Preparing to Upgrade Guide

IMPAX 6.2 or Later to IMPAX 6.5.1

Preparing to Upgrade an IMPAX 6.2

or Later Cluster to IMPAX 6.5.1

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Note: The IMPAX 6.5.1 software complies with the Council Directive 93/42/EEC Concerning Medical Devices, as amended by Directive 2007/47/EC.

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External software licenses

(Topic number: 7696)

Information about third-party software licenses and copyrights can be found in *External software licenses* (refer to page 87).

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(Topic number: 122201)

Thank you for taking the time to provide feedback. Your comments will be forwarded to the group responsible for this product's documentation.

To give feedback on the documentation

1. In an email subject line or body, list which product, version, and publication you are commenting on.

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Contents

Getting started

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Understanding what has changed in IMPAX and the upgrade strategy to follow helps ensure a successful upgrade from IMPAX 6.2 or later.

About the IMPAX Preparing to Upgrade Guide

(Topic number: 59162)

This manual is intended for service and administrative personnel who are preparing to upgrade an IMPAX 6.2 or later cluster to IMPAX 6.5.1. Information on performing the actual upgrade is available in the *IMPAX 6.5.1 AS300 Upgrade and Migration Guide—IMPAX 6.2 or later to IMPAX 6.5.1* and the *IMPAX 6.5.1 AS3000 Upgrade and Migration Guide—IMPAX 6.2 or later to IMPAX 6.5.1*. Details regarding related documentation are provided in *Related documentation* (refer to page 11).

New IMPAX concepts and functionality

(Topic number: 6684)

IMPAX 6.3 included multi-cluster functionality, which provides a patient-centric view across hospitals within several sites. This view was delivered by extending the scope of study query, study retrieval, and data synchronization from a single hospital site to several hospital sites that have multiple patient domains (multiple RISs) in one or more IMPAX clusters. Additional new features, such as streamlined Application Server updates, IMPAX Reporting dictation, and configurable simple Search, were provided in the IMPAX 6.3.1 release.

IMPAX 6.4 provided significantly improved CT and MR study navigation, IMPAX Reporting enhancements, improved study comments and support for voice comments, enhanced mammography features, and new Client administration features. Platform updates included support for Windows

Vista (Client only), SQL Server 2005, and Oracle for Windows. Additional Server migration tools were also provided.

IMPAX 6.5 included enhanced snapshot functionality, enhanced embedded IMPAX Reporting, an updated Spine Annotation tool, additional support for free-text study and voice comments, enhanced scheduled worklist functionality, and enhanced breast imaging.

It also included IMPAX Results Viewer, a browser-based IMPAX client designed to enable efficient distribution of medical images and reports for referring physicians and other healthcare professionals.

Platform updates included support for Windows 7, Windows Server 2008, SQL Server 2008, and Solaris Live Upgrade. A hierarchical cache structure was implemented for image and web caches, permitting larger cache volumes. A cache migration tool was also included in the standard IMPAX install packages. New standalone installations were supported only on Windows 7 and, using VMware Player, the IMPAX Server and Application Server components were installed under Windows 2008 with Oracle for Windows.

IMPAX 6.5.1 introduces several new features, including:

- Improved speech synchronization in IMPAX Reporting
- Validation of new speechmikes with IMPAX 6.5.1
- Instant Messaging to easily connect with colleagues
- The introduction of the Agfa Web Service Portal (Service Portal), a web-based tool used to support, maintain, and monitor the IMPAX system
- The ianalyze tool is available to analyze Client performance

For a more detailed list of new IMPAX 6.5.1 features and concepts, refer to:

- "New in IMPAX 6.5.1 Client" (topic number 123473) in the *IMPAX 6.5.1 Client Knowledge Base: Extended*
- "New in IMPAX 6.5.1 Server" (topic number 125212) in the *IMPAX 6.5.1 Server Knowledge Base*
- "New in IMPAX 6.5.1 Application Server" (topic number 123839) in the *IMPAX 6.5.1 Application Server Knowledge Base*

Valid IMPAX upgrade paths

(Topic number: 6607)

Sites can upgrade to IMPAX 6.5.1 from any of these versions of IMPAX (supported versions include any applicable SUs):

- IMPAX 5.2.5—hereafter referred to as IMPAX 5.2
- IMPAX 5.3.1, 5.3.2—hereafter referred to as IMPAX 5.3

- IMPAX 6.2.1—hereafter referred to as IMPAX 6.2
- IMPAX 6.3.1—hereafter referred to as IMPAX 6.3
- IMPAX 6.4
- IMPAX 6.5

For more detailed information, refer to the *IMPAX 5.x - 6.x Service Update and Hot Fix Migration Paths* spreadsheet in the "Additional documents" section of the IMPAX Knowledge Base > Main Knowledge Base Page.

Important!

We recommend checking the migration log file after each leg of an upgrade before moving onto the next leg.

Additional information:

- AS3000 (Solaris) servers can upgrade to IMPAX 6.5.1 from any of the previously mentioned versions of IMPAX on Solaris 9 or 10. Existing Solaris 9 servers must upgrade to Solaris 10 when upgrading to IMPAX 6.5.1.
- Windows Server 2008 and Windows Server 2003 are supported on IMPAX AS300 servers. Windows 2008 is supported for fresh installations only; unless already on Windows 2008, Windows 2003 must continue to be used for upgrades.
- For IMPAX AS300 upgrades, SQL Server 2008 is supported.
- To upgrade an IMPAX AS300 cluster from SQL Server to Oracle, contact Agfa Professional Services for assistance. The SQL Server to Oracle migration process is not documented in this guide.
- The Application Server platform is either Windows Server 2003 or Windows Server 2008. Windows 2008 is supported for fresh installations only; unless already on Windows 2008, Windows 2003 must continue to be used for upgrades. All Application Servers in a cluster must use the same operating system—either Windows 2003 or Windows 2008.
- A site running IMPAX 4.5 can migrate its user data—passwords, IDs, and most preferences—to IMPAX 6.5.1. However, database data cannot be upgraded directly from IMPAX 4.5 to IMPAX 6.5.1. The IMPAX 4.5 database must first be upgraded to IMPAX 5.2.5, then to IMPAX 6.5.1.

Valid cluster configurations

(Topic number: 10763)

For cluster configurations, the following upgrade paths are supported:

- Current single-cluster configuration to equivalent single-cluster configuration
- Single-host AS300 to multi-host AS300

- Single-host AS3000 to mixed-host AS300/AS3000
- Multi-cluster configuration to multi-cluster configuration

If your IMPAX configuration is not listed, contact your service representative.

When considering whether to move from single-host to a multi-host or a mixed-host configuration, assess current performance of the system. If it is only borderline acceptable, you may want to also upgrade the configuration to achieve better performance.

When upgrading from a single-host to a multi-host or mixed-host configuration, consider the sizing and expected load on each server to take best advantage of the additional servers. For example, moving the Curator component to its own server is generally more beneficial than moving the Network Gateway component to its own server.

IMPAX upgrade strategy

(Topic number: 10757)

With any IMPAX configuration, upgrade and migration activities take place in three phases: preparing to upgrade, upgrade, and post-upgrade.

IMPAX preparing to upgrade period: IMPAX 6.2 and later upgrades

(Topic number: 59208)

The preparing to upgrade phase can last several weeks. During this time, the current system is analyzed to determine the best upgrade procedure to use. The IMPAX Migration Tools are used to diagnose the current system and to test any migration in advance. In some scenarios, preliminary installations or upgrades are performed.

Note the following about migrations:

- Markup for key images is not migrated; only the original images retain the markup.
- If migrating from version 6.2.1, the AGFAHC.PACS_CLIENT.RADIOLOGIST_DICTATE.STUDY_OPEN permission is enabled. If migrating from versions 6.3 or later, this permission is disabled. Enable or disable the permission as appropriate.
- Instant Messaging port. The Instant Messaging feature uses https on port 443 instead of regular http on port 80; however, the migration does not change the port. If you want to use this feature, you must change the Messaging Services in the station containers to use port 443.

Upgrading IMPAX components

(Topic number: 59381)

After the preparing to upgrade period is over, the upgrade period can begin.

During this phase, the IMPAX Server components, the IMPAX database, the IMPAX Application Server, and IMPAX Clients are all upgraded. If upgrading an Application Server to Windows Server 2008, the ADAM database is migrated to AD LDS.

Note:

To migrate from SQL Server to an Oracle database, you must contact Agfa Professional Services. This migration is not documented in these guides.

Some downtime is expected during the upgrade period. The length of the downtime period depends on whether and how traveling servers are used. The goal is to complete upgrade and migration activities within a weekend.

For more information, refer to the *IMPAX 6.5.1 AS3000 Upgrade and Migration Guide—IMPAX 6.2 or later to IMPAX 6.5.1* or the *IMPAX 6.5.1 AS300 Upgrade and Migration Guide—IMPAX 6.2 or later to IMPAX 6.5.1*.

IMPAX post-upgrade period

(Topic number: 10761)

This phase begins once all the Server components, the Application Server, and a critical mass of Clients are running with the updated software and databases. During this phase, certain tests are run and initial configuration tasks are performed. These activities may begin during the "upgrade weekend" and continue for some days afterward.

Related documentation

(Topic number: 6634)

IMPAX includes documentation for IMPAX Client, IMPAX Application Server, and IMPAX Server. The documentation is released on its own DVD. This DVD includes the Upgrade and Migration Guides along with the IMPAX 6.5.1 Knowledge Bases, Installation Guides, Configuration Guides, Task Summaries, and Quick References.

The documentation eventually must be installed on an IMPAX 6.5.1 Application Server. In the interim, however, the documentation can be installed on any Windows-based computer or be viewed right on the DVD.

The default.htm file at the root of the Documentation DVD and the installation directory links to all available documentation.

IMPAX Knowledge Bases

(Topic number: 6676)

These online references are intended for clinical, administrative, and service personnel.

Opening the IMPAX Client Knowledge Base
(Topic number: 57452)

The IMPAX 6.5.1 Client Knowledge Base: Extended is a comprehensive set of information that details how radiologists, clinicians, specialists, and PACS administrators configure and use the IMPAX Client software. The Knowledge Base provides targeted getting started information, concepts, and tasks for various user groups, and focuses on task-based and workflow-based information.

The IMPAX Client Knowledge Base: Core is available in 19 languages. The IMPAX 6.5.1 Client Knowledge Base: Extended is available in English. Any or all languages can optionally be installed and can be viewed on the Documentation DVD.

Viewing the Client Knowledge Base from the documentation DVD
(Topic number: 57437)

All IMPAX Knowledge Bases, including the IMPAX Client Knowledge Base, can be viewed directly from the IMPAX documentation DVD.

To view the Client Knowledge Base from the documentation DVD

1. Insert the IMPAX documentation DVD.
2. Navigate to /docs/client/knowledge_base.
3. Double-click **default.htm**.
4. Select the appropriate language for the IMPAX Client Knowledge Base.

Opening the Client Knowledge Base from the List, Text, or Configure area
(Topic number: 57440)

Once the IMPAX documentation is installed, you can access it from the IMPAX Client application.

To open the Client Knowledge Base from the List, Text, or Configure area

1. Press **F1**.

   or

   From the List or Configure area bar, click **Help**.

The home (or main) page of the Client Knowledge Base opens in a browser window. It normally appears in the same language used for the IMPAX interface; for example, if working with IMPAX in French, the French Knowledge Base opens. If the Knowledge Base is not available in the interface language (usually because that Knowledge Base was not installed), you must manually redirect the URL to the English Knowledge each time you open the Knowledge Base.

Opening the IMPAX 6.5.1 Application Server Knowledge Base
(Topic number: 40098)

This Knowledge Base covers how to configure and maintain the IMPAX Application Server.

Viewing the Application Server Knowledge Base from the documentation DVD
(Topic number: 58005)

All IMPAX Knowledge Bases, including the IMPAX 6.5.1 Application Server Knowledge Base, can be viewed directly from the IMPAX documentation DVD.

To view the Application Server Knowledge Base from the documentation DVD

1. Insert the IMPAX documentation DVD.
2. Navigate to /docs/appserver/knowledge_base.
3. Double-click **default.htm**.

Opening the IMPAX 6.5.1 Application Server Knowledge Base from the Configuration Tool software
(Topic number: 57999)

Once the IMPAX documentation is installed, you can access the IMPAX 6.5.1 Application Server Knowledge Base from the Business Services Configuration Tool software.

To open the IMPAX 6.5.1 Application Server Knowledge Base from the Configuration Tool software

1. Select **Start** > **All Programs** > **Agfa HealthCare** > **Business Services** > **Configuration Tool**.
2. In the Business Services Configuration Tool, click **Help**.

Opening the IMPAX 6.5.1 Server Knowledge Base
(Topic number: 11528)

The IMPAX 6.5.1 Server Knowledge Base is a reference tool for PACS IT specialists and clinical coordinators, field engineers, and technical launch team members, primarily to help them understand and use the components of the IMPAX cluster. The Server Overview component provides a basic understanding of the IMPAX system and introduces users to key components and concepts.

Viewing the Server Knowledge Base from the documentation DVD
(Topic number: 57901)

All IMPAX Knowledge Bases, including the IMPAX Server Knowledge Base, can be viewed directly from the IMPAX documentation DVD.

To view the Server Knowledge Base from the documentation DVD

1. Insert the IMPAX documentation DVD.
2. Navigate to /docs/server/knowledge_base.
3. Double-click **default.htm**.

Opening the Server Knowledge Base from the Administration Tools
(Topic number: 57892)

Once the IMPAX documentation is installed, you can access it from the IMPAX Administration Tools interface.

To open the Server Knowledge Base from the Administration Tools

1. Select **Help** > **Help URL**.

   A new browser window opens and loads the IMPAX Documentation page.

2. Under Knowledge Bases, click the **IMPAX Server Knowledge Base** link.

IMPAX installation, configuration, and upgrade guides

(Topic number: 6677)

These PDF guides are intended for service and administrative personnel. They contain all the information needed to install, upgrade, and configure an IMPAX cluster.

Note:

To view the IMPAX PDF guides on a computer, Adobe Reader must be installed.

Opening a PDF guide from the documentation DVD

(Topic number: 57808)

All IMPAX guides can be viewed directly from the IMPAX documentation DVD.

To open a PDF guide from the documentation DVD

1. Insert the IMPAX documentation DVD.
2. Navigate to **/docs/**{**server | appserver | client**}**/guides**.
3. Double-click the file name of the PDF guide.

Opening a PDF guide from where the documentation is installed

(Topic number: 57811)

Once the IMPAX documentation is installed, you can access the PDF guides from a connected computer.

To open a PDF guide from where the documentation is installed

1. Open a browser window.
2. Navigate to https://application_server_name/documents/

   where application_server_name is the name of the server where the IMPAX documentation is installed.
3. Under Upgrade and migration or Installation and configuration, click the title of the guide to view.

IMPAX Client guide
(Topic number: 6680)

Title	File name	Provides instructions on
IMPAX 6.5.1 Client Installation, Upgrade, and Configuration Guide	impax_client_install.pdf	• Installing the IMPAX Client and related software in a standard configuration • Upgrading the IMPAX 5.2, 5.3, or 6.2 or later Client workstation to IMPAX 6.5.1 • Initially configuring the Client

IMPAX Application Server guide
(Topic number: 6683)

Title	File name	Provides instructions on
IMPAX 6.5.1 Application Server Installation, Upgrade, and Configuration Guide	impax_application_server_ install.pdf	• Installing the operating system, IMPAX documentation, and IMPAX Application Server software • Upgrading the Application Server to IMPAX 6.5.1 • Initial configuration of the IMPAX Business Services and other post-installation configuration tasks

IMPAX Server guides
(Topic number: 6673)

Title	File name	Provides instructions on
IMPAX 6.5.1 AS300 Upgrade and Migration Guide—IMPAX 6.2 or later to IMPAX 6.5.1	impax_6x_as300_ upgrade.pdf	Upgrading an IMPAX 6.2 or later cluster to an IMPAX 6.5.1 AS300 host.
IMPAX 6.5.1 AS3000 Upgrade and Migration Guide—IMPAX 6.2 or later to IMPAX 6.5.1	impax_as3000_6x_ upgrade. pdf	Upgrading an IMPAX 6.2 or later cluster to an IMPAX 6.5.1 AS3000 host.

