ProSystem fx° Engagement

Networking Best Practices Guide

Version 6.0

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Overview

The purpose of this document is to provide a technical background for a better understanding of how ProSystem *fx* Engagement functions internally. This document, along with the Installation Guide and the User Guide, should help avoid certain pitfalls or obstacles. The instructions in this document are intended for use by network administrators and IT professionals only. Please consult Engagement Technical Support for any technical questions.

General Program Information

Computer Names

ProSystem fx Engagement relies on the NetBIOS computer name for most of the internal program communications.

- NetBIOS requires computer names to be a maximum of 15 characters.
- It is strongly recommended you do not rename your computer, for any reason, after installing ProSystem fx Engagement.
 - o Doing so may cause serious issues in the program.
 - If you have renamed or modified the computer name after Engagement is installed and are experiencing issues, contact Technical Support at (800) 739-9998 option 6, option 2.

Services

ProSystem fx Engagement uses three services for communication between the local file rooms and the office servers as well as between the office servers. The services are as follows:

- SQL Server (PROFXENGAGEMENT)
- PFXEngDesktopService
- PFXSYNPFTService

Note: PfxPDFConvertService.exe is also running in the background and is started at the startup of the machine. This executable handles ProSystem *fx* Engagement PDF printing.

SQL – This service is the SQL data engine that is used to drive the ProSystem *fx* Engagement database. SQL runs as a service, "SQL Server (PROFXENGAGEMENT)," using a Local System account that requires full security rights. In ProSystem *fx* Engagement this service will transfer data from workstation database to server database, server database to server database and workstation database over TCP/IP.

If for any reason the SQL Server (PROFXENGAGEMENT) service is not running, both the Administrator and Client modules will stop working and the users will be instructed to close the program. By default this service will start up when the computer starts and remain on until it is either manually stopped or the computer is shut down.

The SQL Server (PROFXENGAGEMENT) service is a memory intensive service that will utilize as much memory as is available to complete the requests it receives. The memory will be released back to the system as the computer needs the memory for another process. We recommend that you reboot your workstation daily in order to free up any memory that is being accessed but not used. Installing additional memory may also improve performance.

For servers where the Admin module is installed, we recommend that you develop a schedule where you restart the SQL Server (PROFXENGAGEMENT) service so it will release the memory.

PFXEngDesktopService.exe – This is the service that ProSystem *fx* Engagement uses to initiate a refresh of the remote Workpaper Management or Administrator module. This service interacts with the desktop of the workstation or server it is running on. Because the service interacts with the desktop, the service runs under the system account and cannot be changed without rendering the service ineffective.

PFXSYNPFTService.exe – This service is used to copy or move the workpapers from the LFR to the CFR, from CFR to CFR or from LFR to LFR. This service runs under the system account by default but can be changed as needed. If you store your workpapers on a location other than the server where the Administrator Module is installed, you will need to change the user account to a user that has access to that location.

For more information, please see the Workpaper Location User Rights section.

Ports

ProSystem fx Engagement transfers data over the following ports:

- SQL Server (PROFXENGAGEMENT) TCP port 2029; UDP port 1434
- PFXEngDesktopService TCP port 6736
- PFXSYNPFTService TCP port 6735
- PfxConfigUtility UDP port 6737

These ports are configured on the server and workstations during installation. However, if you are connecting over a VPN or through a firewall, or another device such as a router, you will need to ensure that these ports are opened in order for the program to work correctly.

Other SQL applications

If you are installing ProSystem fx Engagement on a computer which currently has an application using SQL as its database engine, you must stop the SQL service before installing ProSystem fx Engagement. When upgrading or reinstalling ProSystem fx Engagement, stop all other SQL services before upgrading but leave the SQL Server (PROFXENGAGEMENT) service running.

IMPORTANT: Failure to do this may cause one or both of the applications to fail.

Compressed drives and/or partitions

ProSystem *fx* Engagement does not support the storage of workpapers or databases on compressed drives, volumes, or partitions. Microsoft has determined that having SQL databases on compressed volumes may cause performance and database recovery issues. ProSystem *fx* Engagement uses SQL databases. Additionally, storing Engagement databases and/or workpapers on compressed volumes may cause installation failures, synchronization issues and data loss. Please see Microsoft Knowledge Base article ID <u>231347</u> for additional information, or use the following link: http://support.microsoft.com/kb/231347/en-us.

