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FactoryTalk® Historian SE

UPGRADE AND MIGRATION GUIDE

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Allen-Bradley • Rockwell Software

Rockwell Automation

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Overview

In this document you will find information on how to upgrade your FactoryTalk Historian SE 2.1/2.2 to FactoryTalk Historian SE 3.01.

FactoryTalk Historian SE (FTHSE) 2.1/2.2 is a 32-bit application that could run on either a 32-bit or 64-bit server operating system. FactoryTalk Historian SE 3.01 is a 64-bit application that runs only on a 64-bit server operating system, specifically Microsoft Windows Server 2008 R2 with Service Pack 1 (W2008R2SP1).

Upgrading from a 32-bit application to a 64-bit application and upgrading from a previous version to the new version of FactoryTalk Historian SE involves multiple steps. Due to the complexity of the process and the fact that it may require setting up a computer with W2008R2SP1, we refer to the process as the *Historian server migration*.

IMPORTANT The add-ons to the Historian server listed below constitute in FactoryTalk Historian SE 3.01 a collection of Advanced Server components:
ACE, JDBC Data Provider, ODBC, OLE DB Provider, OPC DA Server, OPC HDA Server, OPC HDA DA Server, WebServices, Notifications.
If you have been using any of them with your Historian server and you still want to use them in FactoryTalk Historian SE 3.01, see "Advanced Server Components (page 8)" for more information.

The migration may be performed from the following versions of FactoryTalk Historian SE:

- FTHSE 2.1 with PI Server version 3.4.375 32-bit.
- FTHSE 2.2 with PI Server version 3.4.375 32-bit.

On a high level, the Historian server migration involves:

1. Backing up FTHSE 2.1/2.2 configuration and archive files.
2. Removing FTHSE 2.1/2.2 and all Historian components.
3. Installing an intermediate release of Historian (PI Server version 3.4.375 64-bit) to convert the application files so that they become 64-bit compatible.
4. Upgrading from the intermediate Historian release to FTHSE 3.01 (PI Server version 3.4.385 64-bit).

The migration may be performed for a single Historian server (page 21) as well as for a collective of Historian servers (page 73).

New Features in FactoryTalk Historian SE 3.01

FactoryTalk Historian SE 3.01 introduces the following features:

- FactoryTalk Historian Asset Framework (AF) Server as a prerequisite and Microsoft SQL Server Database for its data.
- The security authentication that replaces FactoryTalk Security with Windows authentication, using either Active Directory (AD) or local Windows security.
- Advanced Server logic (page 8).

Advanced Server Components

Advanced Server is a collection of add-on components to FactoryTalk Historian SE Server. The Advanced Server includes:

- ACE Advanced Computation Engine for Visual Basic calculations on Historian data
- Data Access
  - JDBC Data Provider
  - ODBC
  - OLE DB Provider
  - OPC DA Server

  - OPC HDA Server
  - OPC HDA DA Server
  - WebServices
- Notifications for using Microsoft Lync Unified Communication Server

New users may activate the Advanced Server components with the *FTHSE.Advanced* license activation.

For the users upgrading their license activations from FactoryTalk Historian SE 2.2/2.1, the Advanced Server components are activated automatically when the total license count of the *FHLD* and *PTY3* license activations is at least 250.

NOTE For more information on the Advanced Server components, refer to the user documentation available in the **Redist\Docs\Advanced Server Options** folder on the FactoryTalk Historian SE installation DVD.
To acquire a license for this option, contact your Rockwell Automation sales representative.

Migration Use Cases

The following migration paths (Use Cases) are supported:

- In Use Case 1, the FTHSE server is migrated from its current host computer to a new computer running a 64-bit Microsoft Windows Server 2008 R2 with Service Pack 1 (W2008R2SP1).

  The process involves moving the Historian server to another machine and updating it to version 3.01. It may also involve a transition from a 32-bit to 64-bit operating system.