Title	File name	Provides instructions on
IMPAX 6.5.1 AS300 Installation and Configuration Guide	impax_as300_install.pdf	Installing and initially configuring hardware and software on AS300 Database, Archive, and Network Gateway servers. This guide covers single-server,all-in-one, single-host, and multi-host configurations.
IMPAX 6.5.1 AS3000 Installation and Configuration Guide	impax_as3000_install.pdf	Installing and initially configuring hardware and software on AS3000 Database, Archive, and Network Gateway servers.
IMPAX 6.5.1 Curator and CD Export Server Installation Guide	impax_curator_install.pdf	Installing and initially configuring the Curator and the CD Export server.
IMPAX 6.5.1 Standalone Installation and Configuration Guide	impax_standalone_ install_guide.pdf	Installing and initially configuring an IMPAX standalone station. A standalone station has IMPAX Client, Application Server, and Server components installed on a single computer.
IMPAX 6.5.1 Standalone Upgrade Guide	impax_standalone_ upgrade_guide.pdf	Upgrading an IMPAX standalone station. A standalone station has IMPAX Client, Application Server, and Server components installed on a single computer.

IMPAX Task Summary references

(Topic number: 65012)

The Task Summary references provide only the main steps of the primary pre-migration and upgrade tasks. They can serve as a quick reminder of what to do, but do not provide all the information necessary to a successful upgrade.

CAUTION!

The Task Summary references are intended for advanced system administrators. The references provide no context on when and why to perform the tasks. For complete information, refer to the full Preparing to Upgrade and Upgrade guides.

Title	File name	Tasks summarized in publication
AS300 Upgrade Tasks Summary—IMPAX 6.2 or later to IMPAX 6.5.1	impax-6x-as300-upgrade-summary.pdf	Upgrading the components of an AS300 cluster from IMPAX 6.2 or later to IMPAX 6.5.1.

Title	File name	Tasks summarized in publication
AS3000 Upgrade Tasks Summary—IMPAX 6.2 or later to IMPAX 6.5.1	impax-6x-as3000-upgrade-summary.pdf	Upgrading the components of an AS3000 cluster from IMPAX 6.2 or later to IMPAX 6.5.1.
Preparing to Upgrade Tasks Summary—IMPAX 6.2 or later to IMPAX 6.5.1	impax-6x-premigration-summary.pdf	Preparing to upgrade the components of an AS300 or AS3000 cluster from IMPAX 6.2 or later to IMPAX 6.5.1.

IMPAX Quick References

(Topic number: 54853)

Quick References are intended for clinical users. These abbreviated publications provide instructions for commonly performed tasks and frequently required references. For ease of access, Quick References can printed (double-sided if possible) and posted at Client workstations.

Note:

To view the IMPAX Quick References on a computer, Adobe Reader must be installed.

Opening a Quick Reference from the documentation DVD

(Topic number: 57817)

All IMPAX Quick References can be viewed directly from the IMPAX documentation DVD.

To open a Quick Reference from the documentation DVD

1. Insert the IMPAX documentation DVD.
2. Navigate to **/docs/{server|client}/quick-references**.
3. Double-click the file name of the Quick Reference to open.

Opening a Quick Reference from where the documentation is installed

(Topic number: 57823)

Once the IMPAX documentation is installed, you can access the Quick References from a connected computer.

To open a Quick Reference from where the documentation is installed

1. Open a browser window.
2. Navigate to https://*application_server_name*/documents/

   where *application_server_name* is the name of the server where the IMPAX documentation is installed.
3. Under Quick References, click the title of the Quick Reference to view.

IMPAX Client Quick References

(Topic number: 54856)

Title	File name	Describes common IMPAX procedures and references for
IMPAX 6.5.1 Quick Reference: Breast Imaging	breast_imaging.pdf	Radiologists who specialize in breast imaging.
IMPAX 6.5.1 Quick Reference: Clinicians	clinicians.pdf	Clinicians and surgeons.
IMPAX 6.5.1 Quick Reference: CT-MR	ct-mr.pdf	CT/MR navigation tasks.
IMPAX 6.5.1 Quick Reference: Emergency (ER)	emergency.pdf	Emergency room clinical staff.
IMPAX 6.5.1 Quick Reference: ICU	icu.pdf	ICU clinical staff.
IMPAX 6.5.1 Quick Reference: IMPAX Reporting for Administrators	reporting_administrator.pdf	PACS Administrators at sites using IMPAX Reporting.
IMPAX 6.5.1 Quick Reference: IMPAX Reporting for Radiologists	reporting_radiologist.pdf	Radiologists at sites using IMPAX Reporting.
IMPAX 6.5.1 Quick Reference: Orthopaedics	orthopaedics.pdf	Orthopaedic surgeons.
IMPAX 6.5.1 Quick Reference: Radiologists	radiologists.pdf	Radiologists.
IMPAX 6.5.1 Quick Reference: RONDS	ronds.pdf	Conducting rounds or conferences.
IMPAX 6.5.1 Quick Reference: Search	search.pdf	Searching for studies and patients by various criteria.
IMPAX 6.5.1 Quick Reference: Spine Annotation	spine_annotation.pdf	Applying spine annotation labels to CT or MR images to indicate which section of the spine an image intersects.
IMPAX 6.5.1 Quick Reference: Technologists	technologists.pdf	Technologists and radiographers.

IMPAX Server Quick Reference
(Topic number: 54859)

Title	File name	Describes common IMPAX procedures and references for
IMPAX 6.5.1 Quick Reference: Administration Tools	admin_tools.pdf	Configuring IMPAX Server using the Administration Tools.

Prerequisite data and material

(Topic number: 115262)

Before proceeding with the upgrade to IMPAX 6.5.1, the following data and material must be collected.

- Ensure that all appropriate upgrade guides, release notes, and service bulletins are available.
- Acquire CD/DVD, ISO image, or EXE file for the following:
  - Current version of the operating system
  - Previous and current versions of IMPAX
  - Previous and current versions of the database software
  - Any third-party software required for the upgrade
  - All service packs mentioned for the previous items
- Acquire properly issued certificates.
- Acquire valid IMPAX license keys.
- Ensure that all information needed during the upgrade and configuration is available; for example, the Application Server's fully qualified domain name.

Prerequisite software installations

(Topic number: 59235)

Note:

For each package, ensure that the most current Service Update (SU) packages available at the time of upgrade are also installed.

Before proceeding with the migration to IMPAX 6.5.1, migrate or install the following software.

- If the site currently uses Connectivity Manager 2.1, you must upgrade to Connectivity Manager 2.2.1 or 2.3. For instructions, refer to the appropriate version of the *Connectivity Manager Upgrade Guide*.
- If using TalkStation, it must be upgraded to TalkStation 3.2 or 4.0. For instructions, refer to the *TalkStation Client Upgrade Guide* and the appropriate version of the *TalkStation Server Upgrade Guide*.
- For site using IMPAX Reporting (IMPAX RIS and the integrated speech application in the IMPAX Client), you must migrate the reports from DOC to RTF format.
- If currently running PACS Broker 1.5.3, 1.5.4 or 1.5.5, you must migrate to Connectivity Manager 2.2.1 or 2.3 under the following circumstances:
  - Multi-site installations (for report queries from multiple sources)
  - VPN sites
  - EPR integrations with HL7 backend messaging
  - IMPAX RIS integrations
  - IMPAX RIS CD burning
  - Cardiology integrations
- And if you require the following new IMPAX and Connectivity Manager functionality, you must migrate to Connectivity Manager 2.2.1 or 2.3:
  - Report viewing in the IMPAX Text area
  - IHE workflows
  - MPPS communication from modalities
  - Audit messaging
  - Language support for Latin 4 character sets

Full instructions on migrating your Broker data to Connectivity Manager are provided in the appropriate version of the *Connectivity Manager Migration Guide*.

Note:

To continue to use PACS Broker 1.5.3, 1.5.4 or 1.5.5—and if the preceding circumstances do not apply—install the PACS Broker DICOM Interface SU2.

IMPAX hardware and software requirements

(Topic number: 61303)

For optimal performance, Agfa recommends particular hardware and software for each component of the cluster.

IMPAX Application Server hardware and software requirements

(Topic number: 6682)

The following lists the hardware and software requirements for an Application Server. Where a specific manufacturer is identified, only that manufacturer's device is supported.

IMPAX Application Server: Hardware requirements

(Topic number: 6691)

Important!

When installing or upgrading to IMPAX 6.5.1 on Windows machines, all IMPAX Clients, Servers, and Application Servers must have Pentium 4 or later CPUs. CPUs earlier than Pentium 4 do not support the SSE2 instruction set required for FIPS-compliant versions of the OpenSSL library used for authentication, encryption, and decryption.

Component	Requirements
System	**Preferred:** HP ML370 G6/G7, DL380 G6/G7 **Supported:** Dell 1900, 2900, 2950, 6900*, 6950* Stratus Ft 4300, 4410, or 5700 (dual CPU)**
CPU	Minimum: 1 x dual core
RAM	2 GB minimum
Hard drive space	2 x 73 GB (Mirrored)
RAID	Embedded
Tape backup	DAT 72 tape drive (if required for backup)
Modem	N/A
DVD-ROM	Yes
Network interfaces	100/1000 Mbps

Component	Requirements
Video	KVM Integrated video
Power supplied	Redundant
Peripherals	KVM or mouse and keyboard

* The use of four-CPU socket servers for IMPAX is supported but not recommended.

** Stratus Servers are no longer supported for new installs.

IMPAX Application Server: Software requirements

(Topic number: 6621)

The following tables list the required software for Application Servers using Windows Server 2003® and Windows Server 2008® platforms. Unless otherwise indicated, Agfa does not provide the software as part of the Application Server installation package.

Component	Requirements
Operating system	Windows Server 2003® R2 SP2, Standard or Enterprise Editions 32 bit Windows Server 2008® SP2, Standard or Enterprise Editions 32 bit
Remote access	Symantec pcAnywhere™ version 12.5
Other explicit software	• IIS 6.0 for Windows 2003 R2 Server IIS 7.0 for Windows 2008 SP2 • Microsoft Internet Explorer 7.0 or 8.0 • LDAP—ADAM SP1 services (Windows 2003 Server) AD LDS (Windows 2008) • Java 1.6 • .NET 3.5 SP1 • Latest version of Adobe® Reader® • Norton Antivirus 6.1 or higher, Trend Micro, McAfee Antivirus 4.5 or higher
Database connection software	If connecting to an Oracle database: • Oracle 10g Client Release 2 (10.2.0.4.0) for Microsoft Windows (32-bit)—Oracle .NET Data Provider If connecting to a SQL Server database: • Integrated MDAC, which is included in the installation of the Application Server Business Services or SQL Server 2005 SQL Native Client

IMPAX AS300 Server hardware and software requirements

(Topic number: 6674)

The following lists the hardware and software requirements for an IMPAX AS300 Server (including single-server configurations). Where a specific manufacturer is identified, only that manufacturer's device is supported.

Allocating disk space for Oracle disk-to-tape backups

(Topic number: 121408)

Oracle disk-to-tape backups require significant disk space, as a minimum of two backups must be kept on disk. In order to accomodate disk-to-tape backups of the Oracle database, ensure that you define a Flashback partition that is at least 3 times the expected size of the database.

IMPAX Server: Hardware requirements

(Topic number: 6690)

The following hardware configuration is recommended for IMPAX AS300 servers (including single-server configurations).

Component	Requirements
Example systems	**Preferred:** HP ML370, DL380 (may be deployed with VMware ESX 3.5) **Supported:** Dell 1900, 2900, 2950, 6900*, 6950* Stratus® ftServer® 4300, 4410, or 5700 (dual CPU)
Hard drive	Minimum three drives Minimum drive size 40 GB Minimum drive size 73 GB NAS/SAN connections also supported
RAM	4 GB minimum
Number of CPUs	Two or four* CPUs, 2 GHz minimum each
RAID	Embedded RAID (for onboard storage)
Tape backup	DAT 72 tape drive, if required for database backup
Video	Integrated video
DVD	Yes
Network interfaces	100/1000 Mbps
Modem	N/A

Component	Requirements
Power supplies	Redundant (additional)
Peripherals	Mouse and keyboard

* The use of four-CPU socket servers for IMPAX is supported but not recommended.

** Stratus Servers are no longer supported for new installs.

Additional AS300 hardware requirements: Storage requirements
(Topic number: 6733)

Additional hardware can be used to meet archive requirements.

IMPAX AS300 Server: Non-SCSI CD/DVD burner and controller cards
(Topic number: 58044)

OEM-supplied CD/DVD writer

IMPAX AS300 Server: HSM storage requirements
(Topic number: 6686)

Note:

Direct attached libraries are not supported in IMPAX 6.5.1.

The following HSM storage devices are supported:

- EMC
- HP
- QStar

Note:

To use QStar HSM with IMPAX, open port 160 for UDP messages.

IMPAX AS300 Server: Storage requirements
(Topic number: 6616)

Manufacturer	Model	Manufacturer	Model
IBM	Shark ESS Series FastT Series	HP	MSA1000 series EVA series
NetApp	R series F series FAS series	Hitachi	9000 series
EMC	CX-3 series	StorageTek (STK)	D series

Manufacturer	Model	Manufacturer	Model
	Symmetrix DMX series		B series
	Centera		
	Centera Universal Access		

IMPAX Server: External software requirements

(Topic number: 6695)

The following software is required for most IMPAX AS300 servers. Unless otherwise indicated, Agfa does not provide the software as part of the IMPAX AS300 Server installation package.

Component	Requirements
Operating system	**For upgrades:** Windows Server 2003 R2 SP2, Standard or Enterprise Editions, 32-bit or 64-bit (only a dedicated Database Server can be run on Windows 64-bit) or **For new installs:** Windows Server 2008 SP2, Standard or Enterprise Editions, 32-bit or 64-bit (only a dedicated Database Server can be run on Windows 64-bit)
Database software	One of the following: • Oracle 10g 32-bit Server and Client (provided on Oracle for Windows 32-bit DVD) or • Oracle 10g 64-bit Server (provided on Oracle for Windows 64-bit DVD) or • Microsoft SQL Server 2005, Standard or Enterprise Edition, with Service Pack 3 (upgrades only) or Microsoft SQL Server 2008, with Service Pack 1 (upgrades only)
Browser	Internet Explorer 8.0
Java	
Documentation	Latest version of Adobe® Reader®
Remote access (optional)	Symantec pcAnywhere version 12.5
Antivirus	McAfee Antivirus 4.5 or higher

IMPAX AS3000 Server hardware and software requirements

(Topic number: 6675)

The following lists the hardware and software requirements for an IMPAX AS3000 Server. Where a specific manufacturer is identified, only that manufacturer's device is supported.

Allocating disk space for Oracle disk-to-tape backups

(Topic number: 121408)

Oracle disk-to-tape backups require significant disk space, as a minimum of two backups must be kept on disk. In order to accomodate disk-to-tape backups of the Oracle database, ensure that you define a Flashback partition that is at least 3 times the expected size of the database.

IMPAX AS3000 Server: Supported hardware configurations

(Topic number: 6689)

The four general categories of servers are:

- Single-host server—Database Server/Archive Server/Network Gateway
- Database Server hosting the Oracle database
- Archive Server or combined Archive Server/Network Gateway
- Network Gateway

The hardware requirements for each of these are outlined in the sections that follow.

IMPAX AS3000 Server: Hardware requirements

(Topic number: 6622)

We recommend the following components for each AS3000 server:

Component	Requirements
Validated systems	The following Sun servers can be used in any combination as required: For new installations: • T5120, T5220, T5140, T5240 For upgrades: • V240/V440 or newer • T2000, T5120, T5220, T5140, T5240 **Solaris 10u8 or later only.** We do not recommend Sun T1000, V210, and V215 because of the single power supply limitation.