Installation in a Novell Environment

ProSystem *fx* Engagement utilizes the Microsoft SQL database architecture; however, Engagement is compatible with Novell networks with one additional requirement: the SQL database engine application and database files must reside on a Windows computer and must be visible to the Novell network. All workpapers may be stored on the Novell file server.

There are a few specific steps which need to take place in order to ensure proper communication between the local file rooms and the available central file rooms. The following procedures will assist you in the setup process:

Requirement

The SQL database engine requires a computer with a Windows-based operating system (Windows Server 2003, Windows Server 2008, Windows XP Professional, or Windows Vista). The computer must meet the minimum requirements set forth in the User Guide or posted on the Engagement Support website. This computer will be used to house the Engagement office server and SQL databases.

Procedures

- 1. Read the installation instructions. The installation instructions can be found in Chapter 2 of the Engagement User Guide, on the Engagement CD within the Documents directory, or on the ProSystem *fx* Engagement Support website.
- 2. On the Novell server, you will need to create a folder that will store the central file room workpapers.
- 3. Install ProSystem fx Engagement Administrator to the Windows computer defined above.
- 4. Login and setup this machine as an office server.
- 5. Follow the steps defined below under <u>Workpaper Location User Rights</u> to set up the synchronization service to run as needed for this configuration.
- 6. Create a central file room. When selecting the 'Location of central file room workpapers,' browse to the folder created on the Novell server in Step 2.
- 7. On a separate workstation, install ProSystem *fx* Engagement Workpaper Management module.
- 8. Log into the Workpaper Management module and follow the prompts as they appear.
- 9. Once you have successfully logged in, test the above by synchronizing a binder to/from a central file room on the Novell server.

Other Information

User Rights

The installation process sets the Engagement folder permissions automatically. These rights are needed for Engagement to function optimally. The installation gives the "Users" group all rights except Full Control. These rights are inherited by all child objects so that all folders and subfolders within Engagement receive these same rights.

Admin Share Folder

For logging purposes, the Administrator module writes to "x:\Pfx Engagement\Admin\Admin\Admin Share". Please note that the program will still work (Administrator actions may still be performed) even if the system cannot write to the log files. For logging and troubleshooting purposes, we strongly recommend that Admin users be given rights to this folder, which will allow the system to properly log all Administrator actions.

Domain Controllers

Due to issues with Admin Synch failures and transferring Transition Binder Packages between Office Servers, we strongly recommend against installing the ProSystem *fx* Engagement Administrator module on a Domain Controller. Additionally, installing the Engagement Administrator module on a Domain Controller puts the server into the role of being a database and file server. If the Domain Controller goes down, the Admin module and CFR's will not be available. Our recommendation is to use a separate server for the Admin Module.

Note: Microsoft does not recommend installing SQL Server 2005 on a Domain Controller. See the following:

http://msdn.microsoft.com/en-us/library/ms143719(SQL.90).aspx http://msdn.microsoft.com/en-us/library/ms144228(SQL.90).aspx

http://download.microsoft.com/download/5/0/e/50ec0a69-d69e-4962-b2c9-80bbad125641/ReadmeSOL2005.htm

Macro Security Settings Requirements for Excel and Word Addins

If the Very High macro security setting is selected in Excel or Word, the macros required for the Engagement addins will not function. We recommend setting the macro security to a setting that is lower than Very High.

Workpaper Location User Rights

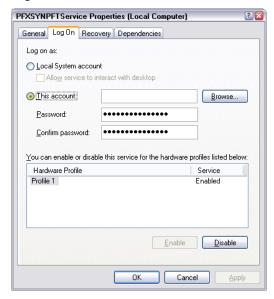
ProSystem fx Engagement utilizes a service to transfer the workpapers from the LFR to the CFR that does not require the user to have rights to the CFR location.

The service is called PFXSYNPFTService.exe, referred to as the Pfx sync service. The Pfx sync service works by emulating File Transfer Protocol (FTP) and therefore only requires that the service itself have rights to the destination location. By default, the service runs under the Local System

Account, which has full access to the local computer. However, if the workpaper location of the CFR is stored on another machine, the service will need to be configured to run under a user account that has "Full Control" rights to the destination location of the workpapers folder.

The first step in this process is to create a user on each server that has rights to all Engagement related directories and folders. Once you have a user on each server you will need to make the following modification on the office server (the server where the database files are located):

- 1. Open Administrative Tools from the Control Panel and select **Services**.
- 2. Once Services is open, find the PFXSYNPFTService listed in the Name Column.
- 3. Right click on the Service and select Stop.
- 4. Right click on the Service and select **Properties**.