From:	To:
W 2003 R2 32-bit	W 2008 R2 SP1 64-bit
W 2008 SP2 32-bit	
W 2008 R2 64-bit	

- In Use Case 2, the FTHSE server is already installed on a computer running a 64-bit Microsoft Windows Server 2008 R2 (W2008R2).

  The process involves installing Service Pack 1 on the server host computer and updating the Historian server to version 3.01.

From:	To:
W 2008 R2 64-bit	W 2008 R2 SP1 64-bit

Migration Prerequisites

Before starting the migration process, make sure the following prerequisites are met:

- Your FactoryTalk Historian SE system is healthy, that is :
  - All FactoryTalk Historian interfaces are functioning properly (page 12).
  - There are no stale and bad points in the system (page 12).
- Using the System Management Tools, you have deleted all unnecessary archives and message logs from the Historian server.

  For more information, refer to the *FactoryTalk Historian SE 2.20 Server Management Guide*.
- You have created a backup of your system (page 13).
- Service Pack 1 for the Microsoft Windows Server 2008 R2 is installed on the computer that will host the FTHSE server.
- IT personnel is available to perform administrative tasks, such as:
  - Adding/removing computers from the domain.
  - Adding security groups/users to the domain.

  - Renaming computers.
  - Managing SQL Server databases.

- You have a portable storage device, such as a USB drive or an external hard drive, or a shared folder in your network, to which you will save a complete backup of the existing Historian and a copy of the Historian installation DVD.

  You will need to have write access to the storage device and/or the shared folder on every computer on which you will perform the migration.

  You will need at least 8 GB of storage space, of which 4 GB will be taken by the copy of the installation DVD, and the rest by the archives.

  Check the size of your archives to calculate the total amount of storage space you need.

- The computers on which you will install FactoryTalk Historian SE 3.01 are configured to handle short file names.

  NOTE For more information, refer to the Microsoft TechNet (http://technet.microsoft.com/en-us/library/cc778996(v=ws.10).aspx) article.

- You have the FactoryTalk Historian SE 3.01 installation DVD.
- You have copied the entire content of the FactoryTalk Historian SE 3.01 installation DVD to your portable storage device or shared folder.
- **You have checked the KB article 491889 (https://rockwellautomation.custhelp.com/app/answers/detail/a_id/491889) for the latest version of this document and the migration scripts.**
- You have printed a copy of this document and read it before you start the migration.

Verify That All Historian Interfaces are Functioning Properly

To verify that the FactoryTalk Historian interfaces are updating data:

1. On the computer with your Historian server installed, go to *Start* > *All Programs* > *Rockwell Software* > *FactoryTalk Historian SE* > *System Management Tools*. The **System Management Tools** dialog box appears.
2. Under **Collectives and Servers**, select the Historian server whose data you want to check.
3. Under **System Management Plug-Ins**, select **Data > Archive Editor**.
4. In the **(Tag Not Specified)** tab, click . The **Tag Search** dialog box appears.
5. In the **Tag Mask** text box, type the name of the tag from the interface whose performance you want to check, and click **Search**.

   The tag appears in the search results list.
6. Click **OK**.

   If the interface functions properly, the list of events of the selected tag is displayed in the tab in the right pane of the **System Management Tools** dialog box.

   NOTE For more information on the Archive Editor available with the System Management Tools, click .
7. Repeat the steps for all other interfaces that collect data.

Verify That There Are No Stale and Bad Points in Your Historian

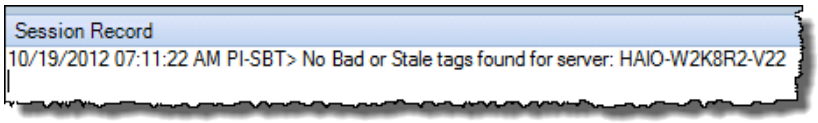
To verify that there are no stale and bad points in your Historian system:

1. On the computer with your Historian server installed, go to *Start* > *All Programs* > *Rockwell Software* > *FactoryTalk*

Historian SE > *System Management Tools*. The **System Management Tools** dialog box appears.

