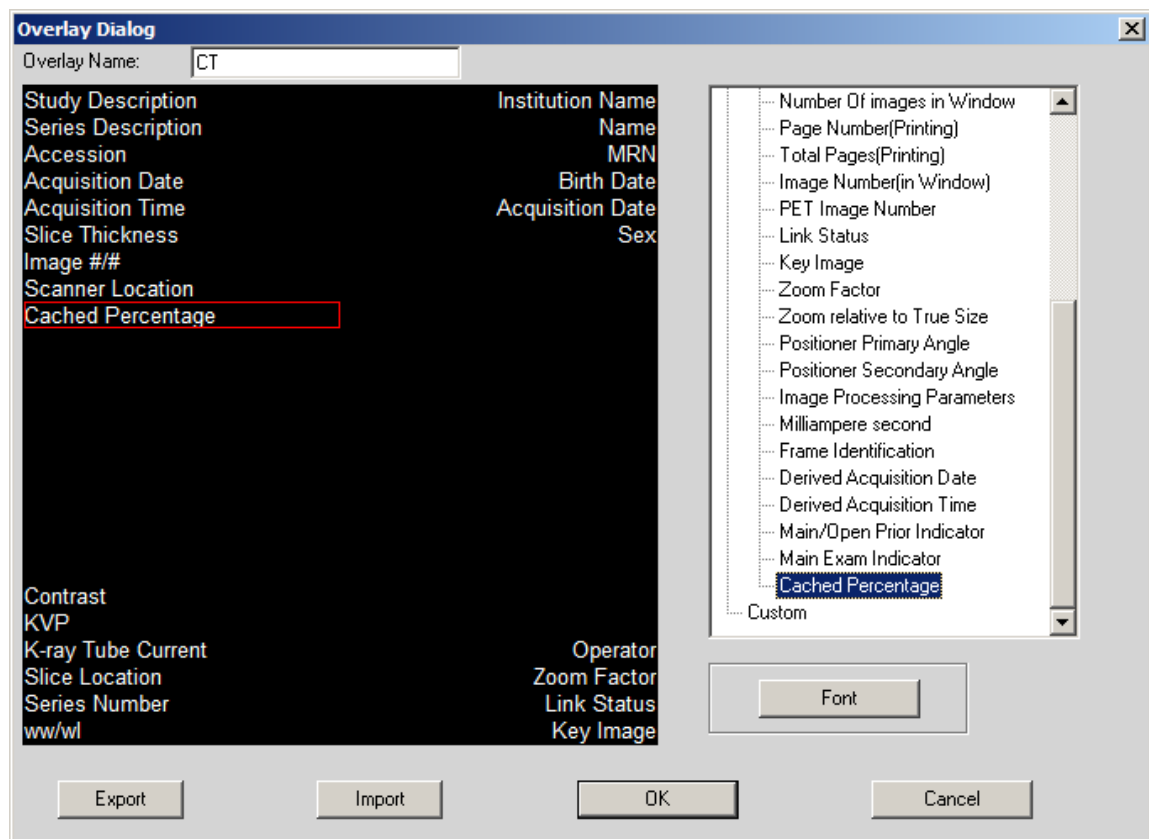
8. Click **OK** .

The images in the selected modality will display the cached percentage as shown below:
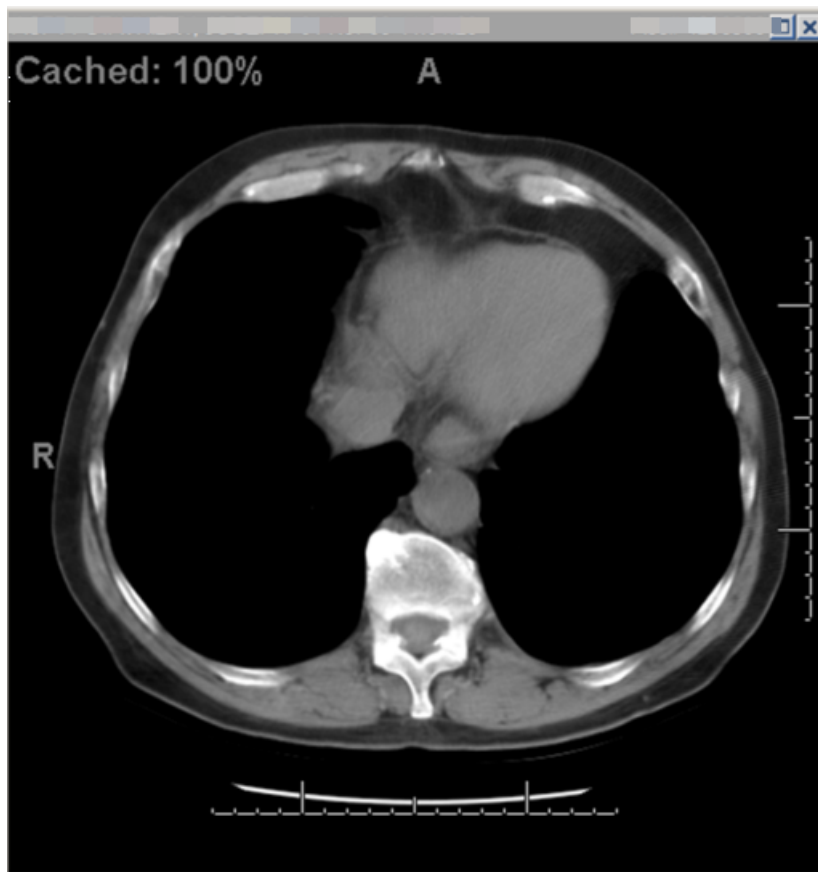
10 Tomosynthesis Slice Indicator Orientation Labels Configuration

This section describes various isite.ini configuration options available for orientation labels of the Tomosynthesis Slice Indicator.