- 5. Click on the Log On tab.
- 6. Select the **This Account** radio button and then select **Browse**.
- 7. A dialog will appear that will allow you to browse for a user. Select the user you previously created for this process.
- 8. Once you have selected the user and clicked **OK**, you will return to the Log On screen. Select **Apply**.
- 9. You will be prompted that the user has been granted Login privileges, select **OK**.
- 10. Select **OK** to close the Properties dialog.
- 11. Right click on the Service and select Start.

Workpaper Location User Rights for Shared File Room

The Shared File Room is an alternate way of using Engagement, where users are allowed to directly access the Local File Room of another user. Using this method, one machine is designated as the "Host" of the Shared File Room, while all other users are designated as "Remote" users. The Host and Remote users are allowed to access the Host's Local File Room, and can open binders and workpapers from this shared location.

The Engagement Shared File Room is completely dependent on Windows file sharing to function. Therefore, it is important that the Host user have proper rights to share folders on the Workstation. This requires at least Power User rights on the machine.

The Windows file share requires remote users to authenticate to the Host machine. Local user account will need to be added to the Host machine to allow the remote users to access the Shared File Room.

Please see the ProSystem fx Engagement Shared File Room Guide available for download from the ProSystem fx Engagement website for details on this feature.

Time Synchronization

Time synchronization is an integral part of ProSystem *fx* Engagement. Time synchronization is used to ensure that the latest changes in your binders are processed correctly during synchronization. Ensuring that servers and workstations running Engagement are synchronized for time will help ensure that you do not lose data and that the latest changes to the data and the server are kept.

To ensure time synchronization, ProSystem *fx* Engagement encourages you to utilize LAN based time synchronization software.

IMPORTANT: Time synchronization needs to take place on the network. Tools such as the "NET TIME" command allow you choose a computer on the network to synchronize your clock with. We DO NOT recommend having your users synch with time servers on the internet as each server could possibly be several seconds off.

Citrix/Terminal Services

Clipboard Mapping

In some Citrix/Terminal Service environments, clipboard mapping may need to be disabled in order for the Engagement toolbar to refresh properly.

Shared File Room

Due to file locking issues with Shared File Room, we do not support having two users log into the same WM profile, (using the same login ID), at the same time via Citrix or Terminal Services.

ISA (Internet Security and Acceleration) Server Connection Settings

Synchronization failures occurring on large binders may be caused by the number of connections the ISA server allows per client. It may be necessary to remove the per client connection limit in order to successfully synchronize these binders. In the Connection Limit dialog, the "Limit the number of connections" setting should be unchecked.

Microsoft Windows Vista and Server 2008 Support

The Microsoft Windows Vista Operating System is supported. Only Vista Enterprise, Business, and Ultimate Editions are supported for use with ProSystem *fx* Engagement. Vista adds new security features, including User Account Control (UAC) and BitLocker. Engagement will install and function with the UAC feature turned on. The installation process requires a system administrator, which is also required with all other operating systems currently supported by Engagement. BitLocker encryption is supported when used with Engagement.

Note: BitLocker is only available on Vista Enterprise and Ultimate Editions and Server 2008.

Note: It is not recommended that ProSystem *fx* Engagement be installed to the x:\Program File directory due to the restricted rights access to that location imposed by Windows Vista. Windows Users with restricted rights may experience problems using Engagement if the application is installed to the Program Files directory.

Note: User Account Control (UAC) is also included with Windows Server 2008.

SQL Server 2005 Information

Creating a new SQL instance for ProSystem fx Engagement

This section provides step-by-step instructions for creating a new SQL 2005 instance for ProSystem fx Engagement.

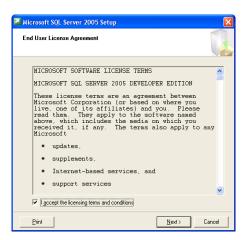
Note: Before you start you will need to have your Microsoft SQL 2005 Server CD and Service Pack 2 or higher for SQL. Both items will be needed to perform the installation of Engagement v. 5.5.

Note: Please make sure that you follow each step carefully to ensure that the SQL instance is properly created with all required settings.

