

NHS Smart Card Authorization and Authentication User Guide

IMPAX 6.5.1

Instructions for Installing and Administering
Smart Card Authentication



| see more | do more |

Copyright information

© 2011 Agfa HealthCare N.V., Septestraat 27, B-2640, Mortsel, Belgium. All rights reserved. No parts of this document may be reproduced, copied, translated, adapted or transmitted in any form or by any means without prior written permission of Agfa HealthCare N.V.

Trademark credits

Agfa and the Agfa rhombus are trademarks or registered trademarks of Agfa-Gevaert N.V., Belgium or its affiliates. IMPAX, Connectivity Manager, Audit Manager, WEB1000, Xero, TalkStation, Heartlab, and HeartStation are trademarks or registered trademarks of Agfa HealthCare N.V. or its affiliates. All other trademarks are held by their respective owners and are used in an editorial fashion with no intention of infringement.

Documentation warranty statement

Characteristics of the products described in this publication can be changed at any time without notice.

The information contained in this document is subject to change without notice. Agfa HealthCare N.V. and its affiliates make no warranties or representations, express, implied or statutory, with regard to this material, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose.

Agfa HealthCare N.V. and its affiliates shall under no circumstances be liable for any damage arising from the use or inability to use any information, apparatus, method or process described in this document. Agfa HealthCare N.V. and its affiliates shall not be liable for errors contained herein or for incidental or consequential damage in connection with the furnishing, performance, or use of this manual.

2011 - 6 - 14

Manufacturer's responsibility

The manufacturer, installer, or importer will be responsible for the safety, reliability, and performance of the equipment only if:

- Installation, modifications, adjustments, changes, or repairs are performed by suitably qualified service personnel.
- The electrical installation of the site in which the equipment is used is according to an applicable safety standard (UL, CSA, or IEC/CDE).
- The equipment is used according to the instructions provided in the operation manuals.

Additional Documentation

(Topic number: 46257)

IMPAX 6.5.1 Knowledge Bases

These online references are intended for service and administrative personnel, and those looking for information on how to use the IMPAX Client.



Note:

Before attempting to access the Knowledge Bases, ensure all documentation has been installed on the Application Server.

To open the IMPAX 6.5.1 Server Knowledge Base

1. On the Application Server, from the Start menu, select **Programs > Agfa HealthCare > IMPAX Knowledge Base > IMPAX 6.5.1 Server Knowledge Base**.

or

On the Application Server, double-click the **IMPAX 6.5.1 Server Knowledge Base** desktop shortcut.

To open the IMPAX 6.5.1 Application Server Knowledge Base

1. On the Application Server, double-click the **IMPAX 6.5.1 Application Server Knowledge Base** desktop icon.

or

On the Application Server, from the Start menu, select **Programs > Agfa HealthCare > Business Services > Configuration Tool**. In the Business Services Configuration Tool, click **Help**.

or

On the Application Server, from the Start menu, select **Programs > Agfa HealthCare > IMPAX Knowledge Base > IMPAX 6.5.1 Application Server Knowledge Base**.

To open the IMPAX 6.5.1 Client Knowledge Base: Extended

1. On the Application Server, double-click the **IMPAX 6.5.1 Client Knowledge Base: Extended** desktop icon.

or

On the Application Server, from the Start menu, select **Programs > Agfa HealthCare > IMPAX Knowledge Base > IMPAX 6.5.1 Client Knowledge Base: Extended**.

or

From within the IMPAX Client, click **Help**.

IMPAX 6.5.1 Installation, Configuration, and Upgrade Guides

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

Giving feedback on the documentation

(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.

For example, "IMPAX 6.4 SU01 Client Knowledge Base: Extended". (You can find this information in the footer of the publications.)

2. Describe the incorrect, unclear, or insufficient information. Or, if you found any sections especially helpful, let us know.
3. Provide topic titles and topic numbers where applicable.
Including your personal contact details is optional.
4. Send the email to doc_feedback@agfa.com.

Sorry, we cannot respond directly to every submission and we cannot accept requests for changes in the product; instead, contact your product sales representative or the product's technical support channel.

Contents

- 1 Getting started 7
 - What is IMPAX 6.5.1?.....7
 - IMPAX cluster overview.....7

- 2 Installing and administering smart card authentication 10
 - Order of installation and configuration.....10
 - Installing the Application Server.....10
 - Configuring the Application Server.....11
 - Configuring the connection to the security server.....12
 - Modifying the ADAM schema.....13
 - Installing the ASA SSL certificate onto the Application Server.....13
 - Configuring smart cards.....14
 - Modifying smart card timeout settings.....14
 - Creating the Client login message.....17

- 3 Configuring IMPAX Clients for smart card authentication 18
 - NHS Prerequisite software.....18
 - Installing the IMPAX Client.....18
 - Installing the smart card reader.....20

- 4 Logging in and out of IMPAX with a smart card 21
 - Logging into IMPAX with a smart card.....21
 - Switching roles with a smart card.....22
 - Logging out of IMPAX with a smart card.....22

- Appendix A: Auditing 23
 - Audit triggers and messages.....23

- Appendix B: External software licenses 25
 - AutoFac 2.1.13.....25
 - Cygwin.....26
 - Editline 1.2-cstr.....31

Flexgrid for .NET.....	31
ICU License - ICU 1.8.1 and later.....	31
Log4Net.....	32
OpenSSL.....	32
TCL 8.5.3.....	35
Xerces C++ Parser, version 1.2.....	35
Zlib.....	36
Glossary.....	37
Index.....	39

Getting started

1

Understanding IMPAX and each component of the cluster helps ensure successful installation and configuration for smart card authentication.

What is IMPAX 6.5.1?