2. Under **Collectives and Servers**, select the Historian server whose data you want to check.
3. Under **System Management Plug-Ins**, select **Points > Stale and Bad Points**.
4. On the toolbar, click  .

   If your Historian system is free from stale and bad points, a confirmation message is displayed under **Session Record**.

   If any bad or stale points have been detected in your Historian system, you need to decide whether you want to perform the migration.

Create a Backup of Your Historian

To create a backup of your Historian system:

1. Open the Command Prompt window.
2. Navigate to:
   - On a 32-bit operating system:
     C:\Program Files\Rockwell Software\FactoryTalk Historian\Server\PI\adm
   - On a 64-bit operating system:
     C:\Program Files (x86)\Rockwell Software\FactoryTalk Historian\Server\PI\adm
3. Run the **pibackup** command with the following syntax:

   pibackup *<CompletePathToTheBackupFolder> <NumberOfArchivesToBackUp>*

   For example: *pibackup c:\backup 3*.

   Press Enter.

4. Wait until the backup is complete.
5. Copy the backup to your portable storage device or shared folder in your network.

Minimizing Data Loss during Migration

If you want to perform the migration and minimize the loss of the data collected by your interfaces, you can do either of the following:

- Configure buffering for the interfaces. See "Configure Buffering for Interfaces (page 14)" for details.
- Configure redundant interfaces. See the KB article 59932 (https://rockwellautomation.custhelp.com/app/answers/detail/a_id/59932) for details.

  By configuring redundant interfaces you will eliminate any loss of data during the migration.

  If you choose to use redundant interfaces during the migration, you will need to migrate the interfaces after you have migrated the Historian server. See "Checklist: Migration of Live Data Redundant Interfaces (page 83)" for details.

Configure Buffering for Interfaces

Before you configure and use buffering on your interfaces during the migration, you need to make sure that you have sufficient disk space available on the computers on which you have the interfaces installed.

If we assume the following:

- A single event takes 26 bytes in the buffer.
- An interface collects 10000 points per second.

We can use the following equation to calculate the required disk space for 8 hours:

*10000 * 26 bytes * 60 seconds * 60 minutes * 8 hours = 7.4 GB*

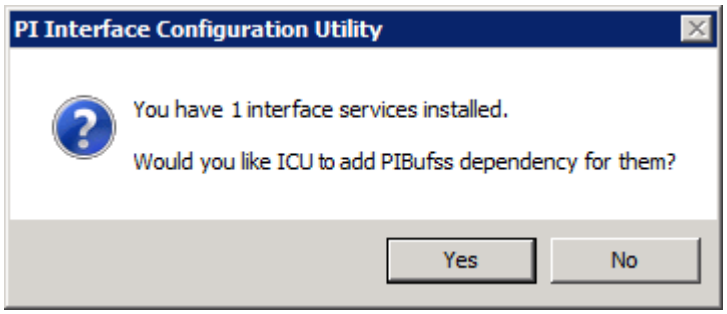
The resulting disk space is required for a single Historian server. If you have a collective of Historian servers, this amount of disk space will be consumed by each Historian server in the collective.

To configure buffering on the interface:

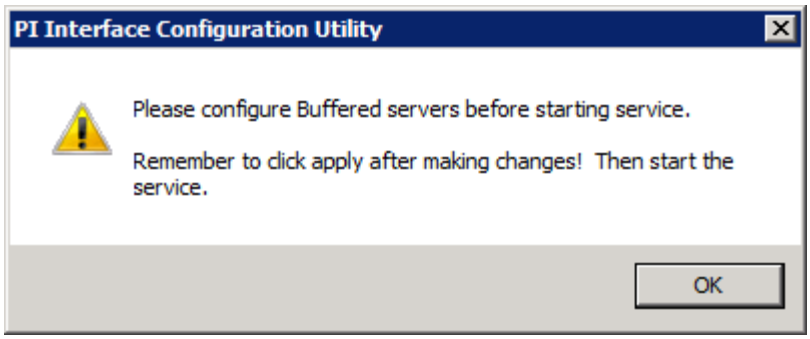
1. Go to *Start* > *All Programs* > *Rockwell Software* > *FactoryTalk Historian SE* > *Interface Configuration Utility*. The **Interface Configuration Utility** dialog box appears.
2. From the menu bar, select **Interface > SDK Connections**. The **Connection Manager** dialog box appears.
3. Select the existing collective or server, or add a new one.