Component	Requirements
	When planning upgrades, note all end-of-sales and end-of-support dates published on MedNet. **Note:** These servers must have a DVD-ROM drive present for IMPAX installation purposes.
Number of CPUs	A minimum of two CPUs should be used in any of the server categories, after which the number of CPUs should be determined by server usage. General recommendations: • Database Server: Two to six CPUs • Archive Server/Network Gateway: Two to four CPUs • Network Gateway: Two CPUs • Single-host server: Two to eight CPUs Does not apply to the multi-core processors used in T-series Sun servers.
RAM	A minimum of 2 GB per CPU should be used in any of the server categories, after which the amount of RAM should be determined by server usage. General recommendations: • Database Server: 2GB per CPU • Archive Server/Network Gateway: 2GB to 4GB per CPU • Network Gateway: 2GB to 4GB per CPU • Single-host server: 2GB to 8GB per CPU
Hard drive	A minimum of two hard drives should be used in any of the server categories, after which the number of drives should be determined by server usage and configuration. We recommend having data available on an external disk subsystem and not an internal drive.
RAID	Required • RAID 1 + 0 is mandatory for the database (along with ForceDirectIO)—See the partitioning recommendations in the *IMPAX 6.5.1 AS3000 Installation and Configuration Guide*. • RAID 5 or better for image cache.
Tape backup	Optional for Database Server but not recommended—not required if using file system backups.

Component	Requirements
Modem	Not required.
DVD-ROM	Required—One per cluster is required.
Floppy	No.
Network interface	Sun 10/100/1000 Mbps NICs. A 1 gigabit network should be considered the minimum for server interconnections. Consider segregating network traffic in order to improve overall throughput.
Jukebox	Direct attached archives are not supported.
Other	UPS that meets the region's safety approval standards and the power requirements of the machines it supports.

IMPAX AS3000 Server: Database backup requirements
(Topic number: 10319)

For file system backup, the following are supported:

- Back up to NFS or SAN

For tape backup (upgraded systems only, not new installations), the following are supported:

- SUN DAT-72
- Standalone DLT 8000
- Standalone LTO2
- Standalone SDLT
- Standalone L8 with LTO or LTO2 or SDLT

Important!

Oracle disk-to-tape backup requires significant disk space, as a minimum of two backups must be kept on disk. To accommodate disk-to-tape backups of the Oracle database, ensure that you define a Flashback partition that is at least 3 times the expected size of the database.

Operating systems disks should be configured as RAID 1, preferably with hardware mirroring; however, on platforms that do not support hardware mirroring, Solstice DiskSuite is acceptable. For more information regarding disk management strategies, refer to "Disk management strategies" (topic number 103117) in the *IMPAX 6.5.1 AS3000 Installation and Configuration Guide*.

IMPAX AS3000 Server: External storage requirements
(Topic number: 10321)

When planning upgrades, note all end-of-sales and end-of-support dates published on MedNet. A comprehensive list of currently supported storage products is available through Agfa Professional Services.

For external storage, the following are supported:

EMC CX Series

EMC DMX series

EMC NS NAS

HP EVA series

HBAs supported by storage vendor and operating system

IMPAX AS3000 Server: Software requirements

(Topic number: 6620)

The following software is required for an IMPAX AS3000 cluster:

Component	Requirements
Operating system	Solaris™ 10u8 or later.
Database software	Oracle 10.2.0.4.0 Standard or Enterprise Editions (supplied with IMPAX)
Solaris patches	As recommended by Sun.
Other software	• Java Runtime (included with Solaris) • Apache Server (included with Solaris) • Adobe® Reader® for Solaris (for documentation)
Supported software	The following software is supported but not required: • SUN SAM-FS 4.5/4.6/5.0 on Solaris 10, NFS or local • IBM Tivoli Storage Manager—NFS only • QStar • EMC Centera

Curator hardware and software requirements

(Topic number: 6714)

We recommend the following hardware and software for a dedicated Curator and CD Export server.

IMPAX Server: Hardware requirements

(Topic number: 6690)

The following hardware configuration is recommended for IMPAX AS300 servers (including single-server configurations).

Component	Requirements
Example systems	**Preferred:** HP ML370, DL380 (may be deployed with VMware ESX 3.5) **Supported:** Dell 1900, 2900, 2950, 6900*, 6950* Stratus® ftServer® 4300, 4410, or 5700 (dual CPU)
Hard drive	Minimum three drives Minimum drive size 40 GB Minimum drive size 73 GB NAS/SAN connections also supported
RAM	4 GB minimum
Number of CPUs	Two or four* CPUs, 2 GHz minimum each
RAID	Embedded RAID (for onboard storage)
Tape backup	DAT 72 tape drive, if required for database backup
Video	Integrated video
DVD	Yes
Network interfaces	100/1000 Mbps
Modem	N/A
Power supplies	Redundant (additional)
Peripherals	Mouse and keyboard

* The use of four-CPU socket servers for IMPAX is supported but not recommended.

** Stratus Servers are no longer supported for new installs.

IMPAX Server: External software requirements

(Topic number: 6695)

The following software is required for most IMPAX AS300 servers. Unless otherwise indicated, Agfa does not provide the software as part of the IMPAX AS300 Server installation package.

Component	Requirements
Operating system	**For upgrades:** Windows Server 2003 R2 SP2, Standard or Enterprise Editions, 32-bit or 64-bit (only a dedicated Database Server can be run on Windows 64-bit) or **For new installs:**

Component	Requirements
	Windows Server 2008 SP2, Standard or Enterprise Editions, 32-bit or 64-bit (only a dedicated Database Server can be run on Windows 64-bit)
Database software	One of the following: • Oracle 10g 32-bit Server and Client (provided on Oracle for Windows 32-bit DVD) or • Oracle 10g 64-bit Server (provided on Oracle for Windows 64-bit DVD) or • Microsoft SQL Server 2005, Standard or Enterprise Edition, with Service Pack 3 (upgrades only) or Microsoft SQL Server 2008, with Service Pack 1 (upgrades only)
Browser	Internet Explorer 8.0
Java	
Documentation	Latest version of Adobe® Reader®
Remote access (optional)	Symantec pcAnywhere version 12.5
Antivirus	McAfee Antivirus 4.5 or higher

IMPAX Client hardware and software requirements

(Topic number: 6679)

The following lists the recommended hardware and software for an IMPAX Client workstation.

IMPAX Client: Hardware requirements

(Topic number: 7793)

The following hardware configuration is recommended for new workstations. While IMPAX Client should work on an equivalent platform, optimal results can be guaranteed only on the recommended platform.

To use the CT-MR navigation tools, we strongly recommend that, due to the high volume of data being manipulated, Client systems be equipped with a high-end video subsystem that is PCIe X16 based.

CAUTION!

For official diagnostic interpretation, we recommend setting the display to 32-bit color or more.

Component	Requirements	
System	The Agfa preferred supplier is HP. HP xw4400, xw4600, xw6400, xw6600, z400, or z600 Dell Precision™ 490 or 690, T5400, T7400, or T7500 Motion LE1600 Tablet PC (Non-diagnostic)	
CPU	2 x 2.0GHz or higher 1 x Dual/Quad Core 2.8GHz or higher 1 x Intel® Pentium® M 1.5GHz (Tablet PC – Non-diagnostic)	
RAM	Windows XP: 1 GB minimum Windows Vista and Windows 7: 4 GB minimum 4 GB recommended for all new systems for optimal performance and viewing of large volume image sets 4 GB recommended for IMPAX Clinical Applications such as IMPAX Virtual Colonoscopy, IMPAX PET-CT Viewing, and IMPAX Reporting (embedded speech recognition)	
RAM (Tablet OS)	512 MB min (Non-diagnostic Tablet PC only)	
Hard drive space	80 GB minimum	
Modem	Not applicable	
DVD-ROM drive	Yes	
Floppy drive	Not applicable	
Network interfaces	System comes with an integrated 100/1000 Mbps Ethernet adapter	
Power supply	Default	
Peripherals	Scroll mouse and keyboard For North America, the Logitech MX518 is used with the MA3000.	
Other	Microsoft supported DVD RW/CDRW	
Video		
Diagnostic review workstations and high-end diagnostic review workstations	**Windows 7 (WDDM)*:** MXRT1150, 2150 MXRT5200 (covers 98% of the diagnostic requirements) MXRT7200 (high end board for IMPAX Clinical Applications such as Oasis for IMPAX) MXRT7300 (high end board for IMPAX Clinical Applications such as Oasis for IMPAX. Supported from WDDM v1.1 May/June 2010)	**Windows XP and Vista:** BarcoMed PCIe for Coronis BarcoMed PCIe for Nio BarcoMed PCIe 5MP2FH (only with monitor MF GD-5621HD) MXRT 2100/5100/7100 (not sold anymore but still supported) MXRT5200 (covers 98% of the diagnostic requirements)

Component	Requirements	
		MXRT200 and 7300 (high-end board for IMPAX Clinical Applications such as Oasis for IMPAX)
RIS/Administrator stations and Clinical review stations	**Windows 7 (WDDM):**	**Windows XP and Vista:**
	NVIDIA FX 1700, FX 1800, FX 4800	NVIDIA FX 1700, FX 1800, FX 4800
	ATI 3700, 3750, V3800 (third monitor board)	ATI 3700, 3750, V3800 (third monitor board)
	MXRT 1150/2150 (third monitor board)	MXRT 1150/2150 (third monitor board)

*Windows 7 and WDDM drivers do not support the BarcoMed and older MXRT (2100, 5100. and 7100) boards.

IMPAX Client: External software requirements

(Topic number: 6694)

The following software is required for all new stations. Unless otherwise indicated, Agfa does not provide the software as part of the IMPAX Client installation package.

Component	Requirements
Operating system	Microsoft Windows XP Professional SP3 may be used for upgrades but is no longer available for shipment
	Microsoft Windows Vista™ / Windows Vista x64 (Business and Ultimate) SP2
	Windows 7 Professional 64-bit (single language support), Windows 7 Ultimate 64-bit (multi-language support) SP1 for Diagnostic review stations
	Note that other versions of Windows 7 can be used for non-diagnostic review stations.
Other software	Microsoft Internet Explorer 7.0 and 8.0
	.NET 3.5 SP1
	Latest version of Adobe® Reader®
	Antivirus software such as Norton Antivirus 6.1 or higher, Trend Micro, or McAfee Antivirus 4.5 or higher
	Note that Oracle 11 Client is required for IMPAX Reporting and IMPAX for Cardiology.

The IMPAX Client will run on 64 bit operating systems in 32bit compatibility mode. The IMPAX Client is not a 64bit application and therefore does not take advantage of 64bit processing or memory addressing.

Note:

We recommend upgrading Windows Vista to Windows 7 for systems that will be used as diagnostic workstations.

System requirements for upgrading standalone stations

(Topic number: 114785)

Existing IMPAX standalone stations can be upgraded to IMPAX 6.5.1:

- If they are on IMPAX 6.5 and running on Windows 7 (host operating system) and Windows Server 2008 (guest operating system) using VMware Player.

  or

- If they are currently running on Windows XP and if they meet the minimum hardware requirements. If running SQL Server 2000, an upgrade to SQL Server 2008 is required. (If running SQL Server 2005, this version can be retained.)

Follow the procedures in the *IMPAX 6.5.1 Standalone Upgrade Guide*.

Stations that do not meet the minimum hardware requirements or that require an operating system upgrade cannot be upgraded. Instead, a new standalone installation must be performed, following the procedures in the *IMPAX 6.5.1 Standalone Installation and Configuration Guide*.

Component	Minimum hardware requirement for standalone upgrade
Workstation	HP xs6600 or equivalent
RAM	4 GB
CPU	1 x Dual-Core (Intel XEON 52xx)
Video	For enhanced CT/MR navigation, minimum BARCO MXRT-5200

Performing initial installations

2

Only certain IMPAX installations can be performed during the preparing to upgrade period. In many cases, installation details are provided in one of the IMPAX 6.5.1 guides listed in *IMPAX installation, configuration, and upgrade guides* (refer to page 14).

1. Evaluating system requirements

(Topic number: 6701)

We recommend specific hardware and software for the various IMPAX 6.5.1 cluster components. Use these requirements to assess which existing servers to keep and upgrade, and which to replace with new servers. Also consider site performance—measure the time to acquire the first image. If current performance is inadequate or borderline, this may be another reason to replace some of the equipment.

Full system requirements are listed in *IMPAX hardware and software requirements* (refer to page 21).

2. Obtaining Server license keys

(Topic number: 7637)

IMPAX uses software license keys that are unique to the station on which the software is installed. One license key is required for the Network Gateway and a separate license key must be obtained for the Archive Server (even if using PACS Store and Remember archiving).

Obtaining Server licenses for Windows stations

(Topic number: 10699)

To obtain new license keys, if this is required, email licensekey@agfa.com. To generate the license keys, Agfa must know the Ethernet MAC (Media Access Control) address of the server.

To obtain Server licenses for Windows stations

1. For each Windows server, open a command prompt and type **ipconfig /all**.

   The MAC address of all Ethernet cards installed on the station are listed. You can use any of these to generate the license from.

2. Copy one of the returned MAC addresses to a secure place.

   Ensure that you copy down the address exactly as it appears, including leading zeroes.

   Note:

   The MAC addresses contain only the alphanumeric characters 0-9 and A-F.

3. To obtain a license key for the server, send the MAC address information to licensekey@agfa.com, along with the type of component being installed on that server.

Obtaining Server licenses for Solaris stations

(Topic number: 10701)

To obtain new license keys, if this is required, email licensekey@agfa.com. To generate the license keys, Agfa must know the Ethernet MAC (Media Access Control) address of the server.

To obtain Server licenses for Solaris stations

1. On a Solaris station, confirm that the Ethernet is connected.
2. Log in as the **root** user and open a terminal window.
3. Type

   arp `uname -n`

   or

   arp $(uname -n)

   The MAC addresses for all connections are returned, which is the information Agfa requires to issue a license.

4. To obtain a license key for the server, copy and send the returned information to licensekey@agfa.com, along with a description of the type of component being installed on that server.

3. Installing IMPAX 6.5.1 on new servers

(Topic number: 6667)

If, through your analysis, you determine that you will be replacing the existing IMPAX stations with new server stations or adding additional stations to the cluster as part of the upgrade, install the appropriate external and IMPAX 6.5.1 software on any new single-host, Database Server, Archive Server, Network Gateway, Application Server, and Curator stations during the preparing to upgrade period.

For details on how to install and initially configure a single-host, Database Server, Archive Server, or Network Gateway, refer to the *IMPAX 6.5.1 AS300 Installation and Configuration Guide* or the *IMPAX 6.5.1 AS3000 Installation and Configuration Guide*. For information on installing an Application Server, refer to the *IMPAX 6.5.1 Application Server Installation, Upgrade, and Configuration Guide*. For information on installing a dedicated Curator and CD Export server, refer to the *IMPAX 6.5.1 Curator and CD Export Server Installation Guide*.

Windows versions

All new AS300 servers must be installed under Windows Server 2008, whereas new Application Servers can be installed on either Windows 2003 or Windows 2008.

The IMPAX cluster can contain a mix of Windows 2003 and Windows 2008 AS300 servers. Therefore, you can replace or add some AS300 servers under Windows 2008 without having to replace all of them. The new ones can run on Windows 2008 while the upgraded ones remain on Windows 2003.

By contrast, all Application Servers, must be on the same version of Windows. So if you decide to use Windows 2008 for one Application Server, then you must use it for all of them.

Database support

In the *IMPAX 6.5.1 AS300 Installation and Configuration Guide*, Oracle for Windows is the recommended database for new installations. However, when installing a new IMPAX AS300 Database Server as part of the upgrade, if SQL Server 2005 or 2008 was previously used, then you must install SQL Server (refer to page 37) as part of the IMPAX 6.5.1 upgrade.

Migrating an IMPAX database from SQL Server to Oracle for Windows is not documented. To do this, you must involve Agfa Professional Services.

Installing SQL Server 2008

(Topic number: 96471)

Before beginning the installation, make note of the sa password to use, as you will be prompted to enter it.

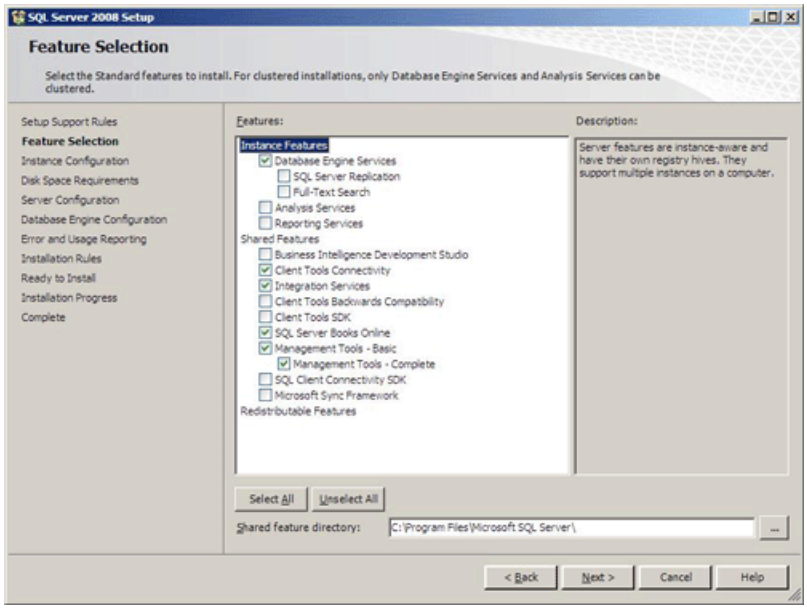
To install SQL Server 2008

1. Log into Windows as an administrator-level user.
2. Launch the installer and select **Installation** from the left-hand menu of the SQL Server Installation Center.