NOTICE

If none of the below-mentioned attributes in the table is present for **isite.ini configuration**, then the default behavior will be:

Valid datasets: Orientation labels are displayed for all manufacturer datasets

Ambiguous datasets: Orientation labels are NOT displayed for Non-Hologic manufacturer datasets when the software identifies ambiguous DICOM tag values. Orientation labels are always displayed for Hologic manufacturer datasets.

Section	Attribute Value	Description
[Server] Options=	EnableSliceIndicatorLabelsForAmbiguousData	Valid datasets : Orientation labels are displayed for all manufacturer datasets
		Ambiguous datasets: Orientation labels are displayed for all manufacturer datasets even when the software identifies that the dataset has ambiguous DICOM tag values.
		E.g.:-
		[Server]
		Options= "StentorBackEnd,DisableISSA, EnableSliceIndicatorLabelsForAmbiguousData"
		iSyntaxServer="x.x.x.x"
		AutoUpgrade= "FALSE"
		ImageSuiteDSN= "iSite"
		ImageSuiteURL= "http:// x.x.x.x /iSiteWeb/WorkList/ PrimaryWorkList.ashx/"
	DisableSliceIndicatorLabelsForNonHologic	Orientation labels are displayed only for Hologic manufacturer datasets
		Orientation labels are NOT displayed for Non-Hologic manufacturer datasets
		E.g.:-
		[Server]
		Options= "StentorBackEnd,DisableISSA, DisableSliceIndicatorLabelsForNonHologic"
		iSyntaxServer="x.x.x.x"
		AutoUpgrade= "FALSE"
		ImageSuiteDSN= "iSite"
		ImageSuiteURL= "http:// x.x.x.x /iSiteWeb/WorkList/ PrimaryWorkList.ashx/"
	DisableSliceIndicatorLabels	Orientation labels are NOT displayed for all datasets
		E.g.:-
		[Server]
		Options= "StentorBackEnd,DisableISSA,DisableSliceIndicatorLabels"
		iSyntaxServer="x.x.x.x"
		AutoUpgrade= "FALSE"
		ImageSuiteDSN= "iSite"
		ImageSuiteURL= "http:// x.x.x.x /iSiteWeb/WorkList/ PrimaryWorkList.ashx/"

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11 Edge Configuration

Introduction

The Internet Explorer 11 desktop application will retire and go out of support on June 15, 2022. The same IE11 applications and sites we use today can open in Microsoft Edge with Internet Explorer mode.

All our browser-based applications like ClientWeb, SUBI depends on ActiveX Control, but Edge does not directly support ActiveX control-based applications. So Microsoft has provided a mechanism to run these ActiveX-based applications still in Edge with the option of making them run in IE mode.

Pre-requisites to run IE mode Applications in Edge

1. Install Edge version 91 or higher (only on individual Workstations).

2. Install cumulative MS updates for the installed Windows versions (this step to be performed on both Domain Controller and individual Workstations to configure Edge policy settings).

3. Download and install the Microsoft Edge administrative template (this step can be performed either at the domain level or workstation level).

   Steps to download and install administrative templates for Edge:

   – From the Microsoft Edge Enterprise landing page, download the administrative templates file by selecting the Edge version.

   – Extract the contents of the file that is downloaded.

   – Navigate to the "Windows/admx" folder in the above-extracted folder.

   – Copy msedge.admx file from and paste it in C:\Windows\PolicyDefinitions folder.

   – Copy msedge.adml file from language folder (en-us) and paste in C:\Windows\PolicyDefinitions\en-us folder.

4. Internet Explorer 11 is enabled in Windows Features.

5. Make sure that the pop-up blocker is turned off.

NOTICE

The Edge version installed should be of the same or higher version to the Edge administrative templates installed.

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Steps to Enable IE mode in Edge Browser

1. Open the **Local Group Policy Editor** (gpedit.msc) in the target workstation (open the **Group Policy Management Editor** to make changes in the Domain Controller).

2. On the left pane, expand **Computer Configuration** --> **Administrative Templates** --> **Microsoft Edge**.

3. Edit the **Configure Internet Explorer integration** setting.
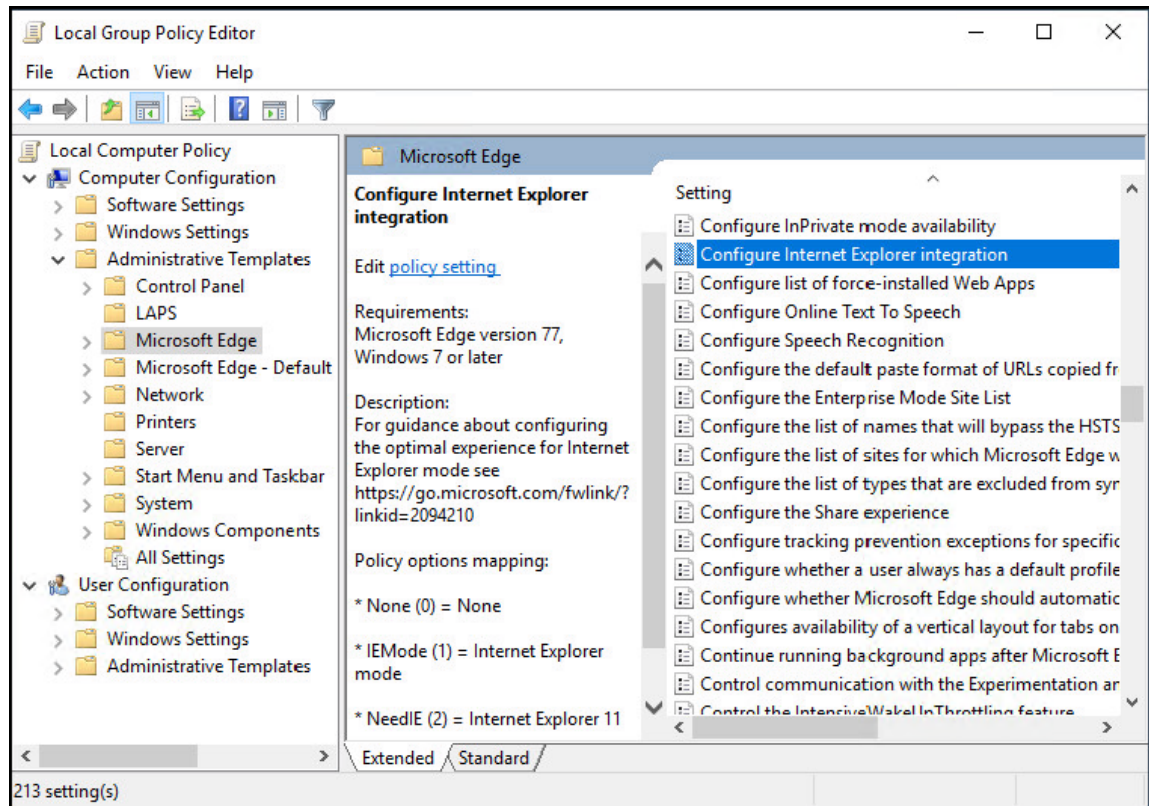
Fig. 1: Local Group Policy Editor (on target Workstation)