(Topic number: 7749)

IMPAX 6.5.1 combines the traditional activities of RIS informatics management with PACS image management to provide a powerful platform for imaging-based planning, interpretation, and results distribution. IMPAX 6.5.1 enables data sharing and data synchronization in a macro enterprise using a central Data Center.

The IMPAX 6.5.1 Client focuses on the integration of PACS, RIS, and Reporting applications into a single delivery of information. A single IMPAX 6.5.1 Client application can be used by a range of users on any appropriate, networked workstation they have access to.

IMPAX cluster overview

(Topic number: 7791)

Every IMPAX installation is based on the following main components:

- Network Gateway
- Archive Servers
- Oracle Server or SQL Server
- Application Server

- Curator
- IMPAX Clients—local and remote

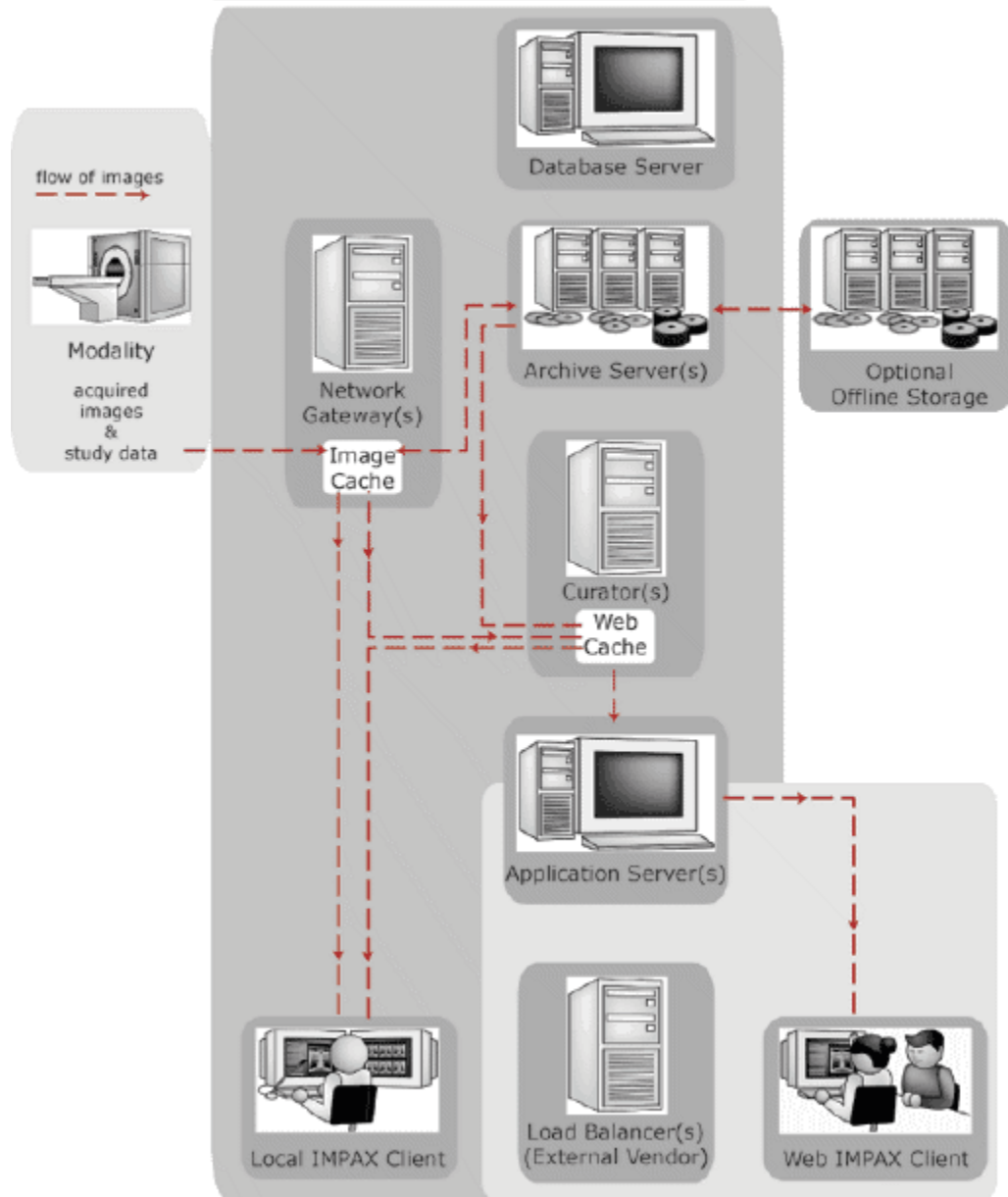
The sum of these components is called the *cluster*. An IMPAX cluster is the set of core IMPAX components that contains one database. SPFTP/ASPFTP is used for communication within the IMPAX cluster. Any third-party display stations are considered to be outside the cluster. They use DICOM to communicate with the cluster.

A typical installation has a Database Server, one or more Archive Servers, one or more Network Gateways, and one or more Curators. A third-party load balancer is optional, to help handle many Clients. Local Clients are spread throughout the entire enterprise, and remote Clients outside the enterprise firewall. These Clients connect to one or more Application Server machines, either directly or through a load balancer. The Application Server acts much like a proxy machine to handle security, authentication, and communication with the IMPAX Server components.

When images are transmitted to the IMPAX cluster, the Network Gateway performs validation of the study images and data. Validation requires the Network Gateway to query the HIS/RIS and ensure that the study and patient demographics match what is currently incoming from a modality or a transmit device. If the validation is successful, the images are “allowed” into the system. The Database Server collects and manages all patient and study demographic data.