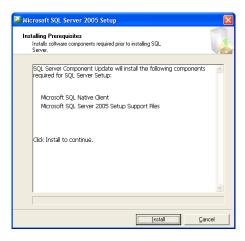
- 1) Insert SQL Server 2005 Installation Disk
- 2) Click "Server Components, tools, Books Online, and samples"



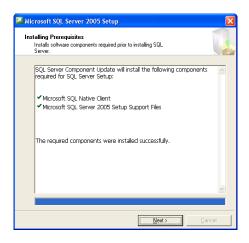
 Select "I accept the licensing terms and conditions" and then Click Next on the Welcome to Microsoft SQL Server screen.



4) Click **Install** on the Installing Prerequisites screen to install the Native Client and Setup Support Files.



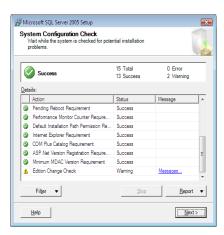
5) Click **Next** after the Prerequisites are installed.



6) Click **Next** on the Welcome to Microsoft SQL Server Installation Wizard.



7) Click **Next** on the Configuration Check Screen.

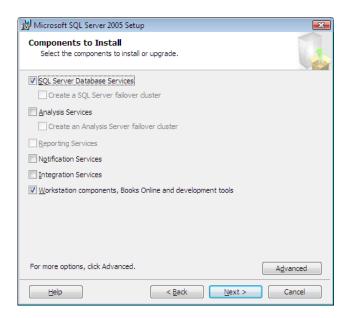


8) Fill out the Registration information on the Registration Information screen and Click Next.

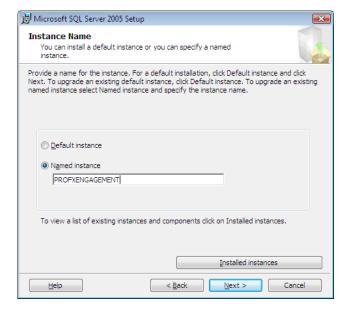


9) Select "SQL Server Database Services" and "WorkStation Components" on the Components to Install Screen. Click **Next** to Continue.

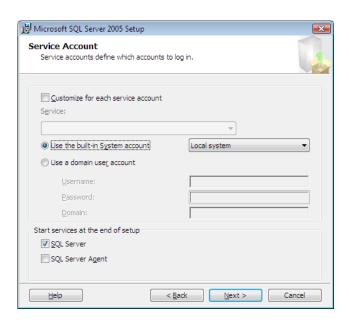
Note: Workstation components are optional for Engagement. However, they can be used to assist support in certain circumstances.



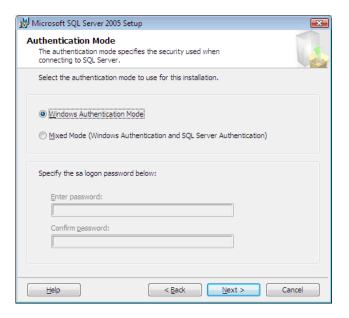
10) Select "Named Instance" and type in "PROFXENGAGEMENT" on the Instance Name screen. Click **Next** to continue.



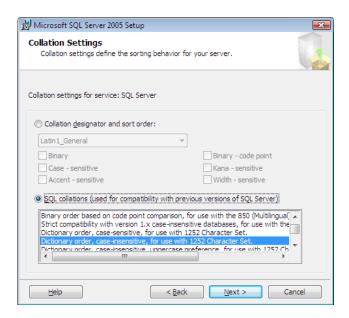
11) Select "Use the built-in system account" on the Service Account screen. Click **Next** to continue.



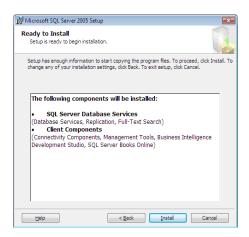
12) Select "Windows Authentication" on the Authentication Mode screen. Click Next to Continue.



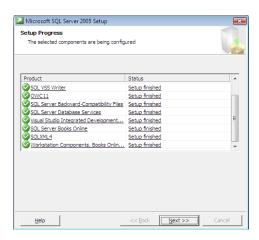
13) Leave the default settings on the Collation Screen and click **Next** to continue. If the default settings for your installation do not match those shown in the screen below, select the settings shown.



14) Click Install on the Ready to Install screen.



15) Click Next on the Setup Process once it is finished.



16) Click **Finish** on the Completing Microsoft SQL Server 2005 screen.