   TIP See the *Connection Manager Help* for more information. To access it, select **Help > Contents and Index** from the menu bar of the dialog box.
4. Click **Save** and **Close** to exit the dialog box.
5. From the menu bar, select **Tools > Options**. The **Options** dialog box appears.
6. Click the **Load interfaces from a selected list of PI Servers** option and click the check box next to the name of the server that you want to select.
7. Click **OK**.
8. From the menu bar, select **Tools > Buffering**. The **Buffering** dialog box appears.
9. Click **Enable buffering with PI Buffer Subsystem.**

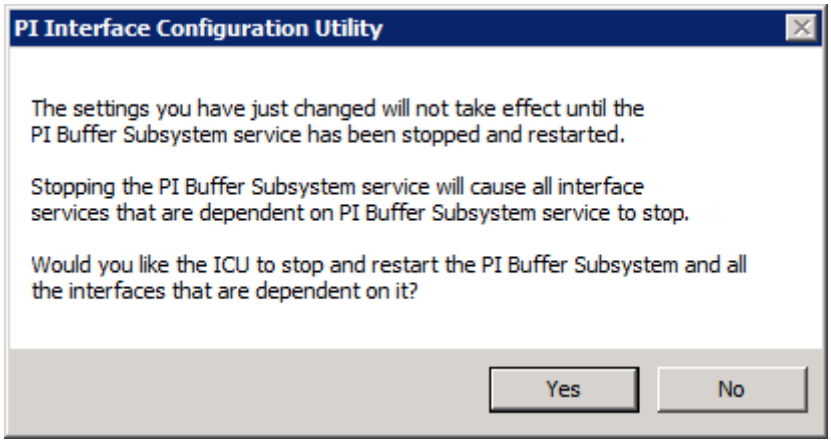
10. In the message box, click **Yes**.



11. Wait until the status at the bottom of the dialog box is changed to **Current Configuration: Good**.
12. In the message dialog box, click **OK**.



13. From the left pane, click **Buffered Servers**, and select the name of the FactoryTalk Historian SE server from the **Buffering to collective/servers** list.
14. Click **OK** to save the changes.
15. In the message box, click **Yes**.



16. In the **Interface Configuration Utility** dialog box, click **Close**.
17. Repeat the steps for each interface computer including redundant interfaces.

Migration Assumptions

The migration process is based on the following assumptions:

- The migration must be performed by an administrator.
- During the migration, the communication with the Historian server is blocked, either by disconnecting the computer from the network or using a firewall to block the 5450 TCP port.
- If the FactoryTalk Activation server is installed on the FTHSE server computer and a new computer will be used for FactoryTalk Historian SE 3.01, the activations will need to be rehosted to the new computer.

IMPORTANT It is recommended that you follow all the steps in the order and as they are described in the instructions so as to ensure a successful completion of the migration process.

- If the FactoryTalk Directory is installed on the FTHSE server computer and a new computer will be used for FactoryTalk Historian SE 3.01, the FactoryTalk Directory will need to be backed up and restored to the new computer.
- If the FactoryTalk Directory is being shared with other Rockwell Software products, you will need to determine if those products need to be upgraded as well.
- If the FactoryTalk Directory is not installed on the Historian server computer, you need to update FactoryTalk Services Platform and FactoryTalk Activation Manager on the computer on which the FactoryTalk Directory is installed.