The IMPAX Clients, both local and remote, are used to view study images. Local Clients can get images directly from the Network Gateway image cache. If images have been archived, the Network Gateway image cache gets them from the Archive Server. The Curator generates compressed wavelet images and stores them in a web cache, which may also be seen by local Clients. When a study is diagnosed and dictated, the status of the study is updated at the Database Server, and when a report is generated, it is forwarded to the HIS/RIS.

IMPAX cluster: flow of images



Installing and administering smart card authentication

2

The following information identifies what installation and smart card configuration is needed on the Application Server, including details on the administration tasks related to smart card authentication.



CAUTION!

You must complete “Chapter 2: Installing External Software” of the *IMPAX 6.5.1 Application Server Installation, Upgrade, and Configuration Guide* before continuing with these procedures.

Order of installation and configuration

(Topic number: 40911)

You must install and configure the software in the order it is listed.

Installing the Application Server

(Topic number: 40958)

Complete the following steps to install the Application Server.

To install the Application Server

1. Complete “Chapter 2: Installing External Software” of the *IMPAX 6.5.1 Application Server Installation, Upgrade, and Configuration Guide*.
2. Install the IMPAX documentation.

Refer to “Installing the IMPAX documentation” in the *IMPAX 6.5.1 Application Server Installation, Upgrade, and Configuration Guide*.

3. Install the IMPAX Business Services.

Refer to “Installing the IMPAX Business Services” in the *IMPAX 6.5.1 Application Server Installation, Upgrade, and Configuration Guide*.

4. Configure the IIS error messages.

Refer to “Configuring IIS error messages on Windows Server 2003” in the *IMPAX 6.5.1 Application Server Installation, Upgrade, and Configuration Guide*.

5. Verify the IMPAX Business Services installation.

Refer to “Verifying the Business Services installation” in the *IMPAX 6.5.1 Application Server Installation, Upgrade, and Configuration Guide*.

Configuring the Application Server

(Topic number: 41206)

Complete the following tasks to configure the Application Server.

To configure the Application Server

1. Generate and import the portable password file.

Refer to “Generating the AS300 portable password file” and “Importing the portable password file” in the *IMPAX 6.5.1 Application Server Installation, Upgrade, and Configuration Guide*.

2. Connect to the Agfa IMPAX database.

Refer to “Connecting the Business Services to an Oracle database” or “Connecting the Business Services to the SQL Server database” in the *IMPAX 6.5.1 Application Server Installation, Upgrade, and Configuration Guide*.

3. Install the additional IMPAX database tables.

Refer to “Extending the database schema” in the *IMPAX 6.5.1 Application Server Installation, Upgrade, and Configuration Guide*.

4. Armor the Application Server.

Refer to “Armoring the Application Server” in the *IMPAX 6.5.1 Application Server Installation, Upgrade, and Configuration Guide*.

5. Create and submit an SSL certificate request to a trusted certificate authority.

Refer to “Creating an SSL certificate request” and “Submitting a certificate request to a certificate authority” in the *IMPAX 6.5.1 Application Server Installation, Upgrade, and Configuration Guide*.

6. Import the trusted authority SSL certificate.

Refer to “Importing an SSL certificate in the Security Wizard in the *IMPAX 6.5.1 Application Server Installation, Upgrade, and Configuration Guide*.”

7. Configure the connection to the RIS.

Refer to “Managing RIS connections and report sources” (topic number 11336) in the *IMPAX 6.5.1 Application Server Knowledge Base*.

8. Configure the connection to the Spine Security Broker (SSB) (refer to page 12).
9. Modify the ADAM schema (refer to page 13).
10. Export the public certificate from the ASA and import it onto the Application Server (refer to page 13).
11. Complete any additional Application Server configuration.
Refer to the remaining configuration tasks in the *IMPAX 6.5.1 Application Server Installation, Upgrade, and Configuration Guide*.

Configuring the connection to the security server

(Topic number: 11136)

Configure the connection between the Application Server and the Spine Security Broker (SSB). By establishing this connection, user sessions can be terminated on the Spine and be sent through to IMPAX.



CAUTION!

Do not modify these settings unless the site uses smart card authentication.

To add a new IP address to the allowable list

1. In the **New IP Address** field, type the new IP address to be allowed.
The IP Address must be the IP address of the SSB.
2. Click **Add**.

To remove an IP address from the allowable list

1. In the **Allowable IP Addresses** field, select the IP address to be removed.
2. Click **Remove**.

To configure the connection to the security server

1. Open the Business Services Configuration Tool
2. Switch to the **Security** tab.
3. In the **Clinical Application** field, type the identifier of the calling application.
4. In the **Instance ID** field, type the application instance number.
5. In the **URL** field, type the URL of the **service.asmx** web service on the SSB.
For example, type `http://machine_name:2002/asa/webservice/service.asmx`, where *machine_name* is the fully qualified domain name or IP address of the SSB machine.
6. Add or remove IP addresses to the allowable list as necessary.
7. Click **Apply**.

Modifying the ADAM schema

(Topic number: 41203)

Run the import_curie.vbs script to update the IMPAX role structure to match the role structure of the NHS.

To modify the ADAM schema

1. Navigate to C:\Program Files\Agfa\Impax Business Services\ImpaxAdam.
2. Double click **import_curie.vbs**.
3. In the Do you want to apply the ADAM schema for IMPAX? dialog, click **OK**.
4. In the Removing My Site from existing schema dialog, click **OK**.
5. In the Removing “Clerical Print” dialog, click **OK**.
6. In the Importing IMPAX roles dialog, click **OK**.
7. In the Completed Successfully dialog, click **OK**.
8. In the Import Complete dialog, click **OK**.