Note: Microsoft SQL Server 2005 SP2 is required for the installation. Please install SP2 if the version installed is below SP2. The following link will take you to the download and instructions directly from Microsoft.

http://www.microsoft.com/downloads/details.aspx?FamilyId=d07219b2-1e23-49c8-8f0c-63fa18f26d3a&displaylang=en

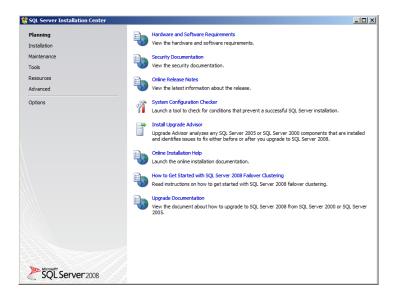
SQL Server 2008 Information

Creating a new SQL 2008 instance for ProSystem fx Engagement

This section provides step-by-step instructions for creating a new SQL 2008 instance for ProSystem fx Engagement.

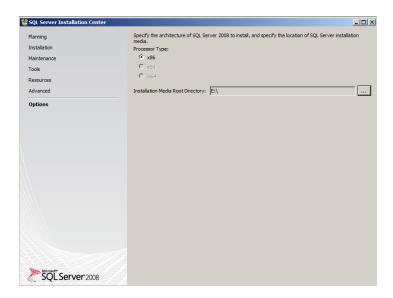
Note: Please make sure that you follow each step carefully to ensure that the SQL instance is properly created with all required settings.

- 1) Insert SQL Server 2008 Installation Disk
- 2) Click "Installation"

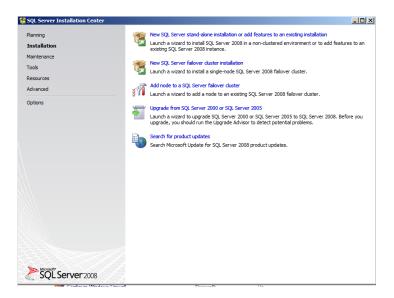


Note: Due to functionality issues, SQL Server 2008 64 bit is not currently supported. When installing SQL Server 2008 on a Windows 64 bit operating system, the 64 bit version of SQL Server 2008 is selected by default.

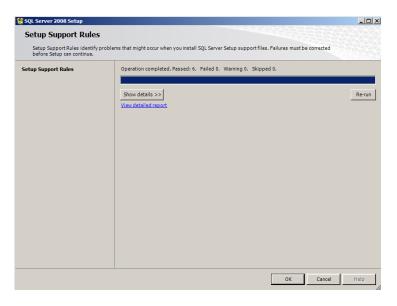
To verify that the 32 bit version of SQL Server 2008 is selected, choose the Options link on the SQL server Installation Center screen. Select x86 for the Processor Type.



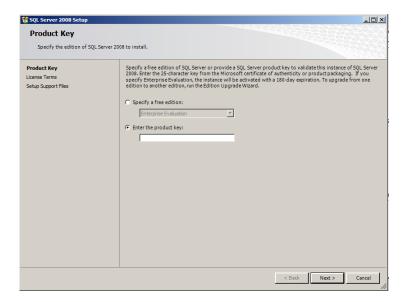
3) Select "New SQL Server stand-alone installation or add features to an existing installation"



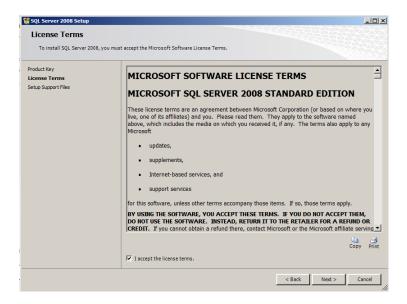
4) The Setup Support Rules screen will appear. Select **OK** to proceed with the installation.



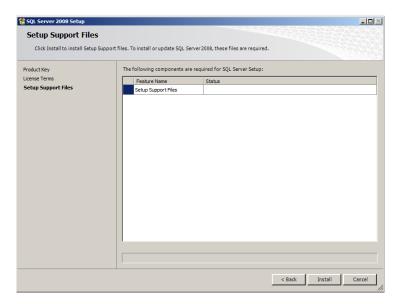
5) The Product Key screen will appear. Enter the SQL Server product key and Select Next.



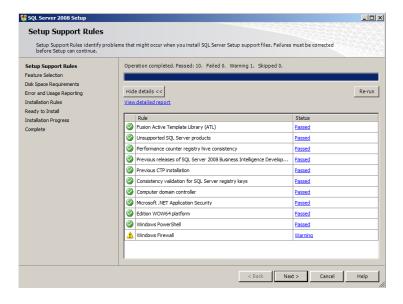
6) Click "I accept the license terms" and select Next.



7) Click Install on the Setup Support files screen.