CAUTION!

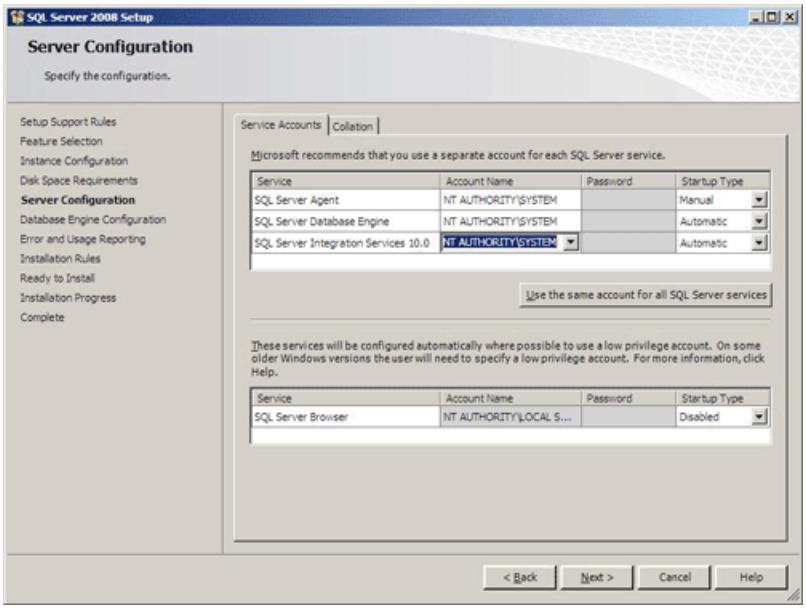
If the .NET Framework is not installed and enabled, the SQL Server 2008 RTM installation may fail on Windows Server 2008. This problem occurs because installation of the .NET Framework 3.5 is a prerequisite for the SQL Server 2008 installation and on Windows Server 2008, .NET Framework 3.5 is not installed by default but is included as a Windows component. It is installed during the installation of IIS 7.0 For instructions on how to install IIS 7.0, see the topic "Installing IIS 7.0 in Windows Server 2008" (Topic number 96439) in the *IMPAX 6.5.1 Application Server Installation, Upgrade, and Configuration Guide*.

3. To perform a new installation of SQL Server 2008, select the first option, **New SQL Server stand-alone installation or add features to an existing installation**.
4. If asked whether or not you want to run this application, click **Run**.
5. To install a permanent version of SQL Server 2008, confirm that the product key exists and click **Next**.
6. To accept the license terms and conditions, on the License Terms screen, read the license agreement and select the relevant checkbox.
7. To allow the Installation Wizard to install or update SQL Server 2008, on the Setup Support files screen, click **Install**.
8. Wait until all components are installed and configured, then click **Next** on the Setup Support Rules screen. Ensure that no significant errors exist.
9. On the Feature Selection Page screen, select the required components (as in the image that follows). Click **Next**.



10. On the Instance Configuration screen, select **Default instance**. Click **Next**.
11. The Disk Space Requirements screen verifies that sufficient disk space exists for the features you have selected. Click **Next**.

12. On the Server Configuration screen, on the Service Accounts tab, select **NT AUTHORITY\SYSTEM** as the Account Name for the login accounts for SQL Server services (as in the image that follows). Click **Next**.



13. On the Database Engine Configuration screen, on the Account Provisioning tab, select **Mixed Mode (SQL Server authentication and Windows authentication)** and type the sa (system administrator) password.
14. To add the administrative user, click **Add**.
15.
16. On the Ready to Install screen, click **Install**.
17. On the Installation Progress screen, click **Next**.
18. On the Complete screen, click **Close**.
19. Close the SQL Server Installation Center.
20. Restart the computer and log into Windows as an administrator-level user.

Stopping SQL Server 2008 services

(Topic number: 109422)

Before proceeding with the next task, stop the Windows SQL Server services, if they have been started.

To stop SQL Server 2008 services

1. Open the Windows Administrative Tools.
2. Select **Services**.
3. Select each of the following services in turn and click **Stop Service**, if needed:
    a. **SQL Server Full Text Search**

b. **SQL Server Full Text Filter Daemon Launcher**

c. **SQL Server Browser**

d. **SQL Server Integration Services 10.0**

4. Close the Services window.

Upgrading SQL Server 2008 to SQL Server 2008 SP1

(Topic number: 107523)

The SQL Server 2008 SP1 executable file is **SQLServer2008SP1-KB968369-x86-ENU.exe** (32-bit). You must acquire this file from Microsoft; for example, you can download it from the Microsoft website at http://www.microsoft.com/downloads/en/details.aspx?FamilyID=66ab3dbb-bf3e-4f46-9559-ccc6a4f9dc19

Before running the installer, ensure that you know the sa (system administrator) database password, as you must enter it during the installation. Install the Service Pack after installing the software and stopping the SQL services.

To upgrade SQL Server 2008 to SQL Server 2008 SP1

1. Launch the SP1 installer.
2. If you see a security warning, click **Run**.
3. On the Welcome screen, click **Next**.
4. On the License Terms screen, select **I accept the agreement**. Click **Next**.
5. On the Feature Selection screen, accept the default selections. Click **Next**.
6. On the Check Files in Use screen, wait while the processes are identified. Then, click **Next**, even if some locked files are found.
7. On the Ready to Update screen, click **Update**.
8. On the Update Progress screen, wait until the components are upgraded or installed, then click **Next**.
9. If the Computer Reboot Required prompt appears, click **OK**.

   This will not automatically restart the computer.
10. On the Installation Complete screen, click **Close**.
11. Restart the computer.

When the computer restarts, log into Windows as an administrator-level user.

CAUTION!

Do not attempt to start IMPAX at this point. If you start IMPAX now, the mvf user account will be locked and you will not be able to log into the MVF database. If the mvf user account becomes locked, see *Troubleshooting: Unlocking the mvf user account* (refer to page 42) for instructions on how to unlock the account.

Troubleshooting: Receiving errors when installing the MVF SQL database software

(Topic number: 7640)

Issue

You receive error messages when installing the MVF AS300 packages with the SQL Server Extension.

Details

If an error occurs while installing the SQL MVF database, it may relate to the security components not being applied, which requires reinstalling the software. Otherwise, you can try rebuilding the database.

Solution

To determine if the security components were applied

1. On the Database Server, open a command prompt.
2. Type **sqlcmd -E**.
3. Note whether the response is a failure message.

   If this fails, the security components have been installed but not applied.
4. If the command failed, rebuild the database.

To rebuild the database

1. Select **Start** > **All Programs** > **Microsoft SQL Server 2008**, right-click **SQL Server Management Studio** and select **Run as**.
2. In the Connect to Server dialog, select **Windows Authentication** in the Authentication field.
3. From the User name list, select **AgfaService**.
4. In the Password field, type the password for the AgfaService account and click **OK**.

   The SQL Server Enterprise Manager is opened using the AgfaService account permissions.
5. In the Object Explorer window of the Management Studio, expand ***server*** > **Databases**

   where *server* is the name of the SQL Server that IMPAX is running under.
6. Right-click the MVF database and select **Stop**.
7. To confirm stopping the database, click **Yes**.

   Stopping the database may take a few minutes.
8. Right-click the MVF database again and select **Delete**.
9. To confirm the deletion of the database, click **Yes**.
10. Run the **build-mvf-sqlserver-database** script.

If you receive an error a second time, contact your vendor.

Troubleshooting: Server name registered in SQL Server is incorrect

(Topic number: 7625)

Issue

If the server name registered in SQL Server is not the same as the server name registered in Windows, you must update the server name in SQL Server.

Details

This discrepancy may happen if you use a ghost image when installing the third-party applications.

Solution

To check the server name registered in Windows

1. Right-click **My Computer** and select **Properties**.
2. Switch to the **Computer Name** tab.

   The server name is listed as the full server name.

To check the server name registered in SQL Server

1. In a SQL Server query window, type **select @@servername**

To update the server name registered in SQL Server

1. In the SQL Server query window, type:

   sp_dropserver *old_server_name*

   go

   sp_addserver *server_name_as_in_Windows*, local

   go

Troubleshooting: Unlocking the mvf user account

(Topic number: 114829)

Issue

You cannot log into SQL Server 2008 using the mvf account because the mvf user account is locked.

Details

The mvf user account gets locked if you start IMPAX immediately after upgrading to SQL Server 2008 SP1.

Solution

To unlock the mvf user account

1. Log into SQL Server 2008 using the Administrator account.
2. In the SQL Server Management Studio, open a new query window.
3. Type

   ALTER LOGIN mvf ENABLE;

   ALTER LOGIN mvf with PASSWORD = 'mvf' UNLOCK;

   GO
4. Click **Execute.**

4. Installing the IMPAX 6.5.1 Migration Toolbox

(Topic number: 59220)

The tools in the IMPAX 6.5.1 Migration Toolbox automate some of the migration and upgrade tasks. The tools are run from a command prompt and do the following:

- Extract relevant information from the database
- Transform the database schema and data
- Coordinate the execution of tools across multiple machines

Install the Migration Toolbox on the following servers, as applicable:

- The IMPAX 6.2 or later Database Server
- The IMPAX 6.2 or later Network Gateway and Archive Servers, if running on Solaris
- The traveling server

You can optionally install the tools on any other computer with an MVF connection to the IMPAX database.

Installing the Migration Toolbox on a Windows station

(Topic number: 11493)

To install the Migration Toolbox, you must be logged into Windows as an administrator-level user.

The migration tools are on a dedicated Migration CD.

To install the Migration Toolbox on a Windows station

1. Insert the IMPAX Migration CD.
2. Navigate to the **win32** directory and double-click **impax_65_migration-winpkg-6.5.1.*xxx*.exe**

where *xxx* is the build number.

3. In the InstallShield Self-extracting EXE dialog, click **Yes**.

   Setup progress dialogs appear.

4. On the Welcome screen, click **Next**.
5. When upgrading from IMPAX 6.4 or later, in the Setup Type dialog, select the type of database server. Click **Next**. When upgrading from IMPAX 6.2 or IMPAX 6.3, skip this step.
6. On the Select Features screen, select the checkboxes of the features that you want to install, and clear the rest.

   When migrating a SQL Server database, select all the features except the **Oracle on Windows Migration Tools**.

   When migrating an Oracle on Windows database, select all the features except the **SQL Server Migration Tools**.

7. Click **Next**.
8. To continue, click **Install**.
9. If you selected the Worklist and Report Migration Tools on the Select Features screen, when prompted, press any key to continue.
10. On the Setup Complete screen, click **Finish**.

The Migration Tools are installed in the C:\mvf-mig6\bin directory, with the following exceptions for SQL Server databases:

Executable	Installed in
migrate-users	C:\mvf-mig6\UserMigration
Training/Traveling Server (MigrateTRServer.exe)	C:\mvf-mig6\MigrateTRServer

Accessing the IMPAX migration software repository

(Topic number: 60454)

To access the IMPAX migration software repository when upgrading the AS3000 Database Server, use the following procedure which accesses the ISO image without creating a local software repository.

To access the IMPAX migration software repository

1. Login as user **root**.
2. At a terminal window, type

   lofiadm -a /*ISO_directory*/IMPAXMigration.iso.

   The operating system outputs */dev/lofi/1* or something similar.

3. Type

   mount –F hsfs /dev/lofi/1 /mnt1.

4. Change to the **/mnt1** directory (or whatever mount point you are using).

Installing the Migration Toolbox on a Solaris station

(Topic number: 11495)

Important!

Before installing the Migration Toolbox on a Database Server running Oracle Data Guard, remove any existing IMPAXOracleUpgrade package. After removing the package, delete the /usr/mvf-mig6 directory.

The migration tools are on a dedicated Migration CD.

To install the Migration Toolbox on a Solaris station

1. Log in as the **root** user and open a terminal window.
2. Insert the Migration Tools CD.
3. Navigate to the SunOS5 directory.
4. To install the migration tools, type

   pkgadd -d IMPAXmigration.pkg
5. When asked which packages to process, type the package name or **all** to process them all.
6. When asked if you want to continue with the installation, type **y**.

   The Migration Tools are installed in the /usr/mvf-mig6/bin directory.
7. Because environment variables are updated during the Migration Toolbox installation, if you have any terminal windows open with the mvf user login, you must log out and log back in again.

5. Running the Microsoft .NET Framework 3.5 SP1 installer package

(Topic number: 107096)

Important!

.NET Framework 3.5 SP1 must be installed prior to starting the Client installation. We recommend using Group Policies or SMMS to download and install .NET Framework 3.5 SP1. However, if these methods are not available, the .NET Framework 3.5 SP1 installer package is available.

The Microsoft .NET Framework 3.5 SP1 installer package is a modified version of the IMPAX Installation Server. It distributes the .NET upgrade to Client workstations throughout the site and to remote Clients.

A week prior to upgrading the IMPAX Client software, run the installer package on the Application Server or a dedicated Windows-based server. We recommend running the installer package during the site's off-hours as downloading and installing the Microsoft .NET framework can take over 30 minutes, depending on network speed.

To run the installer package on a dedicated server that does not already have the IMPAX Installation Server installed, when using https mode, you must use the Web Server Certificate Wizard to create a certificate request to submit to a trusted certificate authority, and install the certificate. You must then install the SSL certificate on the dedicated server before running the installer package.

If using http mode, you do not have to install the SSL certificate.

For more information, refer to "Installing an SSL certificate on a dedicated server" (topic number 7786) and "Installing the IMPAX Installation Server" (topic number 7773) in the *IMPAX 6.5.1 Client Installation, Upgrade, and Configuration Guide*.

Note:

The PACS Client Updater service downloads and installs the .NET Framework 3.5 SP1. The services run as administrator, so you do not have to log in as the administrator user.

To run the Microsoft .NET Framework 3.5 SP1 installer package

1. From the IMPAX Client CD or a network location, run **IMPAXInstallationServer_DotNet35Updater.exe**.
2. On the Welcome to the InstallShield Wizard for Agfa IMPAX Installation Server - .NET 3.5 SP1 Updater screen, click **Next**.
3. To install the application into C:\Inetpub\wwwroot\ClientInstaller, on the Destination Folder screen, click **Next**.

   or

   To install the application to another location, click **Change**. In the Change Current Destination Folder dialog, browse for the directory location to install into and click **OK**. On the Destination Folder screen, click **Next**.
4. On the Ready to Install the Program screen, click **Install**.

   The installer runs.
5. On the Installation Wizard Completed screen, click **Finish**.

6. Installing and running the Cross-Cluster Dictation Interlock tool

(Topic number: 48033)

The Cross-Cluster Dictation Interlock tool synchronizes the dictation status of studies between old and new IMPAX systems when these are running in parallel—such as may happen when using a training server, when using a traveling server (AS3000 sites), or if planning to run the upgraded IMPAX cluster alongside the previous-version IMPAX cluster for a transition period.

A dictation interlock already exists within a single IMPAX cluster, preventing two users from dictating the same study. This tool extends that interlock to two IMPAX clusters: the previous version and the new. It uses native components within IMPAX to send signals between the two systems that a study's dictation status has changed. During the installation and configuration, a new role and a service called Study Status Relay are created to convey and receive the messages.