Installing the ASA SSL certificate onto the Application Server

(Topic number: 41209)

Smart card authentication requires the Application Security Agent (ASA) SSL certificate to authenticate users properly during offline login. The NHS provides this certificate for installation. The certificate must be installed on each Application Server in the cluster.

To install the ASA SSL certificate onto the Application Server

1. Copy and paste the SSL certificates received from the NHS to a location on the Application Server.
2. On the Application Server, in Windows Explorer navigate to the exported SSL certificate.
3. Right-click the exported SSL certificate and select **Install Certificate**.
4. In the Welcome to the Certificate Import Wizard dialog, click **Next**.
5. In the Certificate Store dialog, select **Place all certificates in the following store** and click **Browse**.
6. In the Select Certificate Store dialog, select **Show physical stores**.
7. Select **Trusted Root Certification Authorities > Local Computer**. Click **OK**.
8. Click **Next**.

9. Click **Finish**.

The certificate is imported onto the Application Server.

10. Repeat these steps for each Application Server in the cluster.

Configuring smart cards

(Topic number: 41212)

Use these optional instructions to change the default settings for smart card timeouts and the login text displayed when users log into IMPAX.

Modifying smart card timeout settings

(Topic number: 41215)

Certain smart card actions have default timeout settings associated with each IMPAX Client station and are stored in station-unique XML files on the Application Server. The following default settings can be configured on the Application Server.

- The amount of time the user has to re-insert their smart card into the reader before they are logged out (refer to page 14).
- The amount of time an IMPAX Client remains locked before closing the application (refer to page 15).
- The number of times to retry a web method against the ASA security service when a timeout occurs (refer to page 16).
- The number of seconds to wait for a response from the ASA security service before concluding that it is offline (refer to page 16).
- The number of seconds between IMPAX Client ticket renewals (refer to page 17).



Note:

You must save changes in the IMPAX Client Configuration > Station area before attempting to modify the timeout settings. If changes have not been saved in the IMPAX Client, the timeout values are not displayed in the station's XML file.

Modifying the amount of time users have to re-insert their smart card before logout

(Topic number: 46239)

When the IMPAX Client locks, users are prompted to re-insert their smart card. If they do not re-insert their smart card within a certain amount of time, they are logged out.

To modify the amount of time users have to re-insert their smart card before logout

1. On the Application Server select **Start > Programs > ADAM > ADAM ADSI Edit**.
2. In the left pane of the ADAM ADSI Edit dialog, navigate to **My Connection > CN=healthcare,dc=agfa,dc=com > CN=Agfa > CN=Configuration > CN=Workstations**.
3. In the list of workstations, locate the Station Identifier for the station to be updated.
The Station Identifier for the workstation can be found from the **Help > About** dialog in the IMPAX Client.
4. Right-click the station identifier and select **Properties**.
5. In the Attribute Editor, select **agfaHC.WorkstationConfiguration** and click **Edit**.
6. In the Application field, type **notepad** and click **OK**.
7. If an Invalid Format message appears, click **OK**.
8. In the Notepad file, locate the value **CurieCardPulledTimeoutSeconds** and change the **value=** to the new timeout value.
The default value is 60 seconds.
To disable the re-insert feature and automatically log users out of IMPAX when their smart card is removed, set the timeout value to 0.
9. Save and close the Notepad file.
10. Close all open dialogs.

Modifying the amount of time the IMPAX Client remains locked before closing the application

(Topic number: 46242)

The IMPAX Client becomes locked when the user's session cannot be renewed because a user has been removed from the system or the user's role is no longer valid. When the IMPAX Client is locked, the user cannot re-authenticate by reinserting a smart card.

To modify the amount of time the IMPAX Client remains locked before closing the application.

1. On the Application Server select **Start > Programs > ADAM > ADAM ADSI Edit**.
2. In the left pane of the ADAM ADSI Edit dialog, navigate to **My Connection > CN=healthcare,dc=agfa,dc=com > CN=Agfa > CN=Configuration > CN=Workstations**.
3. In the list of workstations, locate the Station Identifier for the station to be updated.
The Station Identifier for the workstation can be found from the **Help > About** dialog in the IMPAX Client.
4. Right-click the station identifier and select **Properties**.
5. In the Attribute Editor, select **agfaHC.WorkstationConfiguration** and click **Edit**.
6. In the Application field, type **notepad** and click **OK**.
7. If an Invalid Format message appears, click **OK**.

8. In the Notepad file, locate the value **CurieScreenLockFailsafePeriodSeconds** and change the **value=** to the new timeout value.
The default value is 30 seconds.
9. Save and close the XML file.
10. Close all open dialogs.

Modifying the number of times to retry a web method against the ASA security service when a timeout occurs

(Topic number: 46245)

The total number of attempts to retry a web method is one more than the value set (1 original attempt + x retries = 1 + x total attempts).

To modify the number of times to retry a web method against the ASA security service when a timeout occurs

1. On the Application Server, navigate to
<drive>:\...\wwwroot\AgfaHC.User.Security.Web.Services.
2. Open the web.config file in a text editor such as Notepad.
3. In the Notepad file, search the web.config file for the text **<NumberOfRetries>**.
4. Modify the **<NumberOfRetries>** value as required.

```
<NumberOfRetries>0</NumberOfRetries>
```

The default value is 0.

5. Save and close the web.config file.

Modifying the amount of time to wait for a response from the ASA security service

(Topic number: 46248)

If a response is not received from the Application Security Agent (ASA) security service within a certain amount of time, either the web method is retried or the ASA security service is switched to offline mode.