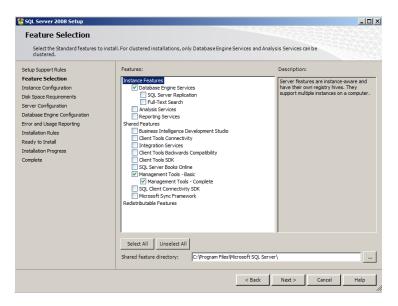


8) Click Next on the Setup Support Rules Screen.

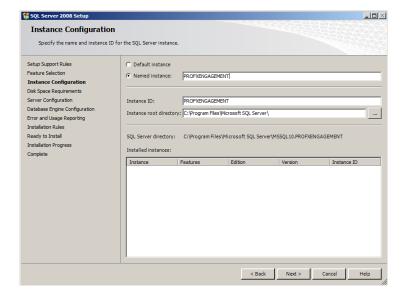


9) Select "Database Engine Services" and "Management Tools" on the Feature Selection Screen. Click **Next** to Continue.

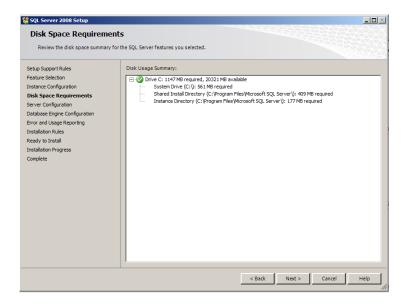
Note: Management Tools are optional for Engagement. However, they can be used to assist support in certain circumstances.



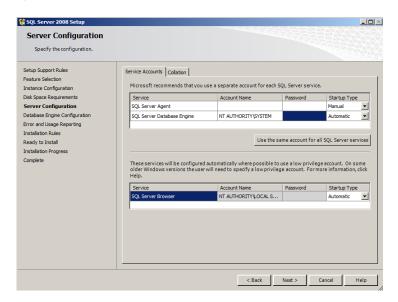
10) Select "Named Instance" and type in "PROFXENGAGEMENT" on the Instance Configuration screen. Click **Next** to continue.



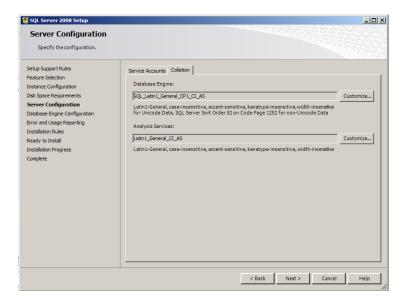
11) The Disk Space Requirements screen will appear. Click Next to continue.



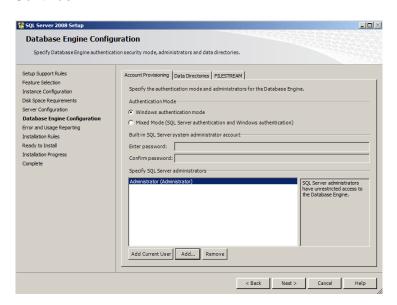
12) On the Service Accounts tab of the server Configuration Screen, Select "Use the same account for all SQL Server services" on the Authentication Mode screen. Change the Account Name to NT AUTHORITY\SYSTEM for the SQL Server Database Engine. Verify the Startup Type is set to "Automatic". Click **Next** to Continue.



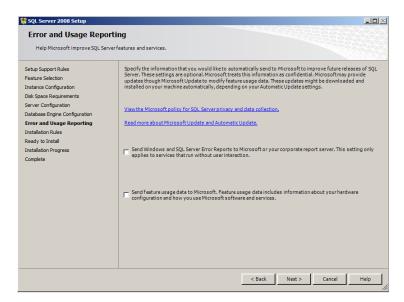
13) Leave the default settings on the Collation tab and click **Next** to continue. If the default settings for your installation do not match those shown in the screen below, select the settings shown.



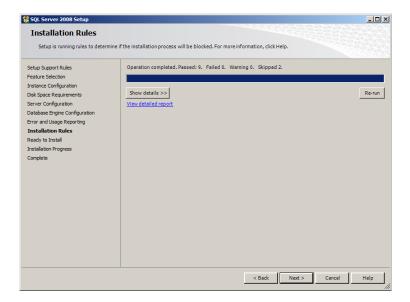
14) Select "Windows authentication mode" on the Database Engine Configuration screen. Add an Administrator user account in the Specify SQL Server administrators field. Click **Next** to Continue.