Study statuses that are synchronized are the following:

- DICTATION_STARTED
- TRAINEE_DICTATION_STARTED
- INTERPRETATION_TRANSCRIBED
- INTERPRETATION_APPROVED
- DICTATION_COMPLETED
- TRAINEE_DICTATION_COMPLETED

Cross-Cluster Dictation Interlock installation prerequisites: IMPAX 6.2 or later upgrades

(Topic number: 59202)

The IMPAX 6.5.1 Cross-Cluster Dictation Interlock components are placed on the IMPAX 6.5.1 Application Server when the Business Services software is installed. You will find the components in the Tools sub-directory; for example, in C:\Program Files\Agfa\Impax Business Services\Tools\Cross-Cluster Dictation Interlock\Cross.Cluster.Dictation.Interlock_6.5.1.0.zip. You must extract the zip file. Note that it contains components for IMPAX 5.2 or 5.3, along with the 6.5.1 components, but does **not** contain the components for IMPAX 6.2 or later.

You must separately acquire the Cross-Cluster Dictation Interlock components released for the version of IMPAX you are upgrading from. For example, if upgrading from IMPAX 6.2.1 and wanting to enable cross-cluster dictation interlock with IMPAX 6.5.1, you must acquire the 6.2.1 Cross-Cluster Dictation Interlock components and place them on the 6.2.1 Application Server. These will then communicate with the 6.5.1 Cross-Cluster Dictation Interlock components on the 6.5.1 Application Server.

Note:

The IMPAX 6.4 or later Cross-Cluster Dictation Interlock components were placed on the IMPAX Application Server when the Business Services software was installed. The IMPAX 6.2 and 6.3 Cross-Cluster Dictation Interlock components were packaged separately from IMPAX. The components would have likely been placed on the Application Server; look for the appropriately named zip file. If you cannot locate the components, contact Agfa Professional Services.

Copying the 6.2 or later Cross-Cluster Dictation Interlock components

(Topic number: 48220)

You must make the appropriate version of the Cross-Cluster Dictation Interlock components available on the IMPAX 6.2 or later Application Server **and** on the IMPAX 6.5.1 Application Server.

To copy the 6.2 or later Cross-Cluster Dictation Interlock components

1. On the IMPAX 6.5.1 Application Server, copy the study-status-signal-relay folder from the Cross-Cluster Dictation Interlock zip in the Tools subdirectory to an appropriate folder, such as to C:\Program Files\Agfa\Impax Business Services.

   The service will run from anywhere, but you should place it in a folder that is unlikely to be deleted.

2. Open a command prompt.
3. Change to the directory containing the copied files.
4. Type **import-study-status-relay.bat**.
5. In the Apply Study Status Relay ADAM Schema dialog, click **OK**.

   This creates a Study Status Relay role.

6. On the 6.2 or later Application Server, install the 6.2 or later version of the Cross-Cluster Dictation Interlock components.

   For instructions, refer to the documentation delivered with the 6.2 or later Cross-Cluster Dictation Interlock tool.

CAUTION!

Do not copy the 6.5.1 Cross-Cluster Dictation Interlock components onto a 6.2 or later Application Server. The 6.5.1 components will not work correctly on older versions of the Application Server.

Configuring a firewall exception for the Cross-Cluster Dictation Interlock tool

(Topic number: 111054)

The Windows firewall filters and blocks unsolicited incoming network traffic. To use the Cross-Cluster Dictation Interlock tool, you must define an exception in the Windows firewall to allow the TCP port to listen for signals coming in from the remote cluster.

To configure a firewall exception for the Cross-Cluster Dictation Interlock tool

1. On the IMPAX 6.5.1 Application Server, open Control Panel.
2. Select **Windows Firewall**.
3. Switch to the **Exceptions** tab.

4. Click **Add Port**.
5. In the Name field, type a name for the exception; for example, **Study Status Relay** or something similar.
6. In the Port field, type the number of the TCP port to listen for signals from the remote cluster.
    a. By default, the port number is 6000. To confirm the port number, navigate to the folder where study-status-relay.bat is installed (for example, C:\Program Files\Agfa\Impax Business Services\study-status-signal-relay) and open the **Study.Status.Relay.exe.config** file in a text editor.
    b. The port number value can be found under `<StudyStatusRelayConfiguration>` and between the `<SignalListenerPort>` and `</SignalListenerPort>` tags.
7. Click **OK**.
8. To close the Windows Firewall dialog, click **OK**.
9. Configure a firewall exception on the Windows machine in the remote cluster as well.

The new firewall exception takes effect immediately. You do not have to restart the server.

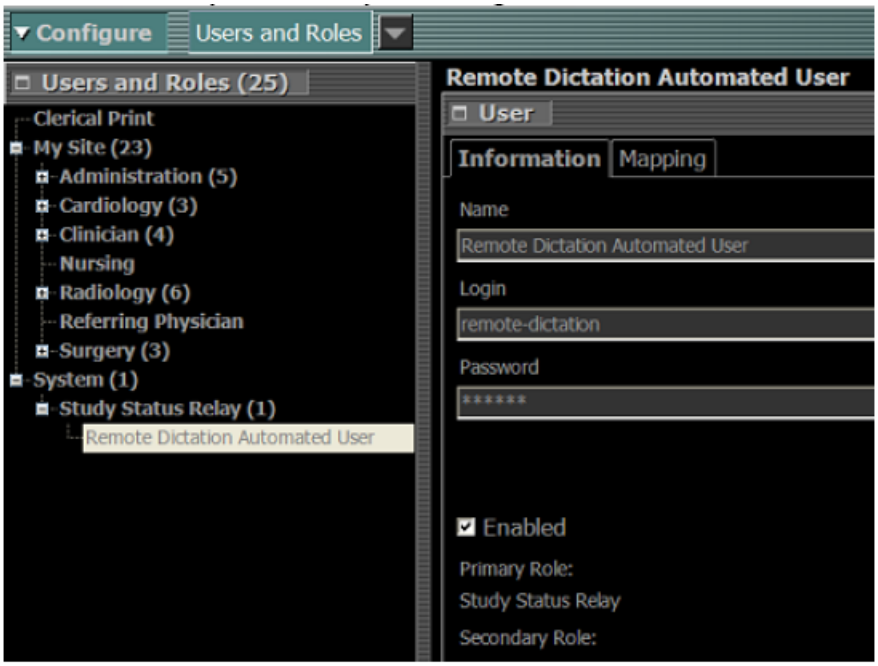
Configuring the Study Status Relay role for upgrades from 6.2 or later

(Topic number: 59181)

The newly created Study Status Relay role requires a user called remote-dictation, and an appropriate license. You must set up this role twice: once on the 6.2 or later Application Server, then again on the 6.5.1 Application Server.

To configure the Study Status Relay role for upgrades from 6.2 or later

1. Launch an IMPAX Client connected to the 6.2 or later Application Server.
2. Log into the Client as an Administrator user.
3. From the **Configure** drawer menu  , select **Users and Roles**.
4. In the navigation pane, right-click the **Study Status Relay** role and select **Add User**.
5. In the details pane, under the User bar, switch to the **Information** tab.
6. Type a Name for the user, such as **Remote Dictation Automated User**.
7. In the Login field, type **remote-dictation**.
8. Type a Password and note what this password is.



9. In the navigation pane, select the **Study Status Relay** role again.
10. In the details pane, expand the **Licensing** bar.
11. In the navigation pane, right-click the **Study-Status Relay** role and select **Add License** > **Add *license_type***

    where *license-type* is an appropriate and available license for this role. (Dictation is not a license-controlled feature.)

    The changes are saved automatically when you switch context.
12. Launch an IMPAX Client connected to the 6.5.1 Application Server.
13. Repeat steps 2 to 11 on that Client.

Configuring the Study Status Relay service

(Topic number: 48230)

You can now configure the communication service between the previous version of IMPAX and IMPAX 6.5.1. The goal is to transmit relevant study status changes between these two clusters.

To configure the Study Status Relay service

1. On the 6.5.1 Application Server, open a command prompt.
2. Change to the **C:\Program Files\Agfa\Impax Business Services\study-status-signal-relay** directory.
3. Type **Study.Status.Relay.EncryptionTool.exe *password_for_remote-dictation_user***

   where *password_for_remote-dictation_user* is the password you defined and noted for the remote-dictation user.

4. Copy the long string that is returned from this command.

   Tip:

   If it is too difficult to copy the string from the command-line interface, output the result to a text file, then copy the string from that file.

5. Open the Study.Status.Relay.exe.config file in a text editor.
6. Under StudyStatusRelayConfiguration, between the `<UserPassword>` and `</UserPassword>` tags, paste the long string.

   For example:

   ```
   ...
   <!--
   The password to use when logging in as the UserId account. This
   value is the BASE-64 encoded version of password that has been
   encrypted using information specific to this machine.
   Default: <none>
   -->
   <UserPassword>AQAAANCMnd8BFdERjHoAwE/Cl+sBAAAABbkEiV/jjUWSVOOgdR9
   RYQQAAAACAAAAAAADZgAAqAAAABAAAACiWdpGofmXAMqUZ5YsA5lkAAAAAASAAACg
   AAAAEAAAAMWx8NfIDRPiPIV+727lgQgQAAAA5wKiHz2sKwU4IlvifPm02BQAAAD5u
   pFcxlJes1vaYnwvF5WMJo/6lQ==</UserPassword>
   ...
   ```

7. Update the values of **LoginServiceUrl**, **StudyInfoServiceUrl**, and **MessagingServiceUrl** with the local Application Server's fully qualified domain name.
8. Update the value of **RemoteSignalHost** with the host name or IP address of the computer in the previous-release version of IMPAX that is running the study-status-relay service.
9. Save and close the file.
10. In the command prompt, type **install_study_status_relay_service.bat**.

    You may get a log4net error message. You can safely ignore this message.

    To diagnose other errors or check status, consult the Study.Status.Relay.log file located in the study-status-signal-relay folder.

If ready to use the service, proceed to the next topic, *Running the Cross-Cluster Dictation Interlock tool* (refer to page 51).

This topic also appears in the *IMPAX 6.5.1 AS300 Upgrade and Migration Guide—IMPAX 5.2 or 5.3 to IMPAX 6.5.1* , the *IMPAX 6.5.1 AS300 Upgrade and Migration Guide—IMPAX 6.2 or later to IMPAX 6.5.1*, the *IMPAX 6.5.1 AS3000 Upgrade and Migration Guide—IMPAX 5.2 or 5.3 to IMPAX 6.5.1*, or the *IMPAX 6.5.1 AS3000 Upgrade and Migration Guide—IMPAX 6.2 or later to IMPAX 6.5.1*. (The procedure is the same in all cases.)

Running the Cross-Cluster Dictation Interlock tool

(Topic number: 47379)

The Cross-Cluster Dictation Interlock tool synchronizes both the dictation status and the claim status of studies between the previous version of IMPAX and IMPAX 6.5.1, when these are running

in parallel—such as may happen when using a training server, when using a traveling server (AS3000 sites), or if planning to run the upgraded IMPAX cluster alongside the previous-version IMPAX cluster for a transition period.

Note:

Synchronization of the claim status of studies occurs only between versions of IMPAX that support shared workflows from which radiologists can then claim ownership of studies.

To run the Cross-Cluster Dictation Interlock tool

1. On the 6.5.1 Application Server where the Relay service is running, open a command prompt.
2. Type the following command:

   net start StudyStatusRelayService
3. Exit the command prompt.

Taking system inventory 3

Install and run key Migration Tools during the preparing to upgrade phase. You must complete these initial tasks when preparing for the migration and upgrade of an IMPAX 6.2 or later cluster to IMPAX 6.5.1.

More information on the Migration Tools commands and parameters is available in *Migration Tools commands and parameters* (refer to page 75).

1. Creating the pre-migration schema

(Topic number: 59192)

To create the pre-migration database schema and data, navigate to the directory containing the Migration Tools and run the script that creates the tables in the mvf database. The Migration Tools use these tables during the preparing to upgrade phase.

Create the schema on the following servers:

- Any IMPAX 6.2 or later Database Servers
- Any IMPAX 6.2 or later single-host servers

Run the schema commands directly on these database servers, and not from a connected server.

Creating the pre-migration schema on an AS300 server

(Topic number: 59199)

These steps assume that the Migration Tools have been installed on the server and that you are running the commands on the server itself. You must also be logged into Windows as an administrator-level user.

To create the pre-migration schema on an AS300 server

1. On the AS300 Database Server, open a command prompt.
2. If you are running an Oracle database, skip this step. If you are running a SQL Server database, retrieve the sa password as follows:
   a. Change to the **C:\mvf\bin** directory.
   b. Type

      passkey -M QUERY -u sa

      The sa password is returned.
3. Change to the **C: \mvf-mig6\bin** directory.
4. If running a SQL Server Database Server, use the sa password retrieved in step 2 in the following command:

   build-impax-mig-schema.bat sa *sa_password* mvf

   or

   If running an Oracle Database Server, type the following command:

   build-impax-mig-schema.bat

The pre-migration database schema and data are created.

Creating the pre-migration schema on an AS3000 server

(Topic number: 57478)

These steps assume that the Migration Tools have been installed on the AS3000 Database Server that you are running the commands on.

To create the pre-migration schema on an AS3000 server

1. Log into the AS3000 Database Server as the **oracle** user.
2. Change to the **/usr/mvf-mig6/bin** directory.
3. Run the script called **./build-impax-mig-schema**.

The pre-migration database schema and data are created.

2. Running an initial report on study archiving status

(Topic number: 6630)

To produce a report of studies that are in cache but are not archived, you can run a command on any computer with an MVF connection to the IMPAX database (such as the Application Server) or on the IMPAX Database Server itself. The studies to be identified can be moved to archive prior to migration.

Increasing the tablespace size on Solaris

(Topic number: 6875)

If required, run the monitor_add script to add 2 GB of MVFL, MVFLINDX, MVF, MVFINDX, and UNDO tablespaces to aid the upgrade process.

Important!

For Oracle Data Guard servers, increase the tablespace size only on the primary Database Server.

To increase the tablespace size on Solaris

1. Log into the Database Server as the **mvf** user.
2. Start the database by typing

   dbstartmvf

   Note:

   If Oracle has already been upgraded, you can ignore the error `SQL> SP2-0310: unable to open file "/usr/oracle/current/rdbms/admin/dbmspool.sql"`, as long as the database is able to start.

3. Start the listener. Type

   lsnrctl start

4. Change to the **/usr/mvf-mig6/bin** directory.
5. To see whether 2–3 GB of space is available for the MVFL tablespaces, type

   /usr/mvf/bin/monitor_update

   /usr/mvf/bin/monitor_stats

6. If additional space is needed, to run the monitor_add script, type

   /usr/mvf/bin/monitor_add

7. To continue, type **C**.
8. Type the tablespace name, **MVFL**.
9. Type the path name for the data file.
10. Type the size of the file in megabytes, **2000**.

    The file is created.

11. Repeat these steps for the MVFLINDX, MVF, MVFINDX, and UNDO tablespaces, substituting the appropriate tablespace name each time.

Increasing the tablespace size on Oracle for Windows

(Topic number: 106564)

If required, run the monitor_add script to add 2 GB of MVFL, MVFLINDX, MVF, MVFINDX, and UNDO tablespaces to aid the migration process.

To increase the tablespace size on Oracle for Windows

1. Log into the Database Server as the AgfaService user.
2. Start the database by starting the OracleServerMVF Windows Service.
3. Change to the c:\mvf-mig6\bin directory.
4. To see whether 2-3 GB of space is available for the MVFL tablespaces, type

   c:\mvf\bin\monitor_update

   c:\mvf\bin\monitor_stats
5. If additional space is needed, to run the monitor_add script, type

   c:\mvf\bin\monitor_add
6. To continue, type **C**.
7. Type the tablespace name, **MVFL**.
8. Type the path name for the data file.
9. Type the size of the file in megabytes, **2000**.

   The file is created.
10. Repeat steps 4 to 9 for the MVFLINDX, MVF, MVFINDX, and UNDO tablespaces, substituting the appropriate name in step 7.

Running a report on study archiving status on a Windows station

(Topic number: 57484)

Use this command on a Windows-based station, whether the Database Server itself or the Application Server connected to the server.

To run a report on study archiving status on a Windows station

1. At a command prompt, type

   mig-study-archive-report.exe -d mvf -U *IMPAX_database_user* -P *IMPAX_database_password*

   This command returns a list of completely unarchived studies, partially unarchived studies, and studies cached on a disabled AE. The output is stored in the migration_info table.
2. To create a report file with this information, type

   mig_reporter.exe -d mvf -t mig-study-archive-report

The report file is created in the C:\mvf-mig6\reports folder.