To modify the amount of time to wait for a response from the ASA security service

1. On the Application Server, navigate to
<drive>:\...\wwwroot\AgfaHC.User.Security.Web.Services.
2. Open the web.config file in a text editor such as Notepad.
3. In the Notepad file, search the web.config file for the text **<TimeoutIntervalSeconds>**.
4. Modify the **<TimeoutIntervalSeconds>** value as required.

```
<TimeoutIntervalSeconds>30</TimeoutIntervalSeconds>
```

The default value is 30 seconds.

5. Save and close the web.config file.

Modifying the number of seconds between IMPAX Client ticket renewals (Topic number: 46251)

The amount of time between IMPAX Client ticket renewals can be adjusted.

To modify the number of seconds between IMPAX Client ticket renewals

1. On the Application Server, navigate to
,drive>:\...\wwwroot\AgfaHC.User.Security.Web.Services.
2. Open the web.config file in a text editor such as Notepad.
3. In the Notepad file, search the web.config file for the text **<LifetimeSeconds>**.
4. Modify the **<LifetimeSeconds>** value as required.

```
<LifetimeSeconds>900</LifetimeSeconds>
```

The default value is 900 seconds.

5. Save and close the web.config file.

Creating the Client login message

(Topic number: 11298)

Create a login message to appear on the IMPAX Client login screen. If the site is planning to configure IMPAX to use local Windows authentication, do not perform this step, as local Windows authentication does not display this login message.



Note:

In a cluster with multiple Application Servers, the login message must be the same between all Application Servers.

To create the Client login message

1. On the Application Servers, navigate to:
<drive>:/wwwroot/AgfaHC.User.Security.Web.Services/
2. Open the **web.config** file.
3. Search for:

```
<LoginMessage>Thank you for choosing Agfa HealthCare.</LoginMessage>
```
4. Change the “Thank you for choosing Agfa HealthCare” message as required.
5. Save and close the web.config file.

Configuring IMPAX Clients for smart card authentication

Understand the content and information required to install and configure IMPAX Clients with smart card authentication.



CAUTION!

You must complete “Chapter 2: Installing External Software” and “Installing the IMPAX Installation Server” from the *IMPAX 6.5.1 Client Installation, Upgrade, and Configuration Guide* before continuing with these instructions.

NHS Prerequisite software

(Topic number: 41224)

Before installing the IMPAX Client, ensure you have all the appropriate NHS software installed. For example, ensure the Gemplus libraries and Identity Agent are installed.

Installing the IMPAX Client

(Topic number: 7776)

The following explains how to install IMPAX Client using the default InstallShield package. An alternative is to automate the installation through a batch file. For instructions on installing IMPAX Client that way, refer to “Enabling automated installation of the IMPAX Client software from a command prompt” (topic number 7802) in the *IMPAX 6.5.1 Client Installation, Upgrade, and Configuration Guide*.



Note:

To install the IMPAX Client, you must be logged in as a user in a Administrators role that has permissions to the Windows Services.

To install the IMPAX Client

1. From the IMPAX Client CD or the IMPAX Client Installation web page (https://install_server_name/clientinstaller/language_code), start the IMPAX Client installation program, **IMPAXClientSetup.exe**.

For information on setting up a Client installation server, refer to “Installing the IMPAX Installation Server” (topic number 7773) in the *IMPAX 6.5.1 Client Installation, Upgrade, and Configuration Guide* or the *IMPAX 6.5.1 Preparing to Upgrade Guide—IMPAX 4.5, 5.2, 5.3, or WEB1000 to IMPAX 6.5.1*.

2. If a File Download dialog appears, click **Open** or **Run**.

A *Preparing to Install* message appears.

If on Windows Vista, a *cscript.exe* prompt may appear. To run it, click **OK**.

3. If a prompt appears about downloading and installing missing components, click **OK**.
4. Follow the prompts to download and install Microsoft .NET Framework 3.5, Microsoft .NET Framework 3.5 SP1, or all.



Note:

After installing a component, the installer may stop running or you may receive an *Installation is not yet complete* message. In either case, rerun the **IMPAXClientSetup.exe** program.

Depending on network speed, downloading and installing the Microsoft .NET Framework can take over 30 minutes.

For the .NET Framework 3.5 install, after the download, agree to the installation, accept the license agreement, and after the installation is complete click **OK**. If prompted, restart the computer.

If you do not have a live Internet connection, the downloading will not work. Instead, install the Microsoft .NET Framework 3.5 from the Client Installer server (https://install_server_name/clientinstaller/redirect/dotnetfx35.exe).

For the .NET Framework 3.5 SP1 install, after the download, if prompted to start the installation, click **OK**. If prompted, restart the computer.

5. On the Welcome to the InstallShield Wizard for IMPAX Client screen, click **Next**.
6. On the License Agreement screen, read the license agreement. If you agree, select **I accept the terms in the license agreement**. Click **Next**.
7. To install the application into C:\Program Files\Agfa\IMPAX Client, 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**.

8. On the IMPAX Application Server screen, in the Get or confirm application server name field, type the fully qualified domain name of the Application Server to use. Click **Next**.

A *fully qualified domain name* is the full name of a system, including its local host name and complete domain name. For example, if the Application Server is called *radserver*, it is on the network domain called *radnet*, and *radnet* is within the *healthorg.com* domain, the name to type would be *radserver.radnet.healthorg.com*.

9. On the IMPAX Login Type screen, select the appropriate authentication method: Windows, IMPAX, or Smart Card.
 - **Windows Authentication**—Logs into IMPAX using the Windows session credentials after launching the IMPAX Client or logging in with a Windows smart card.
 - **IMPAX Authentication**—Logs into the IMPAX Client separately from Windows. (If unsure of which option to select, use **IMPAX Authentication**.)
 - **Smart Card Authentication**—Logs into the IMPAX Client with a smart card in the **National Health Service (NHS) environment only**.
10. Click **Next**.
11. On the Ready to Install the Program screen, click **Install**.