4522 170 50531/730 * 2022-05-13

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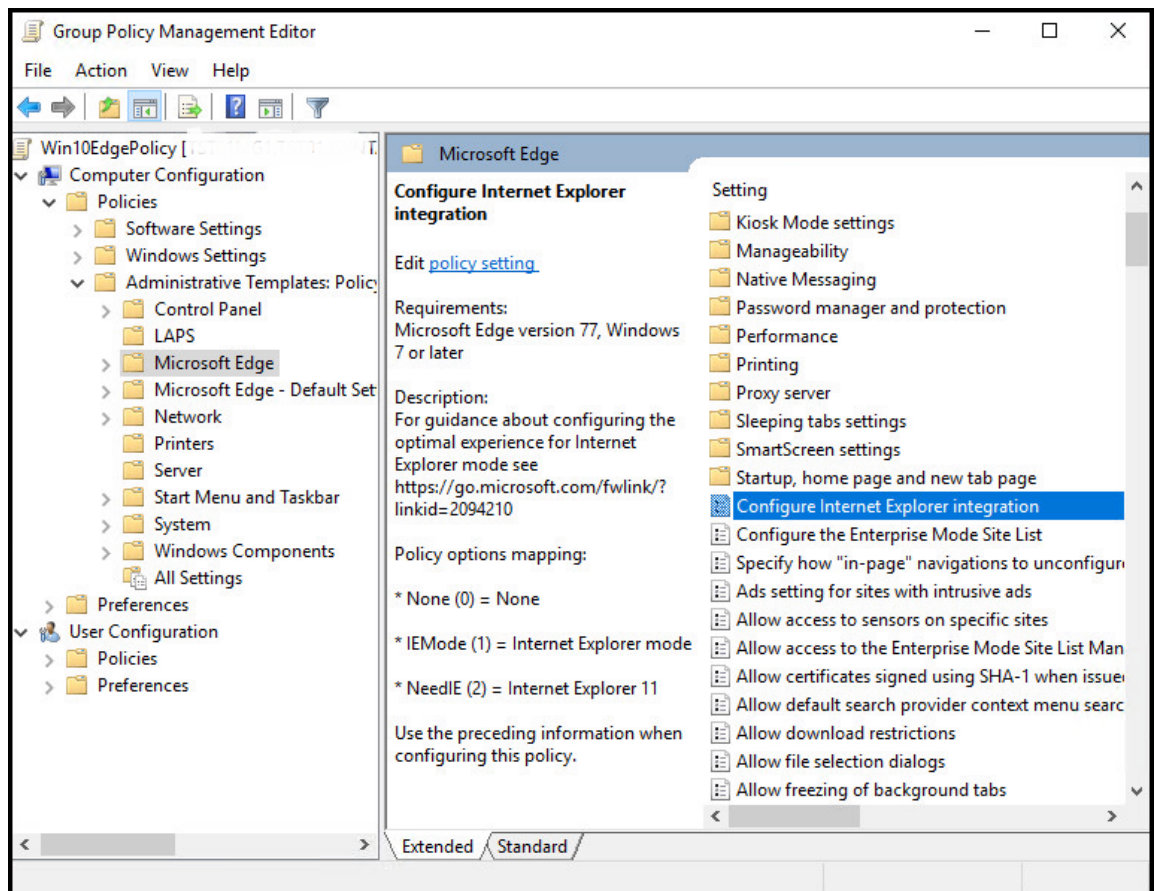
Fig. 2: Group Policy Management Editor (on Domain Controller)

4.   In the **Configure Internet Explorer integration** window, click on **Enabled** and select the
      Internet Explorer mode from the drop-down menu.