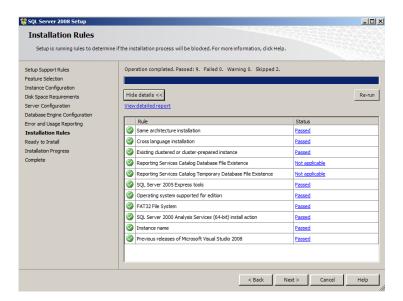
15) The Error and Usage Reporting screen will appear. Click **Next** to Continue.



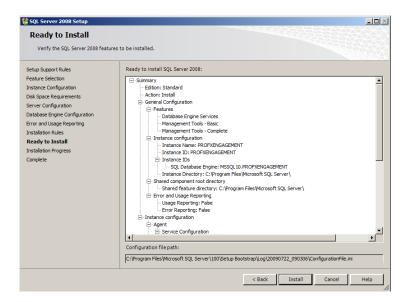
16) The Installation Rules screen will appear. Click Next to Continue.



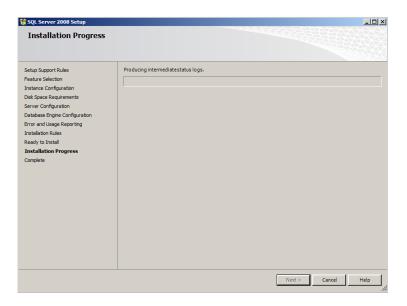
17) Select the "Show Details" button to see a detailed report of the Installation Rules. Click **Next** to Continue.



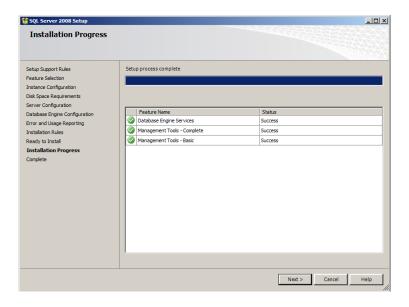
18) The Ready to Install screen will appear. Verify the SQL Server 2008 features to install. Click **Install** to continue.



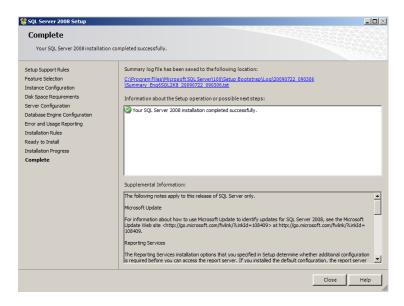
19)The Installation Progress will appear. Click **Next** to Continue. Please be patient, the install process can take a long time to complete.



20)The Installation Progress screen will provide a notification when the setup process has completed. Click **Next** to Continue.



21) The Complete screen will appear. Click Close to finish the installation.



ProSystem fx Engagement Database Backup & Restore Utility

For instructions on using the ProSystem fx Engagement Database Backup & Restore Utility, refer to the Database Backup & Restore Instructions located on the Engagement CD or on the Support website.

3rd Party Backup and Restore Processes

If you are currently using a third party backup software to backup the Engagement databases, you will not be able to restore a single binder to the central file room. The ProSystem *fx* Engagement Database Backup and Restore utility allows the restoration of a single binder or an entire central file room. For additional information, refer to the ProSystem *fx* Engagement Database Backup and Restore Instructions.

If you choose to use a 3rd party backup and restore process, there may be some additional requirements that need to be considered. Refer to the 'Frequently Asked Questions' section on the Support website or call Technical Support at 800-739-9998 option 6, option 2.

Name Resolution

Connecting to Engagement

ProSystem fx Engagement uses SQL as the database engine SQL connects from the desktops to the server using the TCP/IP protocol. Engagement is utilizing SQL browsing to enable the client to see the server or to enable one server to see another. When you first launch ProSystem fx Engagement Workpaper Management you are asked to select an office server to connect to. A list of servers is made available to you to choose from. However in some cases, depending on the network type and setup you may not see the server that you are looking for. This can also happen when you are trying to connect to another Workpaper Management install when in field mode.

The primary cause of this is due to the network not being able to resolve the NetBIOS name of the workstations and servers across networks. These networks include Virtual LANs, Subnets or WANs.

The four methods listed below may be used to alleviate this issue

- Setting up a DNS server (preferred)
- Creating and using HOSTS and LMHOSTS files
- Setting up a WINS server
- Using the Pfx Configuration Utility

For further details on the methods listed above, obtain the Microsoft documentation necessary, or contact your System Administrator for assistance.