The format of the report is as follows (each line includes a common date/time prefix):

```
[Study ref] ; [Accession number] ; [Patient ID] ; [Study status] ; [HIS verified
 date and time] ; [Study date] ; [Archive flag] ; [Total objects] ; [Configured
 archive AE] ; [Archived AE] ; [Archived volume type] ; [Number of archived
objects] ; [Number of ignored objects for PACS archive] ; [Number of cache
objects only on disabled AE] ; [Archive status information (either
Partially_Archived or Completely_Unarchived)]
```

To return different information, you can run the command with other parameters, as described in mig-study-archive-report.exe (refer to page 80); for example, you can change the separator by using the **-x** parameter.

Running a report on study archiving status on a Solaris station

(Topic number: 57487)

If running a command on an AS3000 Database Server, this the syntax to use.

Important!

On AS3000 systems, this script may take a long time to run. If the database is large, you may have to enlarge the size of the MVF tablespace before running it. As it runs, periodically check the /usr/mvf/data/logs/oracle/bdump/alert_mvf.log for tablespace-related warnings.

To run a report on study archiving status on a Solaris station

1. At a terminal window, type

   mig-study-archive-report -o

   This command returns a list of completely unarchived studies, partially unarchived studies, and studies cached on a disabled AE. The -o option crates an unarchived studies list that can be used by CLUI to initiate a store job. This file is created in the /usr/mvf-mig6/bin directory and has a .clui extension.

2. To create a report file with this information, type

   mig-reporter -t mig-study-archive-report

   The report file is created in the /usr/mvf-mig6/reports directory.

The format of the report is as follows (each line includes a common date/time prefix):

```
[Study ref] ; [Accession number] ; [Patient ID] ; [Study status] ; [HIS verified
 date and time] ; [Study date] ; [Archive flag] ; [Total objects] ; [Configured
 archive AE] ; [Archived AE] ; [Archived volume type] ; [Number of archived
objects] ; [Number of ignored objects for PACS archive] ; [Number of cache
objects only on disabled AE] ; [Archive status information (either
Partially_Archived or Completely_Unarchived)]
```

To return different information, you can run the command with other parameters, as described in mig-study-archive-report (refer to page 83); for example, you can change the separator by using the **-x** parameter.

Determining if a study is eligible for the study archive report

(Topic number: 6709)

The Study Archive Report tool uses various criteria to determine if a study is eligible for the report. For example:

- A study is not eligible if the archive_flag is not set to `'T'`.
- A study is considered fully archived if all objects—with the exception of ignored objects—are archived. (Objects may need to be ignored if a remote PACS cannot handle certain objects.)
- One study may be present on more than one cache, and so multiple rows are returned. The tool then determines which row is the best match for a particular study.

Note:

If the system cannot determine the station (source) configuration for a study, the study cannot be archived and is not eligible for the study archive report. To avoid this problem, ensure that all studies are properly assigned to a station.

Alternative to mig-study-archive-report

While we recommend that the mig-study-archive-report be used, it may take a long time to run. If necessary, as an alternative, you can use the show-unarchived-studies tool instead. But be aware that this tool is much simpler, and outputs only a list of studies that *appear* to be unarchived.

To run the show-unarchived-studies tool

1. On Windows, type **show-unarchived-studies.bat**.

   or

   On Solaris, type **show-unarchived-studies**.

   The output file produced is called study_to_store.clui.

To archive the studies noted in the file, you can run the **clui -i study_to_store.clui** command.

3. Checking the operating system

(Topic number: 9918)

On each server you plan to upgrade (rather than replace), check the Windows or Solaris operating system to ensure that it is healthy. This helps to prevent issues such as bad disk systems or server hardware faults from affecting the upgrade.

For details on performing operating system checks, refer to the appropriate Agfa Service documentation and to Microsoft or Solaris documentation.

4. Checking the integrity of database data

(Topic number: 60610)

Important!

This topic applies only to IMPAX sites using Oracle for Solaris or Oracle for Windows.

Check the integrity of the database data, to help avoid upgrade problems.

To check the integrity of database data

1. To check for uniqueness of OBJECT_REF in DOSR_OBJECT_DOCUMENT, in ISQL, type

   select count(object_ref) from dosr_object_document where object_ref in (select object_ref from dosr_object_document group by object_ref having count(object_ref)>1).

   If the return value is > 0, a DUP value exists in that table.
2. To check for null values in the DOSR_HIS_STUDY.STUDY_UID column, type

   Select count(*) from dosr_his_study where study_uid is NULL
3. To check for null values in the DOSR_STUDY.STUDY_UID column, type

   Select count(*) from dosr_study where study_uid is NULL
4. To check for null values in the DOSR_OBJECT.SOP_INSTANCE_UID column, type

   Select count(*) from dosr_object where sop_instance_uid is NULL
5. To check for null values in the DOSR_OBJECT.SERIES_REF column, type

   Select count(*) from dosr_object where series_ref is NULL

   For this check, you may receive a result such as `1000 1000 <NULL> dummy_object`. This record is used by Autopilot. The <NULL> value for it does not indicate a problem. Its presence will not adversely affect the database upgrade.
6. To check for null values in the MAP_JOB.ORIGINATING_USER_ID column, type

   Select count(*) from map_job where originating_user_id is NULL
7. To check for null values in the MAP_EVENT.USER_ID column, type

   Select count(*) from map_event where user_id is NULL
8. To check for null values in the MAP_EVENT_AUDIT.USER_ID column, type

   Select count(*) from map_event_audit where user_id is NULL
9. To check for null values in the MITRA_FOLDER.FOLDER_NAME column, type

   Select count(*) from mitra_folder where folder_name is NULL
10. To check for null values in the MITRA_FOLDER_ITEM.ITEM_NAME column, type

    Select count(*) from mitra_folder_item where item_name is NULL

11. To check for null values in the MITRA_PRINT_PARAMS.USER_ID column, type

    Select count(*) from mitra_print_params where user_id is NULL

12. To check for null values in the AGFAHC_REPORT_ACCESS_CONFIG.AE_TITLE column, type

    Select count(*) from agfahc_report_access_config where ae_title is NULL

13. If the return value is > 0 for any of these, a NULL value exists in that column. If duplicates or nulls are found, contact Agfa support for assistance in dealing with them.

Preparing the IMPAX database and archive for the upgrade

4

You must perform certain tests and backup procedures to prepare the IMPAX 6.2 or 6.3 Database and Archive Servers for the upgrade.

CAUTION!

Any customization to the database—such as extra indexes, stored procedures, or triggers—may affect the schema upgrade. We recommend removing such customizations prior to the upgrade.

1. Bringing in a 6.2 or later traveling server

(Topic number: 59178)

Important!

This topic applies only to IMPAX AS3000 (Solaris) sites.

AS3000 sites have the option of bringing in a traveling server, which is a pre-staged IMPAX 6.2 or later AS3000 server. This server is generally brought in about two weeks before the upgrade weekend.

After completing PAP configuration on the traveling server and on the Network Gateway server, transmit a set of studies from the production server to the traveling server. (For details on PAP configuration and study transmission, refer to the *IMPAX 6.5.1 Server Knowledge Base*.)

For two weeks (or so) prior to the upgrade, route new studies from the production server to the traveling server, creating a temporary patient study data repository. During the upgrade weekend, synchronize study status between the traveling server and the production server. This allows the

traveling server to be used as the temporary production server during that weekend, greatly reducing site downtime.

The *IMPAX 6.5.1 AS3000 Upgrade and Migration Guide—IMPAX 6.2 or later to IMPAX 6.5.1* explains the tasks related to the traveling server.

2. Freeing up sufficient disk space

(Topic number: 9934)

Important!

This topic applies only to IMPAX AS3000 (Solaris) sites.

You can install the IMPAX 6.5.1 AS3000 software from a software repository on the AS3000 Database Server. (Installing from a repository is much faster and less prone to error than installing from DVD.) If an IMPAX 6.2 or later software repository already exists on that server, you probably want to leave that in place in case the original system needs to be restored. Ensure that you have sufficient space available on the Oracle Database Server for all software repositories you intend to use.

If the site uses disks for Oracle database backups, ensure that the disk has sufficient space to easily store a cold backup.

3. Identifying the report source

(Topic number: 68030)

When upgrading the database, you will be prompted for the report source. When prompted, supply the value stored in the *requesting_service* field in the Connectivity Manager database. To prepare for the upgrade, identify this value in advance.

To identify the report source

1. On the Connectivity Manager, open osql (refer to page 85) and type

   use mcf;

   select distinct(requesting_service) from mcf_service_request;

2. To prepare for upgrading the database, note the value stored in the requesting_service field.

   The *requesting_service* value is case-sensitive.

3. If multiple values are returned in the *requesting_service* field, consult a Connectivity Manager integrator, as data and mappings may need to be updated.

   If this Connectivity Manager receives data from multiple report sources, separate requesting_service values may exist that match each report source.

4. Creating the AS3000 software repository

(Topic number: 9936)

You can optionally install the IMPAX 6.5.1 AS3000 and Oracle for Solaris software from a software repository created on the AS3000 Database Server.

Note:

Installing IMPAX 6.5.1 AS3000 from a software repository is **much** faster, and much less prone to error, than installing it from DVD.

The AS3000 software repository can be created using ISO files or DVDs.

To create the AS3000 software repository using ISO files

1. On the AS3000 Database Server, create a directory for the repository by typing **mkdir /agfa/*repository***

   where *repository* is your choice of directory name.
2. Copy the IMPAX 6.5.1 AS3000 Server ISO file to this repository.
3. As the **root** user, type:

   # lofiadm –a /agfa/*repository*/IMPAX 6.5 AS3000 Server.iso

   /dev/lofi/1

   # mount –F hsfs /dev/lofi/1 /mnt

   # cd /mnt

   # cp -r . /agfa/*repository*

   where *repository* is the directory you created in step 1.

   The files are unpacked onto the Database Server into the *repository* directory.
4. Unmount /mnt and optionally remove the IMPAX 6.5.1 AS3000 Server ISO file.
5. Copy the Oracle for Solaris ISO file to the repository.
6. Repeat the process to extract and copy the Oracle software to the repository.

During the upgrade weekend, Oracle and IMPAX software upgrades are run from this repository. (When upgrading Oracle Server, if using a software repository that is not on the local machine, mount the repository.)

To create the AS3000 software repository using DVDs

1. On the AS3000 Database Server, log in as the root user and create a directory for the repository by typing **mkdir /agfa/*repository***

   where *repository* is your choice of directory name.
2. Insert the IMPAX 6.5.1 AS3000 Server DVD.

3. Change to the **/cdrom/cdrom0** directory.
4. Copy and unpack the files from the DVD by typing

   tar cvf - . | (cd /agfa/*repository*; tar xf -)

   where *repository* is the directory you created.
5. Remove the IMPAX AS3000 DVD and insert the Oracle for Solaris DVD.
6. Still in the /cdrom/cdrom0 directory, copy and unpack the files from this DVD as well.

   tar cvf - . | (cd /agfa/*repository*; tar xf -)

The files are unpacked onto the Database Server into the *repository* directory.

During the upgrade weekend, Oracle and IMPAX software upgrades are run from this repository. (When upgrading Oracle Server, if using a software repository that is not on the local machine, mount the repository.)

5. Backing up Application Server configuration files

(Topic number: 9932)

In preparation for upgrading the Application Server component, back up the web.config and log4net.config files so that you can refer to them later. You can also use these files to import custom configurations for authentication plugins and login messages.

Note:

The Application Server configuration files backup is done automatically if IMPAX 6.3.1 or later is uninstalled, or if any version of IMPAX is upgraded to 6.5.1 by running the 6.5.1 installer without first uninstalling the old version.

To back up the Application Server configuration files

1. On the Application Server, insert the IMPAX 6.5.1 Business Services CD.
2. Open a command prompt.
3. Change to the **appserver** folder on the CD.
4. Type the **backupconfiguration** command.

   Do not run the command with any arguments.

   The directory C:\Impax\ConfigurationBackups\<DateTimeStamp> is created.
5. Verify that the files have been copied to **C:\Impax\ConfigurationBackups*DateTimeStamp***.

6. Backing up the IMPAX database

(Topic number: 6726)

Be sure to do a final database backup before moving ahead with the migration to IMPAX 6.5.1.

Cleaning up RMAN backup files

(Topic number: 119594)

Important!

This topic applies only to IMPAX 6.4 or later sites running an Oracle database.

If the Flashback area is full or does not have enough space for a warm backup, clean up the RMAN backup files before the next backup is performed.

To clean up RMAN backup files

1. Log in as the **oracle** (Solaris) or **AgfaService** (Windows) user.
2. In a command prompt, type

   rman target /
3. To determine the backups that are currently stored in the Flashback area, type

   list backupset;

   A list of backup sets appears.

Example

```
List of Backup Sets
===================

BS Key  Size       Device Type Elapsed Time Completion Time
------- ---------- ----------- ------------ ---------------
134     109.25M    DISK        00:00:06     31-JUL-10
        BP Key: 102   Status: AVAILABLE  Compressed: NO  Tag:
TAG20100731T0215

        Piece Name: E:\DATA\FLASHBACK\DB_RECOVERY_AREA\4MLK4LU6_1_1

  List of Archived Logs in backup set 134
  Thrd Seq     Low SCN    Low Time  Next SCN   Next Time
  ---- ------- ---------- --------- ---------- ---------
  1    68      2616783    30-JUL-10 2642837    30-JUL-10
  1    69      2642837    30-JUL-10 2667857    30-JUL-10
  1    70      2667857    30-JUL-10 2697542    30-JUL-10
  1    71      2697542    30-JUL-10 2702345    30-JUL-10
```

```
  1    72      2702345    30-JUL-10 2717464    31-JUL-10
  1    73      2717464    31-JUL-10 2723623    31-JUL-10

BS Key  Type LV Size       Device Type Elapsed Time Completion Time
------- ---- -- ---------- ----------- ------------ ---------------
184     Full    642.56M    DISK        00:04:52     05-AUG-10
        BP Key: 142   Status: AVAILABLE  Compressed: NO  Tag:
TAG20100805T0215

        Piece Name: E:\DATA\FLASHBACK\DB_RECOVERY_AREA\6DLKHRQJ_1_1
  List of Datafiles in backup set 184
  File LV Type Ckp SCN    Ckp Time  Name
  ---- -- ---- ---------- --------- ----
  1       Full 3277145    05-AUG-10 D:\DATA\DBASE\SYSTEM\SYSTEM01.DBF
  2       Full 3277145    05-AUG-10 D:\DATA\DBASE\RBS\UNDO01.DBF
  3       Full 3277145    05-AUG-10 D:\DATA\DBASE\SYSTEM\SYSAUX01.DBF
  4       Full 3277145    05-AUG-10 D:\DATA\DBASE\DATA2\MVF01.DBF
  5       Full 3277145    05-AUG-10 D:\DATA\DBASE\DATA1\MVFL01.DBF
  6       Full 3277145    05-AUG-10 D:\DATA\DBASE\DATA1\MVFL02.DBF
  7       Full 3277145    05-AUG-10 D:\DATA\DBASE\INDEX2\MVFINDX01.DBF
  8       Full 3277145    05-AUG-10 D:\DATA\DBASE\INDEX1\MVFLINDX01.DBF
  9       Full 3277145    05-AUG-10 D:\DATA\DBASE\INDEX1\MVFLINDX02.DBF
  10      Full 3277145    05-AUG-10 D:\DATA\DBASE\INDEX1\MVFLINDX03.DBF
  11      Full 3277145    05-AUG-10 D:\DATA\DBASE\INDEX1\MVFLINDX04.DBF
```

4. Note the BS Key number of the backup set to delete.
5. From RMAN, run

   delete backupset *backupset_number*;

   where *backupset_number* is the BS Key number.
6. At the confirmation prompt, to delete the backup set, type **YES**.

Backing up the AS300 SQL 2000 database

(Topic number: 11497)

If using a SQL Server 2000 database, back it up prior to the upgrade.

To back up the AS300 SQL 2000 database

1. On the server running the AS300 database, select **Start** > **All Programs** > **Microsoft SQL Server** > **Enterprise Manager**.
2. In the Explorer window of the Enterprise Manager, expand **Console Root** > **Microsoft SQL Servers** > **SQL Server Group** > ***server*** > **Databases** > **MVF**

   where *server* is the name of the SQL Server IMPAX is running under.
3. Select **Action** > **All Tasks** > **Backup database**.
4. In the SQL Server Backup screen, in the Backup section, select **Database–complete**.
5. Click **Add** and specify the directory to back up to.