5. Click **Apply** to save the changes.

6. Click **OK** to close the **Configure Internet Explorer integration** window.

NOTICE

For Active Directory group policy settings, policy settings are propagated to domain computers at a regular interval defined by your domain administrator, and target computers may not receive policy updates right away. Execute the below command from the command prompt to manually refresh Active Directory group policy settings on a target computer:

```
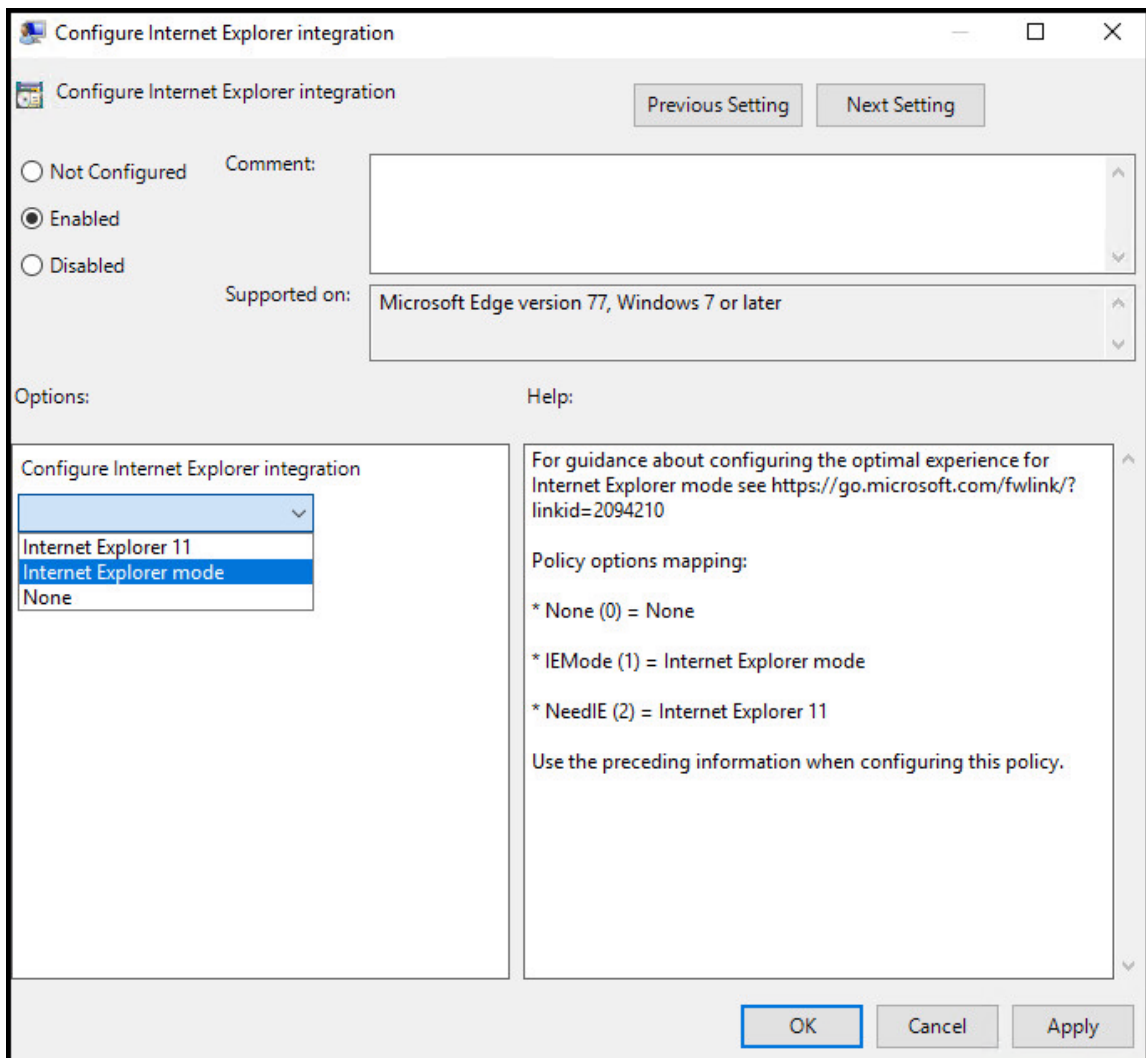gpupdate /force
```

Configure Sites on the Enterprise Site List

1. Open the **Local Group Policy Editor** (gpedit.msc) in the target workstation (open the **Group Policy Management Editor** to make changes in the Domain Controller).

2. Expand **Computer Configuration** --> **Administrative Templates** --> **Microsoft Edge**.

3. Edit **Configure the Enterprise Mode Site List**.

4. In the **Configure the Enterprise Mode Site List** window, click on **Enabled** and specify the path for the xml file containing a list of website to be rendered with the Internet Explorer engine.

   The file can be hosted on the network, site location, or stored locally on your device:

   – HTTPS location: `https://localhost:8080/sites.xml`

   – Local network file: \\network\shares\sites.xml

   – Local file: file:///c:/Users/USER-FOLDER-NAME/Documents/sites.xml (this option is not applicable when the Edge policy settings are made at domain level)

5. Click **Apply** to save the changes.

6. Click **OK** to close **Configure the Enterprise Mode Site List** window.

Sample sites xml

```
<site-list version="205">
<!-- File creation header -->
<created-by>
```

```
<tool>EnterpriseSitelistManager</tool>
<version>10240</version>
<date-created>20150728.135021</date-created>
</created-by>
<site url="ops70ssi.ops70.isyntax.net/clientweb">
<compat-mode>default</compat-mode>
<open-in>IE11</open-in>
</site>
<site url="ops70ssi.ops70.isyntax.net/SUBI">
<compat-mode>default</compat-mode>
<open-in>IE11</open-in>
</site>
</site-list>
```

NOTICE

Failing to add any site to the site list, the site opens in Edge rather than in IE mode.

Enabling In-page Navigation in IE Mode

In-page navigation starts from a link, a script, or a form on the current page. It can also be a server-side redirect of a previous in-page navigation attempt.

This policy enables all in-page navigation from Internet Explorer mode (IE mode) sites to stay in IE mode.

Follow the below steps to keep automatic or all in-page navigation in Internet Explorer mode:

1. Open the **Group Policy Editor** (this step can be performed at the domain level or on the individual Workstation).

2. Expand **Computer Configuration** --> **Administrative Templates** --> **Microsoft Edge**.

3. Under Settings, edit **Specify how "in-page" navigations to unconfigured sites behave when started from Internet Explorer mode pages**.