The program is installed.
12. On the InstallShield Wizard Completed screen, click **Finish**.

The IMPAX Client software is installed. You do *not* have to restart the computer.

Installing the smart card reader

(Topic number: 41227)

To authenticate users using a smart card, a smart card reader must be installed at each IMPAX Client station.

To install the smart card reader

1. For installation instructions, refer to the documentation accompanying the smart card reader.

Logging in and out of IMPAX with a smart card

4

Understand the necessary requirements for logging into and out of IMPAX 6.5.1 with a smart card.

Logging into IMPAX with a smart card

(Topic number: 41233)

Logging into the computer with a smart card logs you into IMPAX as well.

To log into IMPAX with a smart card

1. Insert your smart card into the smart card reader.
2. If prompted, type your PIN and click **Yes I accept and wish to proceed**.
3. Launch the **IMPAX Client**.
4. If the system is offline, enter your smart card PIN again and click **Login**.
5. In the Select Role dialog, select the role you want to work in.

If the system is offline, you are presented with a list of the roles you have successfully logged in as over the past 30 days.

6. Click **Login**.

The List area is displayed and you can begin working.

Switching roles with a smart card

(Topic number: 41239)

A single user can be associated with many IMPAX roles. Follow these instructions to change the role you are logging into IMPAX as.

To switch roles with a smart card

1. Log out of your current IMPAX session.
2. Log into IMPAX, selecting a different role.

Logging out of IMPAX with a smart card

(Topic number: 41236)

Log out of IMPAX by removing your smart card or by closing the IMPAX session.

To log out by removing your smart card

1. Remove your smart card from the smart card reader.
2. In the confirmation dialog, click **Logout**.

IMPAX closes and returns you to the desktop. Your settings are remembered. This includes any studies you have set aside or opened in the Image area to refer to later.

To log out by closing IMPAX

1. From the List or Configure area bar, click **Logout**.

IMPAX closes and returns you to the desktop. Your settings are remembered. This includes any studies you have set aside or opened in the Image area to refer to later.

Auditing

A

Read about additional information that may be of interest when using smart card authentication and authorization.

Audit triggers and messages

(Topic number: 41245)

The following table lists smart card audit events that are logged to the MAP_EVENT table. Audit records can be used to produce audit trails required at facilities, such as those that are legislated under the U.S. HIPAA rules. auditing triggers and messages; triggers, auditing; messages, auditing

All audit records contain information such as the IP address or hostname of the machine used to access the data, the date and time of access, and the user ID or process ID used to access the data. For actions that change or access study information, the study_uid, patient_id, and data_id fields may contain additional audit information.

For additional audit events, refer to “Events audited to the MAP_EVENT table: Reference” (topic number 9340) in the Administration Tools component of the *IMPAX 6.5.1 Server Knowledge Base*.

IMPAX_EVENT_TYPE	Possible triggers
SUCCESSFUL_LOGON	<ul style="list-style-type: none">• Successful user login to the online IMPAX Client using smart card• Successful user login to the offline IMPAX Client using smart card
USER_LOGOUT	<ul style="list-style-type: none">• User invoked logoff from the IMPAX Client during an online session• User invoked logoff from the IMPAX Client during an offline session

IMPAX_EVENT_TYPE	Possible triggers
	<ul style="list-style-type: none"> • User has been logged off of IMPAX because their smart card was removed
FORCED_LOGOUT	<ul style="list-style-type: none"> • User logged out by the ASA
FAILED_LOGON	<ul style="list-style-type: none"> • Failed user login • Ticket renewal has failed • User session has expired

External software licenses

B

Some of the software provided utilizes or includes software components licensed by third parties, who require disclosure of the following information about their copyright interests and/or licensing terms.

AutoFac 2.1.13

(Topic number: 121742)

Autofac IoC Container

Copyright (c) 2007-2008 Autofac Contributors

<http://code.google.com/p/autofac/wiki/Contributing>

Other software included in this distribution is owned and licensed separately, see the included license files for details.

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE,

ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Cygwin

(Topic number: 121758)

Copyright 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010 Red Hat, Inc.

This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License (GPL) as published by the Free Software Foundation version 2 of the License.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 59 Temple Place - Suite 330, Boston, MA 02111-1307, USA.

GNU GENERAL PUBLIC LICENSE

Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc., 675 Mass Ave, Cambridge, MA 02139, USA. Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Library General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE

TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

1. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

2. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

3. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:
 - a. You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.
 - b. You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.
 - c. If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print

or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

4. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:
 - a. Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,
 - b. Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,
 - c. Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

5. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.
6. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.
7. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.
8. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

9. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so

that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

10. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

11. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

1. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION
2. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

Editline 1.2-cstr

(Topic number: 121768)

Copyright 1992 Simmule Turner and Rich Salz. All rights reserved. This software is not subject to any license of the American Telephone and Telegraph Company or of the Regents of the University of California. Permission is granted to anyone to use this software for any purpose on any computer system, and to alter it and redistribute it freely, subject to the following restrictions: 1. The authors are not responsible for the consequences of use of this software, no matter how awful, even if they arise from flaws in it. 2. The origin of this software must not be misrepresented, either by explicit claim or by omission. Since few users ever read sources, credits must appear in the documentation. 3. Altered versions must be plainly marked as such, and must not be misrepresented as being the original software. Since few users ever read sources, credits must appear in the documentation. 4. This notice may not be removed or altered.

Flexgrid for .NET

(Topic number: 7695)

Portions Copyright © ComponentOne, LLC 1991-2002. All Rights Reserved.