Migration Scripts

The migration may be partially automated using the migration scripts (.BAT files) included on the FactoryTalk Historian installation DVD, in the **Redist\Migration\Scripts** folder.

Use this script:	To:
0_Locations.bat (page 29)	Configure: 1. The location in which the .BAT files are stored. 2. The path to the location in which FactoryTalk Historian SE 2.1/2.2 is installed. 3. The letter of the drive on which the backup is to be stored. 4. The path to the location in which the backup is to be stored. 5. The location of the Historian archives, if the archives are stored in another location than *<DriveLetter>:\Program Files\Rockwell Software\FactoryTalk Historian\Server\dat*. 6. The letter of the drive on which FactoryTalk Historian SE 3.01 is to be installed. Set environment variables necessary for the migration process.
1_PreMigrationBackup.bat (page 32)	1. Create the directory structure for the backup. 2. Create the archive log file. 3. Stop the Historian server. 4. Stop the FTLDIntAgent service. 5. Disable the PI Network Manager service. 6. Back up the FactoryTalk Historian SE 2.1/2.2 server.
2_TargetFolderStruct.bat (page 40)	For the migration on a single computer: 1. Rename the folder of FactoryTalk Historian SE 2.1/2.2. 2. Rename the **PIPC.ini** file. For all migration scenarios: 3. Create the folder structure for the FactoryTalk Historian SE 3.01.
3_RestorePIPart.bat (page 44)	1. Restore the server from the backup. 2. Rename the **pirunonce.dif** file.
4_StartAndConfigPIX64.bat (page 45)	1. Start the intermediate PI server. 2. Modify tuning parameters applying to the location of the archives.
5_RestoreRAPart.bat (page 53)	1. Restore the Historian server .XML files. 2. Start the FactoryTalk Historian SE 3.01 services. 3. Update database security settings.

Use this script:	To:
6_EnvVarsCleaning.bat (page 71)	**1.** Remove the environment variables used by the migration scripts from the operating system.

Migrating a Single Historian Server

The migration may be performed:

- On a single computer. (page 21)
- From one computer (*source*) to another (*target*). (page 23)

Checklist: Migration on a Single Computer

IMPORTANT To perform this procedure, administrative rights are required. To execute .BAT files with administrative privileges on the Microsoft Windows Server 2008 R2 operating system, you need to right-click the file and select **Run as administrator**. Otherwise the file execution will fail.

To perform migration on a single computer:

Pre-migration steps

- Check the KB article 491889 (https://rockwellautomation.custhelp.com/app/answers/detail/a_id/491889) for the latest version of the *FactoryTalk Historian SE Upgrade and Migration Guide* and the migration scripts.

1. Stop local interfaces (page 26).
2. Block the FactoryTalk Historian server from communicating with the interfaces and clients (page 28).
3. Confirm the event queue is empty (page 28).
4. Copy the migration scripts to the computer (page 28).
5. Edit and execute the **0_Locations.bat** file (page 29).
6. Shift the Historian archives (page 30).
7. Prepare the registration .BAT file (page 31).
8. Execute the **1_PreMigrationBackup.bat** file (page 32).

Migration steps

9. Remove FactoryTalk Historian SE 2.1/2.2 from the computer (page 37).
10. Install FactoryTalk Services Platform (page 39).
11. Install RSLinx Enterprise (page 39) (Optional).
12. Execute the **2_TargetFolderStruct.bat** file (page 40).
13. Install the intermediate PI Server FTHSE 22 x64 (page 41).
14. Execute the **3_RestorePIPart.bat** file (page 44).
15. Execute the **4_StartAndConfigPIX64.bat** file (page 45).
16. Register the archives (page 47).
17. Remove old references to the archives (page 48).
18. Stop the intermediate server (page 49).
19. Install FactoryTalk Historian Asset Framework (page 49).
20. Install FactoryTalk Historian Management Tools (page 50).
21. Start the intermediate server (page 50).
22. Prepare MDB to AF synchronization (page 51).
23. Stop the intermediate server (page 49).
24. Upgrade the Historian server to version 3.01 (page 51).
25. Check if the communication with the FactoryTalk Historian server is blocked (page 53).
26. Perform either of the following:

For the collective secondary server upgrade:	For all other use cases and computers:
Restore and Rename Files (page 54).	Execute the **5_RestoreRAPart.bat** file (page 53).
Merge Customized .BAT Files (page 54).	