4. Click on **Enabled**.

5. Select **Keep only automatic navigations in Internet Explorer mode** from the drop-down. Use this option if you want the default experience except that all automatic navigations (such as 302 redirects) to unconfigured sites will be kept in Internet Explorer mode.
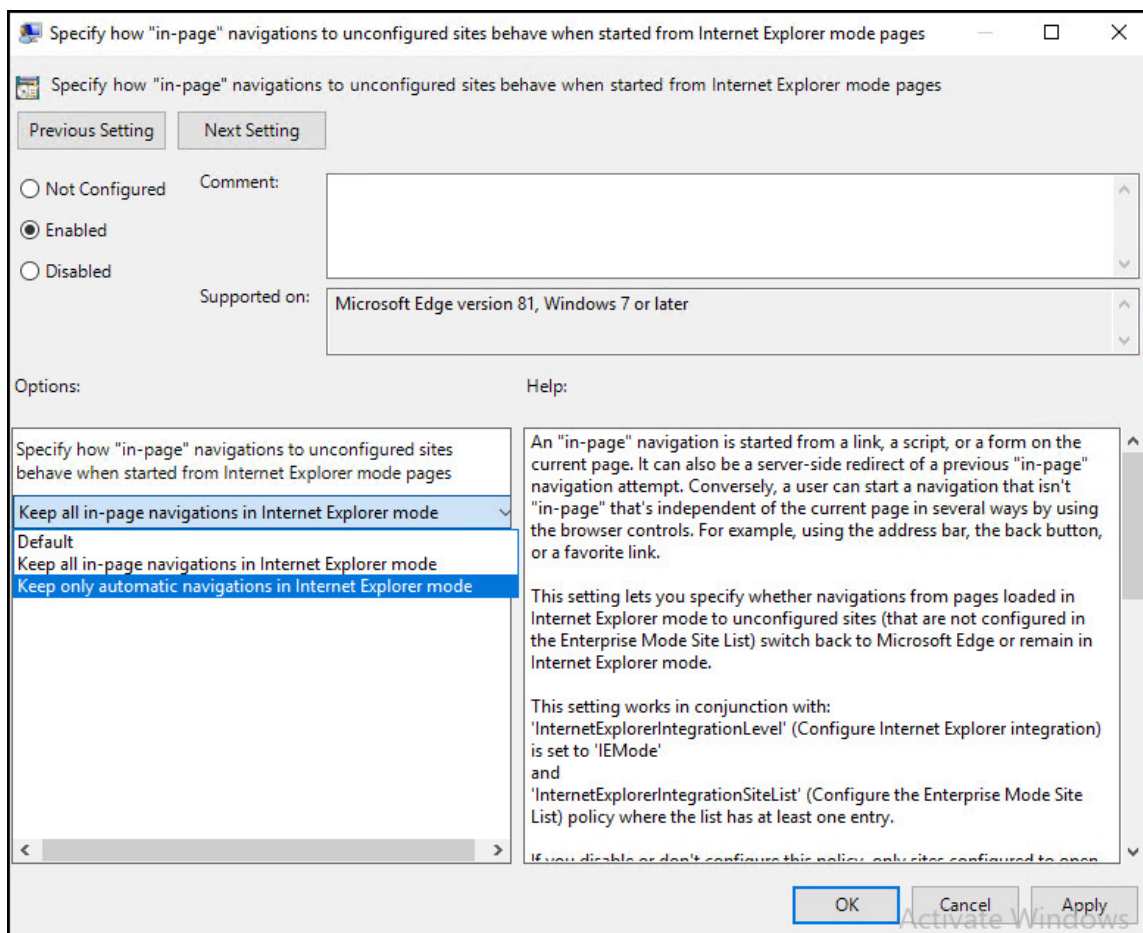
6. Click **Apply** to save the changes.

7. Click **OK** to close the window.

Disable Internet Explorer 11 as a Standalone Browser

Follow the below steps to disable Internet Explorer 11 using group policy:

1. Open the **Group Policy Editor** (this step can be performed at the domain level or on the individual workstation).

2. Expand **Computer Configuration** --> **Administrative Templates** --> **Windows Components** --> **Internet Explorer**.

3. Edit **Disable Internet Explorer 11 as a standalone browser** setting.

4. Click on **Enabled**.

5. Select one of the following options from the drop-down:

   – **Never**: if you do not want to notify users that IE11 is disabled.

   – **Always**: if you want to notify users every time they are redirected from IE11.