6. To start the backup, click **OK**.
7. Exit the SQL Server Enterprise Manager.

Backing up the AS300 SQL 2005 database

(Topic number: 121632)

If using a SQL Server 2005 database, back it up prior to the upgrade.

Note:

Ensure that you are logged in using the AgfaService account; you cannot log into SQL Server Management Studio or back up the database from the command line using the Administrator account.

To back up a database using SQL Server Management Studio

1. Select **Start** > **All Programs** > **Microsoft SQL Server**.
2. Right-click **SQL Server Management Studio** and select **Run as**.
3. Select **The following user**. Type **AgfaService** as the user name, and the AgfaService password.
4. In the Object Explorer window, expand ***server*** > **Databases** > ***database_name***

   where *server* is the name of the SQL Server that IMPAX is running under and *database_name* is the name of the database to be backed up.
5. Right-click ***database_name*** and select **Tasks** > **Backup**.
6. Configure the General and Options tabs according to your preferences for items such as the type of backup, the destination, and whether to overwrite or append to the media.
7. To start the backup, click **OK**.
8. Exit the SQL Server Management Studio.

To back up the database from the command line

1. At a command prompt, type

   sqlcmd -U sa -P *sa_password* -dmaster
2. To back up the database, type

   backup database *database_name* to *device_name*

   where *database_name* is the name of the database to back up and *device_name* is the logical or physical name of the tape or disk device.

Backing up the AS300 Oracle for Windows database

(Topic number: 106534)

This topic applies only when upgrading from IMPAX 6.4 or later and using Oracle for Windows.

In case of problems, back up the database before upgrading it.

To back up the AS300 Oracle for Windows database

1. Log into the AS300 Database Server as the **AgfaService** user.
2. Open a command prompt, and change to the **C:\mvf\bin** directory.
3. Type

   bash runbackup

Backing up the AS3000 Oracle database

(Topic number: 11499)

In case of problems, back up the database before upgrading it.

To back up the AS3000 Oracle database

1. If backing up to tape, insert the tape into the tape drive.
2. Log into the AS3000 Database Server as the **oracle** or service user.
3. Type the following command:

   /usr/mvf/bin/runbackup.
4. If backing up to tape, when the database is backed up and the tape is rewound, remove the tape from the tape drive.

7. Backing up critical system files

(Topic number: 6902)

Important!

This topic applies only when upgrading an existing server on AS3000 systems.

In case of problems, if upgrading rather than replacing the existing server station, back up each of the following before proceeding:

File name	Comments on contents	Pass	Fail
/etc/vfstab	Disk configurations		
/etc/system	Solaris machine configuration file		
/etc/inet/hosts	Network hosts file		
/dev/kernel/st.conf	Tape drive configuration file		
/dev/kernel/sd.conf	LUN configuration file for hardware RAID and SAN		
/export/oracle/current/dbs/orapw	Oracle password file		

File name	Comments on contents	Pass	Fail
/usr/oracle/admin/MVF/pfile/initMVF.ora	Oracle configuration file		
Crontab file (for user mvf)	Type **$ crontab -l > ./crontab.orig**		
/usr/mvf/etc/dbbackup.cfg	Contains information about whether a disk or tape backup is to be done and where the backup directory is		
/etc/apache/httpd.conf	Secured file for sites that have had C2 security protocols applied		
/export/oracle/current/network/admin/sqlnet.ora	Oracle Net Services configuration file		
/var/software directory	Contains all scripts and patches used to build the machine originally		
install_info file	System ID, packages, and installer reference information. Important to ensure that the machine is upgraded exactly as it was pre-IMPAX 6.5.1 AS3000		
/var/opt/oracle/listener.ora	Oracle listener configuration file		
/var/opt/oracle/tnsnames.ora	Oracle net service names configuration file		

8. Saving the map_event_audit tables from a database

(Topic number: 123373)

For HIPAA and other regulatory reasons, audit information must often be saved prior to upgrade. Follow the applicable procedure to save the map_event_audit tables from a database.

Saving the map_event_audit tables from an AS3000 Oracle database

(Topic number: 60393)

When upgrading an IMPAX AS3000 system running Oracle Server for Solaris, follow this procedure.

To save the map_event_audit tables from an AS3000 Oracle database

1. Log into the Database Server as the **service** user.
2. Launch SQLPlus and log in as **dbadmin**.
3. Enter the following command into SQLPlus:

   Select CEIL(SUM(bytes)/1024) from user_segments where SEGMENT_NAME='MAP_EVENT_AUDIT' AND SEGMENT_TYPE= 'TABLE';

Note the size of the tables returned and assess whether sufficient disk spaces exists for them. If not, free up some space.

4. To close SQLPlus, type **exit**.
5. To save the map_event_audit tables, open a command prompt and type the following commands:

   exp userid=dbadmin/dbadmin file=*location_you_selected*/MAP_EVENT_AUDIT.dmp tables=MAP_EVENT_AUDIT

   Important!

   Type the command all on one line. Otherwise you will get an export of every table in the database.

6. Launch SQLPlus and log in as **dbadmin**.
7. Truncate the table with the following command:

   truncate table map_event_audit;

Saving the map_event_audit tables from an AS300 Oracle database

(Topic number: 66716)

When upgrading an IMPAX AS300 system running Oracle for Windows, follow this procedure.

To save the map_event_audit tables from an AS300 Oracle database

1. Log into the database server as the **AgfaService** user.
2. Launch SQLPlus and log in as **dbadmin**.
3. In SQLPlus, type

   Select CEIL(SUM(bytes)/1024) from user_segments where SEGMENT_NAME='MAP_EVENT_AUDIT' AND SEGMENT_TYPE= 'TABLE';

   Note the size of the tables returned and assess whether there is sufficient disk space for them. If there is not enough space, free up some disk space.

4. Close SQL Plus by typing **exit**.
5. To save the map_event_audit tables, open a command prompt and type

   exp userid=dbadmin/dbadmin file=location_you_selected/MAP_EVENT_AUDIT.dmp tables=MAP_EVENT_AUDIT

   Important!

   Type the previous command all on one line. Otherwise, you will export every table in the database.

6. Launch SQLPlus and log in as **dbadmin**.

7. Truncate the map_event_audit table by typing **truncate table map_event_audit;**

Saving the map_event_audit tables from an AS300 SQL Server database

(Topic number: 106543)

When upgrading an IMPAX AS300 system running SQL Server, follow this procedure.

To save the map_event_audit tables from an AS300 SQL Server database

1. Start the SQL Server Query Analyzer and log in as the **sa** user.
2. In Query Analyzer, type

   sp_spaceused MAP_EVENT_AUDIT
3. Note the *reserved size* value returned by the previous command.

   This value is the space required to export the data. If the amount of available disk space is not sufficient for the exported data, free up some disk space.
4. Open a command prompt.
5. To save the map_event_audit tables, type

   bcp mvf..map_event_audit out location_you_selected\MAP_EVENT_AUDIT.txt -Usa-Psa_password -c
6. Close the command prompt.
7. In the Query Analyzer, truncate the map_event_audit table by typing

   truncate table map_event_audit

9. Upgrading IMPAX components

(Topic number: 59381)

After the preparing to upgrade period is over, the upgrade period can begin.

During this phase, the IMPAX Server components, the IMPAX database, the IMPAX Application Server, and IMPAX Clients are all upgraded. If upgrading an Application Server to Windows Server 2008, the ADAM database is migrated to AD LDS.

Note:

To migrate from SQL Server to an Oracle database, you must contact Agfa Professional Services. This migration is not documented in these guides.

Some downtime is expected during the upgrade period. The length of the downtime period depends on whether and how traveling servers are used. The goal is to complete upgrade and migration activities within a weekend.

For more information, refer to the *IMPAX 6.5.1 AS3000 Upgrade and Migration Guide—IMPAX 6.2 or later to IMPAX 6.5.1* or the *IMPAX 6.5.1 AS300 Upgrade and Migration Guide—IMPAX 6.2 or later to IMPAX 6.5.1*.

10. Detecting and correcting IMPAX cache corruption

(Topic number: 6710)

The Cache Check and Repair Tools are used to identify missing cache files and to repair or remove damaged ones. These tools are normally run across all of the cache file systems on the affected server, because files missing from a damaged cache can sometimes be found on another cache. Performance of the tools is hardware-dependent.

Checking the integrity and identity of cache files against the IMPAX AS300 database

(Topic number: 58406)

You can use the cache check and repair tools to check the integrity and identity of cache files against the IMPAX AS300 database.

To check the integrity and identity of cache files against the IMPAX AS300 database

1. In a command prompt, change to the location of the cache check and repair tools.
2. Run **mvf-check-cache *parameters path_to_cache***

   where *parameters* can be one or more of the following:

   - **-i *seconds***—Interval between display of progress messages. Default is every 10 seconds.
   - **-g**—Gentle cache check. Causes the tool to sleep every other second (and take twice as long).
   - **-m *mv_command_file***—Path to the script of the mv commands that move problem files out of the cache directory and to a set of sibling directories on the same file system. Do not run this script on a damaged file system.
   - **-q**—A quick check of file existence only, and a simple file size sanity check. Cannot be used with the -m parameter.

A report and additional diagnostic messages are written to the log file.

For example:

mvf-check-cache -q /cache3/mvfcache

Finding files in a cache directory that are unknown to the database

(Topic number: 58351)

Files in the cache directory that contain invalid file name formats or are not registered in the database must be identified and possibly moved to another location.

To find files in a cache directory that are unknown to the database

1. Run **mvf-clean-cache *parameters path_to_cache***

   where *parameters* can be one or more of the following:

   - **-i *seconds***—Interval between display of progress messages on stderr. Default is every 10 seconds.
   - **-g**—Gentle cache check. Causes the tool to sleep every other second (and take twice as long).
   - **-m *mv_command_file***—Path to the script of the mv commands that move problem files out of the cache directory and to a set of sibling directories on the same file system. Do not run this script on a damaged file system.
   - **-v**—Increased verbosity. Causes all progress and report messages to be prefixed with the current date and time.

A report and additional diagnostic messages are written to the log file.

For example, run:

mvf-clean-cache -m move_cmds.sh /cache4/mvfcache

Moving images from a cache directory

(Topic number: 58412)

You can move the images identified by the *mv_command_file*, used to identify problem files.

To move images from a cache directory

1. Run the ***mv_command_file***.

For example, run **move_cmnds.bat**.

Generating a report of lost images

(Topic number: 58357)

This procedure is designed to be run on a server that has suffered damage to one or more cache file systems. This procedure generates a report of studies that contain DICOM object files that have been lost from a server's cache and deregisters the missing files from the database.

To generate a report of lost images

1. Run **mvf-report-loss *parameters report_file_name***

   where ***parameters*** can be one or more of the following:

   - **-i *seconds***—Interval between display of progress messages on stderr. Default is every 10 seconds.
   - **-g**—Gentle cache check. Causes tool to sleep every other second (and take twice as long).
   - **-r**—Run in deregister mode, changing the visible field values from `'C'` to `'F'` and permanently deleting all database locations for missing files. This action cannot be undone. It has no effect if the tool has never been run in marking mode.

Note:

If you omit the -r parameter, the tool runs in marking mode and checks all of the caches on the local server. If a file is missing, the visible field on the osr_location table is set to `'C'`, effectively making the file location "invisible". If a tool is rerun and files have since been restored to cache, the visible field values are set back to `"T"`. This is a default mode.

For example:

mvf-report-loss loss-report.txt

IMPAX system consistency is restored by deregistering missing cache files from the database.

Migration Tools commands and parameters

A

The IMPAX 6.5.1 Migration Toolbox relies on parameters to configure the command line applications to suit a particular migration instance. While many of the parameters are common to all of the Migration Tools, some parameters are specific to Windows or Solaris migrations.

Common parameters in Migration Tool commands

(Topic number: 6720)

These command line parameters are common to most of the executables in the IMPAX 6.5.1 Migration Toolbox.

Parameters	Values	Additional information
-d	*database_name*	DNS name for ODBC connection. Required for the migration_inventory.exe (refer to page 80) and migration_inventory (refer to page 84) tool.
-e	*entity_name*	
-f	*log_file*	Log file name. Differs somewhat for migrate-users.exe (refer to page 78).
-l	{**debug** | **info** | **error** | **audit** | **service** | **noservice**}	Logging level. Differs for database-upgrade-script.bat (refer to page 77) and database-upgrade-script (refer to page 82).
-p	*process_title*	Differs for mig_reporter.exe (refer to page 78) and mig-reporter (refer to page 82).
-P	*database_password*	

Parameters	Values	Additional information
-R	*database_reconnection_attempts*	
-s	None	Output to stdout. Differs for migration_inventory.exe (refer to page 80) and migration_inventory (refer to page 84).
-U	*database_user*	
-?	None	Usage/help screen

Windows Migration Tools and parameters

(Topic number: 6605)

Some of the migrations tools and parameters are specific to Windows (AS300) migrations.

block_named_pipes.exe

(Topic number: 10609)

Removes the registry entry that allows Named Pipe access to the SQL Server. No longer required for migrations.

build-impax-mig-schema.bat

(Topic number: 10611)

Installs Migration Tools database schema and data which the Migration Tools use during the preparing to upgrade phase.

SQL Server databases

For a SQL Server database, on a computer supporting user ID *sa*, password *sa*, and ODBC name *mvf*, the batch file can be run directly. Otherwise, you must specify the mvf user, mvf password, ODBC name, in that order.

Examples:

```
build-impax-mig-schema.bat sa pwd new
```

Runs the command for user *sa*, password *pwd*, and ODBC name *new*.

```
build-impax-mig-schema.bat
```

Runs the command for user *sa*, password *sa*, and ODBC name *mvf*. These default values do not have to be specifically included; however, if problems occur in running this script, specifying these values may solve the problem.

Oracle databases

For an Oracle database, run the script with no additional parameters.

```
build-impax-mig-schema.bat
```

database-upgrade-script.bat

(Topic number: 10613)

Upgrades the IMPAX 5.2, 5.3, 6.2 or later SQL Server database schema to IMPAX 6.5.1. This is a batch file that the user runs, which calls the executable file that handles the main part of the database upgrade.

The database-upgrade-script requires a report source. Reports are retrieved from IMPAX clusters based on matches between the report source and the value of the dosr_study table's *requesting_service* field which is set by the Connectivity Manager's *requesting_service* field during HIS verification. Check the Connectivity Manager for the value of the *requesting_service* field. This field is case-sensitive.

To check the value of the Connectivity Manager's *requesting_service* field

1. On the Connectivity Manager, open osql (refer to page 85) and type

   use mcf;

   select distinct requesting_service from mcf_service_request;

Note:

If this Connectivity Manager receives data from multiple report sources, several *requesting_service* values may match each report source. If multiple values are returned, consult a Connectivity Manager integrator, as data and mappings may need to be updated.

Parameters	Values	Default value
-l	***dump_file_location_for_MAP_EVENT_and_MAP_EVENT_AUDIT***	C:\mvf-mig6\data
-x	***path_to_IMPAX_installation_directory***	C:\mvf
-a	None; runs the command in audit mode, which means that it tests the upgrade script without actually upgrading the database. No longer recommended for use.	Not applicable
-v	{**52 | 53 | 62 | 63 | 64**}; refers to the version being upgraded from. If upgrading from IMPAX 6.5 or later, the version parameter can be omitted.	Not applicable

Examples:

```
database-upgrade-script.bat -v 62
```

Migrate the database from IMPAX 6.2 to IMPAX 6.5.1.

get_station_mapping.exe

(Topic number: 10615)

Not applicable to IMPAX 6.2 or later migrations. Extracts station configuration from the database and creates a mapping of the Client machine name to the ADAM station ID.

Parameters	Values	Default value
-m	{**list** | **add**}	add

MigrateTRServer.exe

(Topic number: 10617)

Utility that migrates worklist or report data or both from the training or traveling server to the production server. This is not a command-line utility; it has a user interface.

mig_reporter.exe

(Topic number: 10619)

Generates a progress report of long-running tasks as well as the final report output from each tool to a file or directly to the screen. This is an optional helper utility.