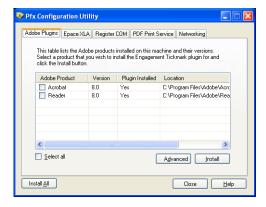
Pfx Configuration Utility

The PFX Configuration Utility provides the capabilities to replace the Adobe Plug-in, Excel add-ins, reregister dll's, start the PDF Printer Service, and configure network connections. The utility is located at "x:\Pfx Engagement\Common\PfxConfigUtil.exe". However, the utility should be run from the shortcut under "Program Files\ProSystem Fx Engagement\Utilities\ProSystem fx Engagement Configuration Utility". If the utility is run directly from the executable location, it may not run with the correct privileges.

Note: When running the ProSystem *fx* Engagement Configuration Utility in a Windows Vista environment with User Account Control (UAC) enabled, the Interactive Services Detection service must be running. The recommended best practice is to configure the Interactive Services Detection service to start automatically.

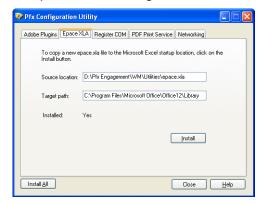
Adobe Plugins

The Adobe Plugins screen detects what version of adobe is installed and if the Engagement Plug-in is present. In some cases when Adobe is upgraded to a different version, it may be necessary to run this utility to ensure the plug-in is correctly installed for the new Adobe version. The advanced button allows the user to select applications that do not print correctly when postscript simulation is used.



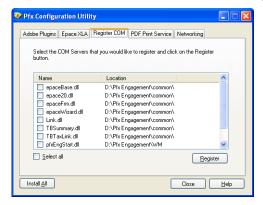
Epace XLA

The epace.xla is an Excel add-in file that allows users to access and use Engagement functions from within Excel documents. This tab is similar to the Adobe Plug-ins tab and will detect the version of Excel and its location. It will also check for missing epace.xla files. In some case it may be necessary to replace the existing file or move it to a new location after an upgrade of Microsoft Office versions.



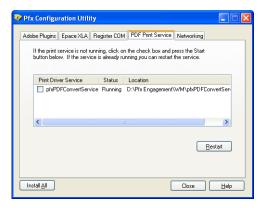
Register DIIs

This tab allows for several dlls to be registered.



PDF Print Service

This tab allows the user to either start or restart the PDF Print Service. It will also detect the current status of the Print Service.

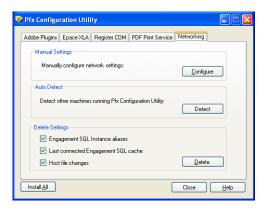


Networking

This tab has many of the same features as the Netconfig utility had in prior versions of PFX Engagement. This tab helps to resolve connection issues to a workstation or server by adding an entry to the Hosts file and editing the registry.

The registry entries added tell SQL the following: the name of the SQL Instance you want to connect to, the IP address of the workstation or Server associated with the instance's name, and the TCP/IP port in which to communicate over.

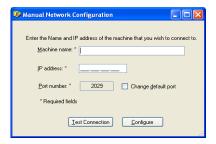
Three options are available on this tab. The first option is the Configure option which the IP address and name of the machine is manually entered. The second option is the Auto-Detect option, with this option the system will auto-detect any other machines with the same dialog open. The third option on the Networking tab will remove all old entries from when the utility was previously used.



Configure (Manual)

Enter the target server or workstation in the machine name field. At this point tabbing down or clicking Test Connection may auto-populate the IP Address for you. If it does verify the IP Address is correct and then click Configure. If it does not auto-populate or an incorrect IP Address is showing, then it is necessary to manually enter the correct IP Address and click Configure.

The port number should not be changed unless the target server has been configured to run SQL on a different port. Consult your System Administrator or Database Administrator before changing this number.



Detect (Automatic)

Use the Detect Button to allow the utility to detect other Engagement users to connect to. To use the automatic feature the target computer should have the same dialog open.



Selecting the Save Button saves an SQL Alias for the connection to another user machine and adds an entry in the host file

Delete

This option deletes all the older entries from when this utility was previously used. It may be necessary to clean out old entries to avoid duplicates.

Install All

On each of the tabs a button an "Install All" button can be used to perform the actions of every tab. Clicking this button will replace the adobe API file, the Epace.xla, register all of the dll's, and restart/start the PDF Print Service.

Note: Install all does not affect the Networking Tab.

If you need more information or further assistance with any of the items above, please contact Technical Support at (800) 739-9998 option 6, followed by option 2.