ICU License - ICU 1.8.1 and later

(Topic number: 13533)

COPYRIGHT AND PERMISSION NOTICE

Copyright © 1995-2003 International Business Machines Corporation and others. All rights reserved.

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the “Software”), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, provided that the above copyright notice(s) and this permission notice appear in all copies of the Software and that both the above copyright notice(s) and this permission notice appear in supporting documentation.

THE SOFTWARE IS PROVIDED “AS IS”, WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NON INFRINGEMENT OF THIRD PARTY RIGHTS. IN NO EVENT SHALL THE COPYRIGHT HOLDER OR HOLDERS INCLUDED IN THIS NOTICE BE LIABLE FOR ANY CLAIM, OR ANY SPECIAL INDIRECT OR CONSEQUENTIAL DAMAGES, OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS

ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Except as contained in this notice, the name of a copyright holder shall not be used in advertising or otherwise to promote the sale, use or other dealings in this Software without prior written authorization of the copyright holder.

All trademarks and registered trademarks mentioned herein are the property of their respective owners.

Log4Net

(Topic number: 7648)

This product includes software developed by The Apache Software Foundation (<http://www.apache.org/>). Please read the LICENSE files present in the Help > About dialog of the IMPAX Client.

OpenSSL

(Topic number: 121771)

This is a copy of the current LICENSE file inside the CVS repository.

LICENSE ISSUES

=====

The OpenSSL toolkit stays under a dual license, i.e. both the conditions of the OpenSSL License and the original SSLeay license apply to the toolkit. See below for the actual license texts. Actually both licenses are BSD-style Open Source licenses. In case of any license issues related to OpenSSL please contact openssl-core@openssl.org.

OpenSSL License

/*

=====

* Copyright (c) 1998-2008 The OpenSSL Project. All rights reserved.

* Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

3. All advertising materials mentioning features or use of this software must display the following acknowledgment: "This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit. (<http://www.openssl.org/>)"
4. The names "OpenSSL Toolkit" and "OpenSSL Project" must not be used to endorse or promote products derived from this software without prior written permission. For written permission, please contact openssl-core@openssl.org.
5. Products derived from this software may not be called "OpenSSL" nor may "OpenSSL" appear in their names without prior written permission of the OpenSSL Project.
6. Redistributions of any form whatsoever must retain the following acknowledgment: "This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit (<http://www.openssl.org/>)"

*

* THIS SOFTWARE IS PROVIDED BY THE OpenSSL PROJECT ``AS IS'' AND ANY EXPRESSED OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE OpenSSL PROJECT OR ITS CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

*

=====

*

* This product includes cryptographic software written by Eric Young (ey@cryptsoft.com). This product includes software written by Tim Hudson (tjh@cryptsoft.com).

*

*/

Original SSLeay License

/* Copyright (C) 1995-1998 Eric Young (ey@cryptsoft.com)

* All rights reserved.

* This package is an SSL implementation written by Eric Young (ey@cryptsoft.com). The implementation was written so as to conform with Netscapes SSL.

*

*This library is free for commercial and non-commercial use as long as the following conditions are adhered to. The following conditions apply to all code found in this distribution, be it the RC4, RSA,

lhash, DES, etc., code; not just the SSL code. The SSL documentation included with this distribution is covered by the same copyright terms except that the holder is Tim Hudson (tjh@cryptsoft.com).

* Copyright remains Eric Young's, and as such any Copyright notices in the code are not to be removed. If this package is used in a product, Eric Young should be given attribution as the author of the parts of the library used. This can be in the form of a textual message at program startup or in documentation (online or textual) provided with the package.

*

* Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. All advertising materials mentioning features or use of this software must display the following acknowledgement: "This product includes cryptographic software written by Eric Young (eay@cryptsoft.com)" The word 'cryptographic' can be left out if the routines from the library being used are not cryptographic related :-).
4. If you include any Windows specific code (or a derivative thereof) from the apps directory (application code) you must include an acknowledgement: "This product includes software written by Tim Hudson (tjh@cryptsoft.com)"

*

*THIS SOFTWARE IS PROVIDED BY ERIC YOUNG ``AS IS'' AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

* The licence and distribution terms for any publically available version or derivative of this code cannot be changed. i.e. this code cannot simply be copied and put under another distribution licence [including the GNU Public Licence.]

*/

TCL 8.5.3

(Topic number: 121781)

This product includes software developed by The TCL Developer Xchange, and is subject to the following license:

This software is copyrighted by the Regents of the University of California, Sun Microsystems, Inc., Scriptics Corporation, and other parties. The following terms apply to all files associated with the software unless explicitly disclaimed in individual files.

The authors hereby grant permission to use, copy, modify, distribute, and license this software and its documentation for any purpose, provided that existing copyright notices are retained in all copies and that this notice is included verbatim in any distributions. No written agreement, license, or royalty fee is required for any of the authorized uses. Modifications to this software may be copyrighted by their authors and need not follow the licensing terms described here, provided that the new terms are clearly indicated on the first page of each file where they apply.

IN NO EVENT SHALL THE AUTHORS OR DISTRIBUTORS BE LIABLE TO ANY PARTY FOR DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OF THIS SOFTWARE, ITS DOCUMENTATION, OR ANY DERIVATIVES THEREOF, EVEN IF THE AUTHORS HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

THE AUTHORS AND DISTRIBUTORS SPECIFICALLY DISCLAIM ANY WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, AND NON-INFRINGEMENT. THIS SOFTWARE IS PROVIDED ON AN "AS IS" BASIS, AND THE AUTHORS AND DISTRIBUTORS HAVE NO OBLIGATION TO PROVIDE MAINTENANCE, SUPPORT, UPDATES, ENHANCEMENTS, OR MODIFICATIONS.