Parameters	Values	Default value
-h	***host_name***	None
-t	***Migration_Tool_name***	None
-r	***information_type***	None
-p	None; deletes prior entries	Not applicable
-v	None; verbose mode	Not applicable
-c	None; output to screen instead of to reports directory	Not applicable

Example:

```
mig_reporter.exe -d mvf_52 -t system_inventory_tool
```

This command writes the output of the system inventory command to a report file.

migrate-users.exe

(Topic number: 10621)

Not required for IMPAX 6.2 or later migrations. Exports user IDs, preferences, and privileges and migrates this data from MVF to ADAM when migrating to the Windows 2003 platform. Also exports Select wizards and other information that will not be migrated to IMPAX 6.5.1.

Parameters	Values	Default value
-m	{**mvf2xml** | **xml2ldf** | **postimport**} where: • **mvf2xml**—Read MVF and output in XML intermediate format	None

Parameters	Values	Default value
	• **xml2ldf**—Transform XML format to importable .ldf file • **postimport**—Update LDAP passwords and MVF data	
-f	***output_file***	Defaults are **users.xml** when mode is mvf2xml and exporting IMPAX users, **webusers.xml** when mode is mvf2xml and exporting WEB1000 users, and **users.ldf** when mode is xml2ldf.
-c	***output_file_for_conflicting_users***	conflicts.ldf (xml2ldf mode)
-ud	***MVF_user_database_name_for_IMPAX_or_WEB1000***—DSN name for ODBC connection	Default uses connection specified by -d -U -P parameters.
-uU	***WEB1000_or_second_IMPAX_database_user***	None
-uP	***WEB1000_or_second_IMPAX_database_password***	None
-I	***file_name***—Comma-separated list. Specifies input file name or names for xml2ldf mode.	None
-uid	***userid_list***—Comma-separated list of user IDs to be exported	None
-node	***node_type***—Optional component node type from configuration to restrict what is being migrated. For example, "-node user" ensures that only components with a node type of "user" are executed.	None

Examples:

- To extract all user data from IMPAX to default XML file (users.xml):

  -m mvf2xml -d myDB -U myDBUser -P myDBPass

- To extract user data for user1 and user2 from IMPAX to default XML file (users.xml):

  -m mvf2xml -d myDB -U myDBUser -P myDBPass -uid user1,user2

- To extract all user data from WEB1000 to default XML file (webusers.xml):

  -m mvf2xml -d myDB -U myDBUser -P myDBPass -ud myWebDB -uU myWebDBUser -uP myWebDBPass

- To transform all user data from IMPAX and WEB1000 XML files to default importable LDF file (users.ldf):

  -m xml2ldf -I users.xml,webusers.xml -d myDB -U myDBUser -P myDBPass

- To perform a post-import update of all ADAM passwords and IMPAX data:

-m postimport -d myDB -U myDBUser -P myDBPass

migration_inventory.exe

(Topic number: 10623)

Collects key IMPAX Server and Client information stored in database; for example, number of studies, number of objects, number of sources, and so on. Generally used only for upgrades from IMPAX 5.2 or 5.3.

Parameters	Values	Default value
-a	None; generates all reports	Not applicable
-s	None; generates system snapshot	Not applicable
-c	None; generates cluster summary for client and server machines	Not applicable

Example:

```
migration_inventory.exe -d mvf_52 -U sa -P -sa -c -D 52_server
```

Produces a full cluster summary of client and server machines connected to the specified database.

mig-study-archive-report.exe

(Topic number: 10627)

Checks the archive status of studies in the system.

Parameters	Values	Default value
-c	None; include listing for completely unarchived studies	Not applicable
-D	None; treat disabled archive or cache as active. Query only; will not enable the archive or cache. Overrides -z.	Not applicable
-n	***number***—Specifies the maximum number of studies to return. To return all, specify 0.	100
-o	None; output unarchived studies to a file which may be used by CLUI to initiate a store job. The file is not created by default.	Not applicable
-x	***separator***—Item separator for report data	bar (|)
-y	None; include listing for partially archived studies	Not applicable
-z	None; include studies cached only on a disabled AE	Not applicable

Example:

```
mig-study-archive-report.exe -d mvf_52 -U sa -P sa -o
```

Returns a list of completely unarchived studies, partially unarchived studies, and studies cached on a disabled AE, then writes them to a file that CLUI can use to initiate store jobs

oracle-database-upgrade.bat

(Topic number: 106552)

This batch script upgrades the IMPAX 6.4 or later Oracle AS300 database schema to IMPAX 6.5.1. The script, which the user runs, calls several migration scripts to upgrade the database schema.

run_psexec.bat / psexec.exe

(Topic number: 10625)

Extracts station configuration from the database and creates a mapping of the Client machine name to the ADAM station ID. Record this for each of the hosts on the host_list input file by downloading get_station_mapping.exe to each of the machines and running the application locally.

upgrade-oracle

(Topic number: 106549)

This script is used when upgrading IMPAX 6.4 to IMPAX 6.5.1. The script applies the latest security patches to Oracle version 10.2.0.4.0.

user_base_summary.exe

(Topic number: 10629)

Creates a summary of users and privileges in the IMPAX 4.5, 5.2, or 5.3 system. Cannot be used for IMPAX 6.2 or later. Cannot be used to capture a summary in IMPAX 6.5.1.

Solaris Migration Tools and parameters

(Topic number: 6618)

Certain tools and parameters are specific to Solaris (AS3000) migrations.

build-impax-mig-schema

(Topic number: 10631)

Installs Migration Tools database schema and data which the Migration Tools use during the preparing to upgrade phase.

database-upgrade-script

(Topic number: 10633)

Upgrades the IMPAX 5.2, 5.3, 6.2 or later database schema to IMPAX 6.5.1. This is a batch file that the user runs, which calls the executable that handles the main part of the database upgrade.

This script requires a report source. Reports are retrieved from IMPAX clusters based on matches between the report source and the value of the dosr_study table's *requesting_service* field. The value of the *requesting_service* field is set by the Connectivity Manager's requesting_service field during HIS verification. Check the Connectivity Manager for the value of the requesting_service. This field is case-sensitive.

1. On the Connectivity Manager, open osql (refer to page 85) and type

   use mcf;

   select distinct requesting_service from mcf_service_request;

Note:

If this Connectivity Manager receives data from multiple report sources, several *requesting_service* values may match each report source. If multiple values are returned, consult a Connectivity Manager integrator, as data and mappings may need to be updated.

Parameters	Values	Default value
-l	***dump_file_location_for_MAP_EVENT_and_MAP_EVENT_AUDIT***	/usr/mvf-mig/data
-a	None; runs the command in audit mode, which means that it tests the upgrade script without actually upgrading the database. However, due to changes to the default users in IMPAX 6.4, this mode no longer functions.	Not applicable
-v	{**52 | 53 | 62 | 63 | 64**}—refers to the version being upgraded from. If upgrading from IMPAX 6.5 or later, the version parameter can be omitted.	Not applicable

Examples:

```
database-upgrade-script -v 62
```

Migrate the database from IMPAX 6.2 to IMPAX 6.5.1.

mig-reporter

(Topic number: 10635)

Generates a progress report of long-running tasks as well as the final report output from each tool to a file or directly to the screen. This is an optional helper utility.

Parameters	Values	Default value
-h	***host_name***	None
-t	***Migration_Tool_name***	None
-r	***information_type***	None
-p	None; deletes prior entries	Not applicable
-v	None; verbose mode	Not applicable
-c	None; output to screen instead of to reports directory	Not applicable

Example:

```
mig-reporter -d mvf_52 -t system_inventory_tool
```

This command writes the output of the system inventory command to a report file.

mig-study-archive-report

(Topic number: 10637)

Checks the archive status of studies in the system.

Parameters	Values	Default value
-c	None; include listing for completely unarchived studies	Not applicable
-D	None; treat disabled archive or cache as active. Query only; will not enable the archive or cache. Overrides -z.	Not applicable
-n	***number***—Specifies the maximum number of studies to return. To return all, specify 0.	100
-o	None; output unarchived studies to a file which may be used by CLUI to initiate store job. The file is not created by default.	Not applicable
-x	*separator*—Item separator for report data	bar (|)
-y	None; include listing for partially archived studies	Not applicable
-z	None; include studies cached only on a disabled AE	Not applicable

Important!

On AS3000 systems, this script may take a long time to run. If the database is large, you may have to enlarge the size of the MVF tablespace before running it. As it runs, periodically check the /usr/mvf/data/logs/oracle/bdump/alert_mvf.log for tablespace-related warnings.

Example:

```
mig-study-archive-report -d mvf_52 -U sa -P sa -o
```

Returns a list of completely unarchived studies, partially unarchived studies, and studies cached on a disabled AE, then writes them to a file that CLUI can use to initiate store jobs.

migrate-to-lmt

(Topic number: 10643)

Migrates the database to Locally Managed Tablespaces. Second part of the Oracle upgrade procedure.

Not applicable to IMPAX 6.2 or later migrations.

migration_inventory

(Topic number: 10639)

Collects key IMPAX Server and Client information stored in database; for example, number of studies, number of objects, number of sources, and so on. Generally used only for upgrades from IMPAX 5.2 or 5.3.

Parameters	Values	Default value
-a	None; generates all reports	Not applicable
-s	None; generates system snapshot	Not applicable
-c	None; generates cluster summary for client and server machines	Not applicable

Example:

```
migration_inventory -d mvf_52 -U sa -P -sa -c -D 52_server
```

Produces a full cluster summary of client and server machines connected to the specified database.

upgrade-oracle

(Topic number: 10645)

The upgrade-oracle script upgrades Oracle from versions 9.2.0.4, 10.1.0.2, or 10.2.0.2.0, 10.2.0.4 to Oracle 10.2.0.4 October 2009 CPU.

upgrade-oracle-dg

(Topic number: 118902)

The upgrade-oracle-dg script upgrades an Oracle Data Guard server from version 10.2.0.2.0 to 10.2.0.4.2.

user_base_summary

(Topic number: 10641)

Creates a summary of users and privileges in the IMPAX 4.5, 5.2, or 5.3 system. Cannot be used for IMPAX 6.2 or later. Cannot be used to capture a summary in IMPAX 6.5.1.

Running osql to access SQL Server data

B

The osql utility can be used to access and change data in instances of SQL Server. This command prompt utility can execute one or more SQL statements and can either display the results of a query, or save the results in a text file.

Use the osql utility to enter Transact-SQL statements, system procedures, and script files. The utility uses ODBC to communicate with the server. As of SQL Server 2005, osql replaced the isql utility entirely.

To run osql to access SQL Server data

1. Open a command prompt and type

   osql -U*login_id* -P*password* -S*server_name*

   where

   - ***login_id*** is the user login ID. It is case-sensitive.
   - ***password*** is a user-specified password. It is case-sensitive. If the **-P** option is not used, you are prompted for a password.
   - ***server_name*** specifies the default instance of SQL Server to connect to or the named instance of SQL Server on that server. If no server is specified, osql connects to the default instance of SQL Server on the local computer. This option is required if you are executing osql from a remote computer.

2. At the prompt, you can type SQL statements and run them interactively (for example).

Note:

As you type SQL statements and press **Enter**, osql caches the statements, but does not run them. To run the cached statements, type **go** at the start of a new line, then press **Enter**.

3. After you have run the last batch of SQL statements, to terminate the utility, type **exit** or **quit** at the start of a new line.

For more information about this utility, refer to Command Prompt Utilities on the Microsoft site (http://msdn.microsoft.com/en-us/library/aa246885(v=SQL.80).aspx).

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Cygwin

(Topic number: 121758)

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Editline 1.2-cstr

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OpenSSL

(Topic number: 121771)

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Xerces C++ Parser, version 1.2

(Topic number: 121761)

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Zlib

(Topic number: 7595)

zlib.h -- interface of the 'zlib' general purpose compression library Version 1.2.1, November 17th, 2003

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Glossary

A

AE

Application Entity. In DICOM, the AEs are different stations in the enterprise that communicate with one other. Each requires a unique identifier known as the AE title.

all-in-one configuration

A configuration in which the Database, Archive Server, Network Gateway, and Curator Server components are all installed on a single Windows server, along with the Application Server software.

Application Server

Intermediary server between IMPAX Client and IMPAX Server machines. LDAP, Documentation, and other Business Services reside on the Application Server.

Archive Server

The IMPAX server that manages the archive. The Archive Server handles requests to store studies to the archive and to retrieve studies from the archive. The Archive Server stores studies in its cache before archiving them to long-term storage.

C

cluster

A networking solution combining two or more otherwise independent computers, enabling them to work together in managing hospital data.

Connectivity Manager

A middleware component in the integration between hospital information systems and other hospital imaging departments. Connectivity Manager also provides connectivity to each modality and the PACS.

Curator

Curator is an IMPAX MVF server component. It is responsible for compressing incoming images into the Mitra Wavelet format and storing them in the web cache. These studies can be accessed by remote or local clients.

D

Database Server

Server that hosts the Oracle or SQL database.

DNS

Domain Name System. A general-purpose distributed, replicated, data query service mainly used on the Internet for translating host names into Internet addresses. Also refers to the style of host name used on the Internet, though such a name is properly called a *fully qualified domain name*.

F

firewall

On a local area network (LAN) connected to a larger network, the security system that

prevents outside intrusion and that keeps internal information from getting out. Typically, all traffic must pass through the machine on which the firewall is implemented.

H

HIS

Hospital Information System. The database used by a hospital to manage patient information and scheduling.

I

image

A single frame taken by a modality. Certain modalities, such as a CT, MRI, or PET, take consecutive sets of images called *series*. *Studies* are combinations of series or images for a single patient.

IMPAX Client

IMPAX Clients are used to view study images and data. The IMPAX Client integrates PACS, RIS, and reporting applications into a single delivery of information.

L

log file

A file or set of files containing a record of the actions and modifications made in an application. Service teams use log files during setup and configuration of the system or its components. Logs are also used to diagnose problems. Logging can typically be set to record varying levels of detail.

M

MAC address

Media Access Control address. The unique physical address of each device's network interface card.

multiple IMPAX cluster configuration

In a multiple IMPAX cluster configuration, an IMPAX cluster is linked to one or more other IMPAX or external PACS clusters, such that patient and study data can be shared and synchronized between them.

MVF

Refers both generally to the Agfa IMPAX PACS system and specifically to the name of the IMPAX Server database.

N

NAS

Network Attached Storage. A storage device attached directly to a Storage Area Network (SAN) or other direct network connection.

network

A group of computers, peripherals, or other equipment connected to one another for the purpose of passing information and sharing resources. Networks can be local or remote.

Network Gateway

The Network Gateway is part of the IMPAX MVF cluster. Essentially, this is the workflow manager of the IMPAX 6.0 and later system. The Network Gateway controls the studies coming into the cluster from an acquisition station, validates these incoming studies against information from the HIS or RIS, and routes the validated studies to cache or archive.

P

PACS

A Picture Archive and Communication Systems (PACS) makes it possible to electronically store, manage, distribute, and view images.

R

RIS

Radiology Information System. Responsible for scheduling exams and for report management in the Radiology department.

S

SAN

Storage Area Network. A network of shared storage devices. In a Storage Area Network, all storage devices are available to all servers on a Local Area Network.

single-server configuration

An IMPAX single server is a Windows server that runs the AS300 Server software in a single-host configuration along with the Application Server and Connectivity Manager software.

standalone configuration

In an IMPAX standalone configuration, the IMPAX AS300 Server, Application Server, and Client software are all installed on the same Windows server.

T

TalkStation

TalkStation is voice recognition software that can be integrated with IMPAX. TalkStation can convert spoken speech to typed text without having to go through a transcription phase.

Text area

Component of the IMPAX Client that displays study, order, and report information.

traveling server

An AS3000 server running the previous version of IMPAX, shipped to the site approximately two weeks prior to the upgrade weekend. Incoming studies are routed to this server to create a temporary study data repository. It also houses reports migrated from IMPAX 5.2 Broker. This server becomes the production server during the upgrade weekend, greatly reducing site down time.

U

user

Users represent individuals, such as a radiologist or a clinician. Each user must belong to at least one primary role. A user can also belong to other secondary roles. Users inherit permissions, licenses, and preferences from their role.

V

volume

A volume refers to the division of data on the media. For example, if a tape has two sides, each side is referred to as a separate volume.

W

wavelet compression

Compression method using a proprietary compression algorithm that can be uncompressed only by systems that support that proprietary algorithm.

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