Post-migration steps

27. Complete and verify the MDB to AF synchronization (page 55).
28. Migrate local FTLD interfaces (if applicable) (page 57).

29. Verify that Historian services are running (page 58).
30. Verify that the Historian server is updating data for default tags (page 59).
31. Create a transitory security configuration for the Historian environment (page 60).
32. Disable virus scanning (page 62).
33. Restore the FactoryTalk Historian server communication with the interfaces and clients (page 62).
34. Migrate FactoryTalk Services Platform users to the integrated Windows authentication (page 64).
35. Execute the **6_EnvVarsCleaning.bat** file (page 71).
36. Create a backup of your migrated FactoryTalk Historian (page 71).

Checklist: Migration from a Source to Target Computer

IMPORTANT To perform this procedure, administrative rights are required. To execute .BAT files with administrative privileges on the Microsoft Windows Server 2008 R2 operating system, you need to right-click the file and select **Run as administrator**. Otherwise the file execution will fail.

Perform the following steps on the source computer:

Pre-migration steps

1. Check the KB article 491889 (https://rockwellautomation.custhelp.com/app/answers/detail/a_id/491889) for the latest version of the *FactoryTalk Historian SE Upgrade and Migration Guide* and the migration scripts.
2. Back up FactoryTalk Directory and FactoryTalk Diagnostics Viewer (page 26).
3. Stop local interfaces (page 26).
4. Block the FactoryTalk Historian server from communicating with the interfaces and clients (page 28).
5. Confirm the event queue is empty (page 28).

6. Copy the migration scripts to the computer (page 28).
7. Edit and execute the **0_Locations.bat** file (page 29).
8. Shift the Historian archives (page 30).
9. Prepare the registration .BAT file (page 31).
10. Execute the **1_PreMigrationBackup.bat** file (page 32).
11. Rename the source computer. (page 37)

Perform the following steps on the target computer:

Pre-migration steps

1. Rename the target computer (page 37).
2. Copy the migration scripts to the computer (page 28).
3. Edit and execute the **0_Locations.bat** file (page 29).

Migration steps

4. Install FactoryTalk Services Platform (page 39).
5. Install RSLinx Enterprise (page 39) (Optional).
6. Configure FactoryTalk Directory and FactoryTalk Activation Manager (page 40).
7. Execute the **2_TargetFolderStruct.bat** file (page 40).
8. Block the FactoryTalk Historian server from communicating with the interfaces and clients (page 28).
9. Install the intermediate PI Server FTHSE 22 x64 (page 41).
10. Execute the **3_RestorePIPart.bat** file (page 44).
11. Execute the **4_StartAndConfigPIX64.bat** file (page 45).
12. Register the archives (page 47).
13. Remove old references to the archives (page 48).
14. Stop the intermediate server (page 49).
15. Install FactoryTalk Historian Asset Framework (page 49).
16. Install FactoryTalk Historian Management Tools (page 50).
17. Start the intermediate server (page 50).

18. Prepare MDB to AF synchronization (page 51).
19. Stop the intermediate server (page 49).
20. Upgrade the Historian server to version 3.01 (page 51).
21. Check if the communication with the FactoryTalk Historian server is blocked (page 53).
22. Perform either of the following:

For the collective secondary server upgrade:	For all other use cases and computers:
Restore and Rename Files (page 54).	Execute the **5_RestoreRAPart.bat** file (page 53).
Merge Customized .BAT Files (page 54).	