GOVERNMENT USE: If you are acquiring this software on behalf of the U.S. government, the Government shall have only "Restricted Rights" in the software and related documentation as defined in the Federal Acquisition Regulations (FARs) in Clause 52.227.19 (c) (2). If you are acquiring the software on behalf of the Department of Defense, the software shall be classified as "Commercial Computer Software" and the Government shall have only "Restricted Rights" as defined in Clause 252.227-7013 (c) (1) of DFARs. Notwithstanding the foregoing, the authors grant the U.S. Government and others acting in its behalf permission to use and distribute the software in accordance with the terms specified in this license.

Xerces C++ Parser, version 1.2

(Topic number: 121761)

This product includes software developed by The Apache Software Foundation (<http://www.apache.org/>). Please read the LICENSE files present in the Help > About dialog of the IMPAX Client.

Zlib

(Topic number: 7595)

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

Copyright (C) 1995-2003 Jean-loup Gailly and Mark Adler

This software is provided “as-is”, without any express or implied warranty. In no event will the authors be held liable for any damages arising from the use of this software.

Glossary

A

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.

D

database

A collection of data that is organized so that its contents can easily be accessed, managed, and updated.

DICOM

Digital Imaging and Communications in Medicine. The standard communication protocol used by a PACS, HIS, or modality to

exchange information or images with other systems.

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.

HTTPS

Hypertext transfer protocol, secure, a URL access method for connecting to http servers using SSL (secure sockets layer).

L

load balancing

Distributing processing and communications activity evenly across a computer network so that no single device is overwhelmed.

M

Macro enterprise

A Macro enterprise is an environment comprised of multiple clusters or Micro enterprises and coordinated by a central Data

Center. It is the most common deployment type.

modality

An imaging discipline, such as CT, or a device that gathers digital information, such as digitizers for X-ray film, MRI scanners, and CR devices.

N

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

smart card

Smart cards, sometimes called chip cards, contain a computer chip embedded in the plastic. When read by special terminals, the cards can perform a number of functions or access data stored in the chip. These cards can be used as ID cards with stored-in passwords.

Index

.NET	
installing Framework.....	18
<LifetimeSeconds>.....	17
<NumberOfRetries>.....	16
<TimeoutIntervalSeconds>.....	16
A	
ADAM	
modifying schema.....	11, 13
Application Security Agent (ASA)	
<i>See</i> ASA	
Application Server	
Knowledge Base.....	3
Application Servers	
armoring.....	11
configuration guide.....	11
entering name of.....	18
in IMPAX cluster.....	7
installation guide.....	10
Archive Server.....	7
armoring	
Application Servers.....	11
ASA	
certificate.....	13
offline mode.....	16
retrying a web method.....	16
auditing	
triggers and messages.....	23
authentication.....	18
Autofac software license.....	25
B	
Business Services	
installing.....	10
verifying installation.....	10
C	
certificates	
importing.....	11, 13
requesting.....	11
changing	
ADAM schema.....	11, 13
roles.....	22
timeout settings.....	14
to offline mode.....	16
Client	
Knowledge Base.....	3
renewing tickets.....	17
Clients	
installation of.....	18
cluster	
overview.....	7
connecting	
RIS.....	11
Security Broker.....	11
security server.....	12
copyright information.....	2, 25
Cygwin software license.....	26
D	
database	
connection to Oracle.....	11
connection to SQL.....	11
installing additional tables.....	11
documentation	
giving feedback.....	4
warranty statement.....	2
<i>See</i> Knowledge Base	
dot NET Framework.....	18

O		
offline mode		
changing to.....	16	
online help		
<i>See</i> Knowledge Base		
OpenSSL software license.....	32	
Oracle		
connecting database.....	11	
P		
passwords		
generating portable file.....	11	
R		
reader for smart card, installing.....	20	
registered trademarks.....	2	
remote clients.....	7	
removing		
smart card.....	22	
renewing tickets.....	17	
requesting		
SSL certificates.....	11	
retrying web methods.....	16	
RIS		
connecting.....	11	
connectivity.....	7	
roles		
changing.....	22	
selecting.....	21	
S		
schema		
modifying ADAM.....	11	
scripts		
import_curie.vbs.....	13	
security		
applying.....	11	
Security Broker		
connecting.....	11	
security server, configuring.....	12	
selecting		
role.....	21	
Server		
Knowledge Base.....	3	
		servers
		in IMPAX cluster.....
	
		service.asmx.....
		Service Pack
		.NET Framework.....
		settings
		timeout.....
		smart card
		logging in.....
		logging out.....
		re-inserting.....
		removing.....
		switching roles.....
		smart card reader
		installing.....
		software
		NHS.....
		SP1
		.NET Framework.....
		SQL
		connecting database.....
		SSL certificates
		importing.....
		station identifier
		finding.....
		SUCCESSFUL_LOGON.....
		suggestions for documentation.....
		switching
		roles.....
		T
		tables
		database.....
		tasks
		Application Server configuration.....
		Application Server installation.....
		TCL 8.5.3 software license.....
		text message
		login.....
		ticket renewal.....
		timeout settings
		modifying.....
		re-inserting smart card.....
		valid login check.....
		topics in guides and Knowledge Bases
		giving feedback on.....

trademarks.....	2
triggers	
auditing.....	23

U

USER_LOGOUT.....	23
------------------	----

W

warranty statements.....	2
web.config	
file.....	17
web methods, retrying.....	16
Windows	
authentication.....	18

X

Xerces C++ Parser software license.....	35
---	----

Z

Zlib software license.....	36
----------------------------	----