   – **Once per user**: if you want to notify users only the first time they are redirected.
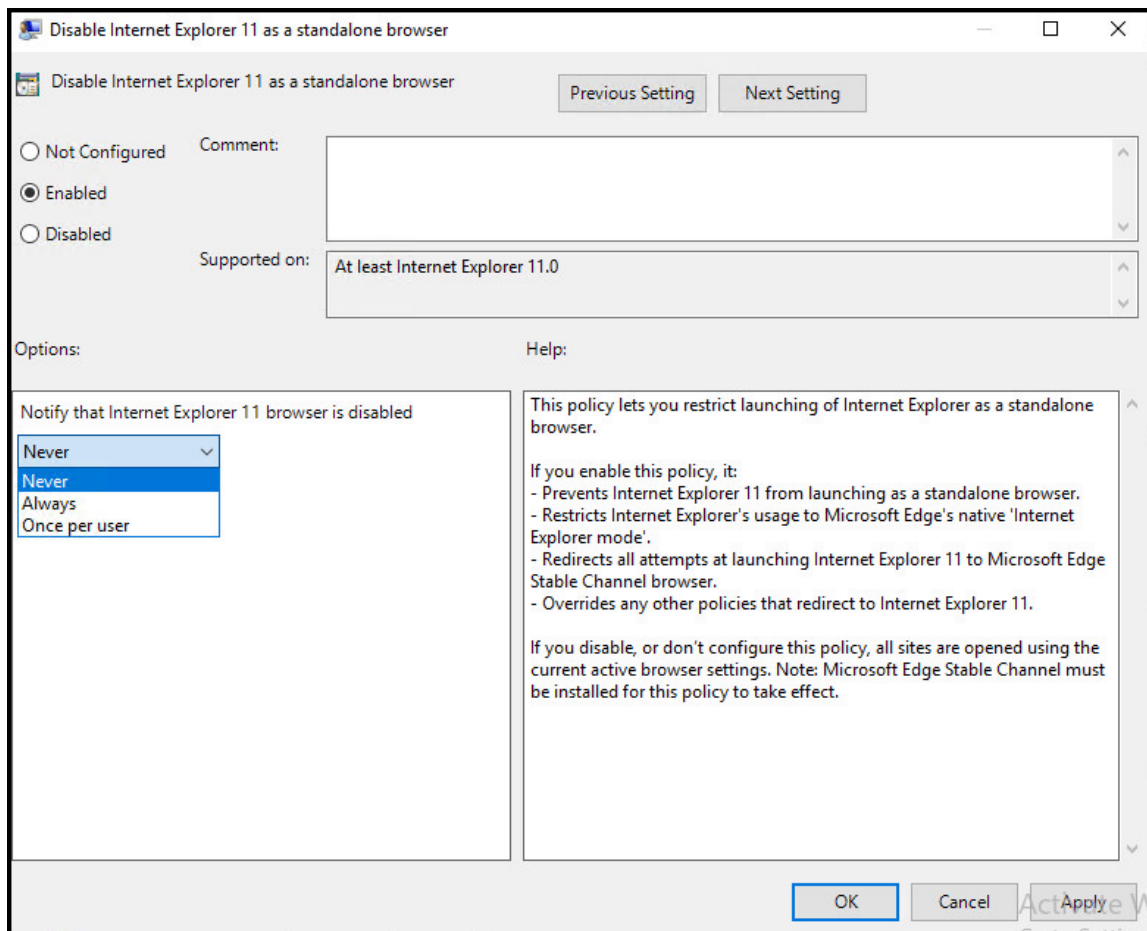
6. Click **Apply** to save the changes.

7. Click **OK** to close the window.

NOTICE

Do not uninstall Internet Explorer from the workstations. For the applications to work seamless in IE mode, IE shall only be disabled, but not uninstalled.

Applications launched in Edge

When SUBI or ClientWeb applications are launched in Edge, an IE icon is displayed next to the navigation bar. This indicates that the site opens in IE mode. Clicking on the indicator displays additional information.

NOTICE

Allow pop-ups to be displayed in Edge browser prior to launching the applications. Make sure that the pop-ups are allowed in IE browser before disabling IE.

SUBI in Edge browser

ClientWeb in Edge browser

Containment Mode

IntelliSpace PACS client shall be supported in a containment mode configuration. Containment mode allows the IntelliSpace PACS client application to be invoked and displayed within another application/system. The customers use this to embed IntelliSpace PACS client within their viewing workspace for desktop integration with other applications.

Follow the steps below to use the containment mode in Edge browser where the containment files are invoked as a plugin:

1. Open the **Group Policy Editor** (this step can be performed at the domain level or on the individual workstation).

2. Expand **Computer Configuration** --> **Administrative Templates** --> **Microsoft Edge**.

3. Edit **Allow launching of local files in Internet Explorer mode** setting.

4. Click on **Enabled**.
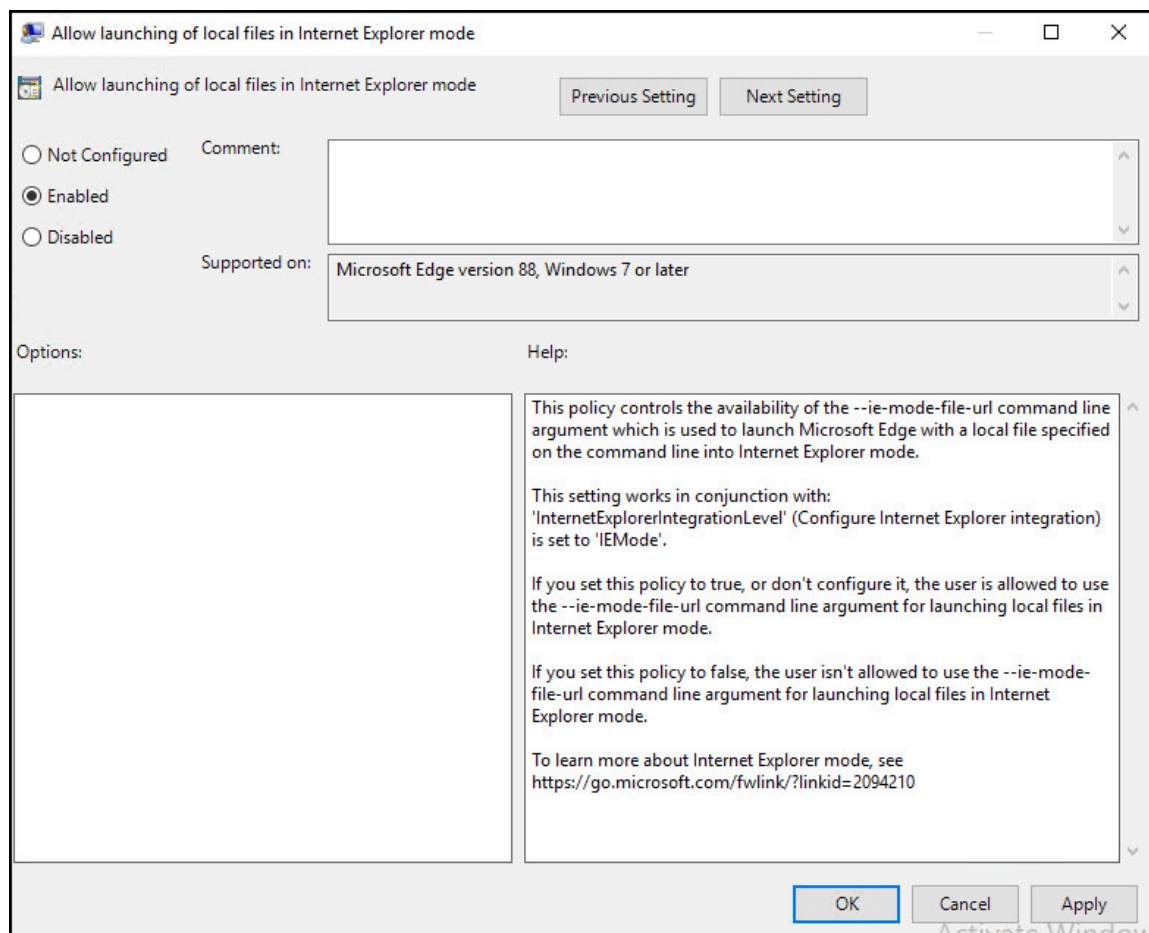
5. Click **Apply** to save the changes.

6. Click **OK** to close the window.

7. In Workstation, from the command prompt, navigate to the path where Edge is installed.

8. Invoke containment file using the command shown below:

```
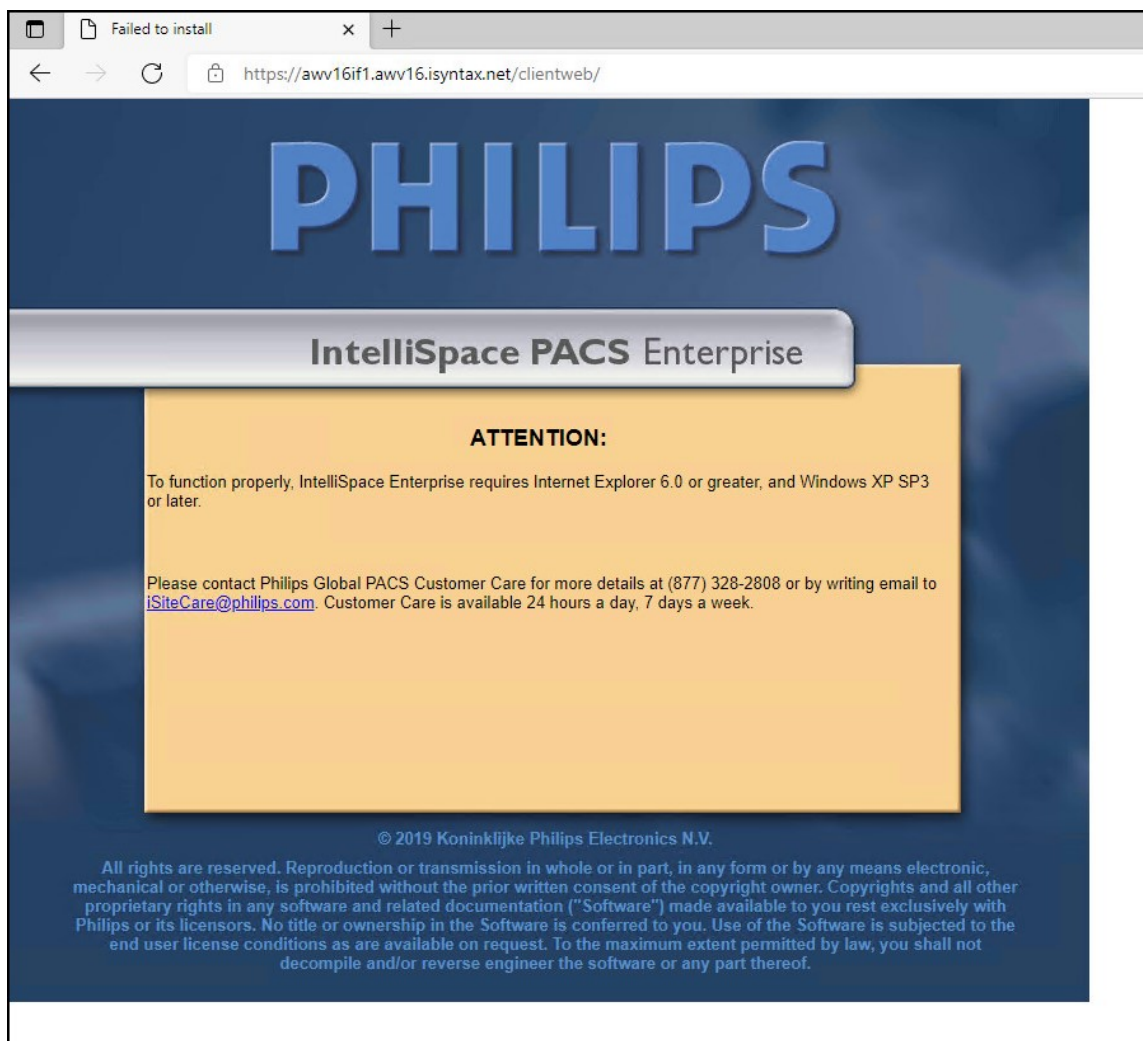C:\<path where Edge is installed>\Application\msedge.exe -- ie-
mode-file-url <path of the containment file>
```


Troubleshooting Tips

1. When the user tries to launch ClientWeb, and if the error is seen as shown in the below screenshot, it indicates that the ClientWeb URL is not added to the enterprise sites list.

    Adding it to the enterprise sites list would resolve this issue.