Post-migration steps

23. Complete and verify the MDB to AF synchronization (page 55).
24. Migrate local FTLD interfaces (page 57) (if applicable).
25. Verify that Historian services are running (page 58).
26. Verify that the Historian server is updating data for default tags (page 59).
27. Create a transitory security configuration for the Historian environment (page 60).
28. Disable virus scanning (page 62).
29. Restore the FactoryTalk Historian server communication with the interfaces and clients (page 62).
30. Reconfigure FactoryTalk Historian ME data transfer settings (page 62) (if applicable).
31. Migrate FactoryTalk Services Platform users to the integrated Windows authentication (page 64).
32. Execute the **6_EnvVarsCleaning.bat** file (page 71).
33. Create a backup of your migrated FactoryTalk Historian (page 71).

Migration Steps: Single Historian Server

The migration of a single Historian server consists of the following stages:

1. Pre-migration steps (page 26).
2. Migration steps (page 37).
3. Post-migration steps (page 55).

Pre-migration Steps

In the following sections you will find detailed instructions of pre-migration steps.

Source to Target: Back up FactoryTalk Directory and FactoryTalk Diagnostics Viewer

Perform the following steps if you migrate the server from a source to target computer:

1. If FactoryTalk Directory is located on the source computer, back up the entire FactoryTalk Directory.

   NOTE For more information, refer to section "Back up an entire FactoryTalk Directory" of *FactoryTalk Help* (go to *Start > All Programs > Rockwell Software > FactoryTalk Tools > FactoryTalk Help*).

2. Export and back up messages from the FactoryTalk Diagnostics Viewer.

   NOTE For more information, refer to section "Export diagnostic messages to XML" of *FactoryTalk Diagnostics Viewer Help* (go to *Start > All Programs > Rockwell Software > FactoryTalk Tools > Diagnostic Viewer* to open the viewer, and on the menu bar click **Help > FactoryTalk Diagnostics Viewer Help**).

Stop Local Interfaces

You should stop all the local interfaces for collecting data. Typical local interfaces are:

- FTLD
- OPC
- PI Batch Generator

- PI Ramp Soak Simulator
- PI Random Simulator
- PI-piperfmon_basic

The interfaces may be stopped using System Management Tools in FactoryTalk Historian and/or Administrative Tools in Control Panel. Depending on the method you have used to register them, you may need to use both tools to stop all the interfaces.

To stop the interfaces using the System Management Tools:

1. Click *Start* > *All Programs* > *Rockwell Software* > *FactoryTalk Historian SE* > *System Management Tools*. The **System Management Tools** dialog box appears.
2. Under **Collectives and Servers**, select the server for which you want to stop the interfaces.
3. Under **System Management Plug-Ins**, select **Interfaces** > **Interface List**.
4. Click the name of the interface and click on the toolbar to stop it.
5. Repeat the steps for other interfaces in the interface list.
6. Under **System Management Plug-Ins**, select **Operation** > **PI Services**.
7. Click the name of the interface and click on the toolbar to stop it.
8. Repeat the steps for other interfaces in the interface list.

To stop the interfaces using the Administrative Tools program of Control Panel:

1. Click *Start* > *All Programs* > *Administrative Tools* > *Services*. The **Services** dialog box appears.
2. Right-click the name of the interface, and select **Stop**.

3. Wait until the status of the service changes to *Stopped*.
4. Repeat the steps for other interfaces in the interface list.

Block the Communication with the Historian Server

In order to block the Historian server from communicating with remote interfaces and clients, you need to perform either of the following:

- Disconnect the Historian server computer from the network.
- Block the 5450 TCP port on the firewall that runs on the Historian server computer.

  For more information, refer to the firewall documentation.

  By blocking this port you will ensure that the remote interfaces begin buffering data locally.

Confirm the Event Queue is Empty

To confirm that the Event Queue is empty and no new events are being generated:

1. Run the System Management Tools.
2. Under **System Management Plug-Ins**, select **Operation > Snapshot and Archive Statistics**.
3. Click  several times.
4. Verify that the archived events value is no longer increasing.