2. On the individual workstation launch `edge://compat/enterprise` and ensure that the sites listed in the enterprise site list are displayed. Do a **Force Update** in case if the sites list is not up to date on the workstation.
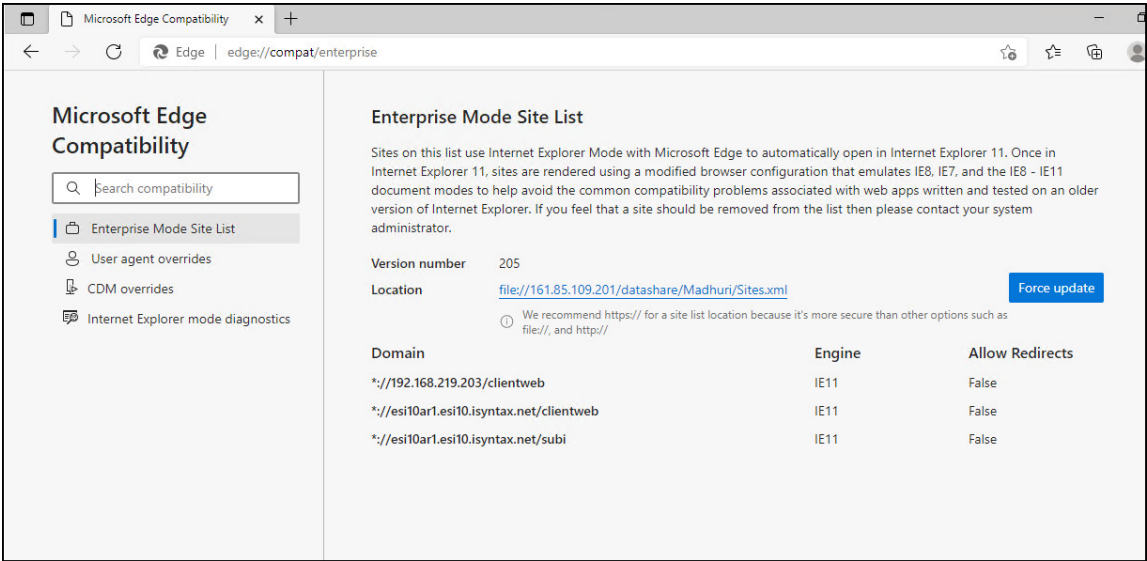
References

1. Cumulative MS update link

   https://docs.microsoft.com/en-us/deployedge/microsoft-edge-sysupdate-windows-updates

2. About IE Mode

   https://docs.microsoft.com/en-us/deployedge/edge-ie-mode

3. Microsoft Edge Enterprise Landing page

   https://www.microsoft.com/en-us/edge/business/download

4. Configure IE mode policy

   https://docs.microsoft.com/en-us/DeployEdge/edge-ie-mode-policies#configure-using-the-configure-the-enterprise-mode-site-list-policy

5. Disable IE11

   https://docs.microsoft.com/en-us/deployedge/edge-ie-disable-ie11

6. Enabling In-page Navigation in IE Mode

   https://docs.microsoft.com/en-us/deployedge/edge-learnmore-inpage-nav

7. Allow launching of local files to open in IE mode

   https://admx.help/?Category=EdgeChromium&Policy=Microsoft.Policies.Edge::InternetExplorerIntegrationLocalFileAllowed

12 Glossary

Administrator Install (per-machine install)

A first-time install, upgrade, or downgrade of the IntelliSpace PACS client which was executed by a user who was a Windows Administrator at the time of that execution.

Automated silent installation/mass deployment

The installation method that deploys the .msi installer using a third-party deployment mechanism (for example, Group Policy, SMS, or Marimba). When using mass deployment, it is the customer's responsibility to configure the third-party software and to ensure that installation via the selected method works properly.

Auto-Upgrade

A mechanism of triggering and executing an upgrade of the Client automatically. This upgrade is initiated by both:

- Setting the "**AUTOUPGRADE**" value to "**TRUE**" in the configuration file
- Attempting to connect the Client to a server hosting a client of a higher version than the client being executed
- Auto-upgrades do not apply to upgrades initiated via the ClientWeb or via mass-deployment.

ClientWeb

An installation method for IntelliSpace PACS Enterprise where the user points Internet Explorer to the web page URL (provided by the customer PACS administrator or IT department) of the customer's IntelliSpace PACS servers. Upon navigation to that URL, the installation of IntelliSpace PACS Enterprise is automatically triggered if it is not already installed on that user's workstation.

Major Version

The first number in the IntelliSpace PACS release number (for example, the 4 in 4.5).

Mass Deployment

Initiating an installation from a single computer to multiple computers. Also known as a "push" deployment.

Minor Version

The second number in the IntelliSpace PACS release number (for example, the 5 in 4.5). Versions typically contain new features and functionality.

Maintenance Release

The third number in the IntelliSpace PACS release number (for example, the 207 in 4.4.207). Maintenance Releases typically address defects or minor product changes.

Patch

The fourth number in the IntelliSpace PACS release number (for example, the 4 in 4.4.207.04)

Silent installation

An installation method that uses an .msi installer that can be executed from the command line to remotely "push" the IntelliSpace PACS Enterprise client to multiple workstations without visual indications. The IT group or PACS Administrator can determine if the silent installation was successful.

Standalone installation

An installation method where you place the installer in a location that can be used by all clients (for example, on a shared network drive or on a CD) and then access the appropriate .exe installer and install the IntelliSpace PACS client individually on each client workstation. When users next log into IntelliSpace PACS Radiology or IntelliSpace PACS Enterprise, they automatically log into the new version.

Unattended installation

4522 170 50531/730 * 2022-05-13

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Upgrade

The installation of a version of a product which is higher than the version of the product which is currently installed. Usually, but not always, uninstalls the original, lower version of the product.

Version

The combination of major and minor version (for example, 4.4).

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Date of issue
4522 170 50531/730 * 2022-05-13 - en-US