NOTE For more information on the Event Queue, refer to the *Introduction to FactoryTalk Historian SE System Management*.

Copy Migration Scripts to the Computer

To copy the migration scripts to your computer:

1. Open the copy of the FactoryTalk Historian SE 3.01 installation DVD on your portable storage device or shared folder.

2. Go to *Redist* > *Migration*.
3. Copy the **Scripts** folder.
4. Paste the folder to a disk on your computer.

   Make sure the path to the folder does not contain any blank spaces, for example: *H:\Scripts*.

   You will execute the scripts from this location during the migration.

Edit and Execute the 0_Locations.bat File

IMPORTANT The path to your local copy of the migration scripts and the Historian backup cannot contain any blank spaces. Otherwise the migration may fail.
Examples of correct paths: *H:\Scripts, H:\FTHSEv2_Backup.*

In this file you will set the environment variables to define paths to files that will be used in the migration process.

To edit the 0_Locations.bat file:

1. Open your local copy of the migration scripts.
2. Edit the **0_Locations.bat** file with administrative privileges.
3. Edit the following:

Item	Description
H:\Scripts	Type the path to the location in which the migration .BAT files are stored.
H:	Type the letter of the drive on which you will store the backup.
H:\FTHSEv2_Backup	Type the path to the location in which you will store the backup.
C:	The letter of the drive on which the FactoryTalk Historian SE 3.01 is to be installed.

```
REM ================== Customization section ==========

REM The location in which the .BAT files are stored.
set uFTHSE_Scripts=H:\Scripts
REM The letter of the drive on which the backup is to
set uFTHSEv2Backup=H:
REM The path to the location in which the backup is t
set uFTHSEv2BackupFolder=H:\FTHSEv2_Backup
REM The letter of the drive on which FactoryTalk Hist
installed
set uFTHSEv3=C:
```

4. If your Historian archives are stored in a location other than the default one:
   1. Remove the *REM* comment from the following line:

      REM set uFTHSEv2ArchiveFolder=D:\archives.

      ```
      REM Set the non default location of the archive fi
      REM Please uncomment and adjust the line below to
      the archive files
      REM set uFTHSEv2ArchiveFolder=D:\archives
      ```

   2. Replace the sample path (*D:\archives*) with the actual path to your Historian archives.
5. Save the file.
6. Execute the file with administrative privileges.

Shift the Historian Archives

To shift the primary archive:

1. Go to *Start* > *All Programs* > *Rockwell Software* > *FactoryTalk Historian SE System Management Tools*. The **System Management Tools** dialog box appears.
2. Under **Collectives and Servers**, select the Historian server whose archives you want to shift.
3. Under **System Management Plug-Ins**, select **Operation** > **Archives**.

4. Under **Archive File**, select the primary archive and click .
5. Click **Yes** in the confirmation message box.
6. Wait until the archive is shifted.

Prepare the Registration .BAT File

NOTE Skip these steps, if you have stored your Historian archives in another location than the default one and the location of the archives before and after the migration is the same, for example: *D:\Historian_archives*.
The default locations of Historian archives are the following:
- For 32-bit operating systems: *C:\Program Files\Rockwell Software\FactoryTalk Historian\Server\PI\dat*
- For 64-bit operating systems: *C:\Program Files(x86)\Rockwell Software\FactoryTalk Historian\Server\PI\dat*

To prepare the registration .BAT file:

1. Click *Start* > *All Programs* > *Rockwell Software* > *FactoryTalk Historian SE* > *System Management Tools*. The **System Management Tools** dialog box appears.
2. Under **Collectives and Servers**, select the server for which you are performing the migration.
3. Under **System Management Plug-Ins**, select **Operation** > **Archives**.
4. Click any of the archives listed.
5. On the toolbar, click , and then select **Registration BAT file**. The **Create piartool registration BAT file** dialog box appears.
6. Navigate to the location on your shared folder or the portable storage device that you are using for the migration.
7. Click **Save**.
8. Exit the System Management Tools and the FactoryTalk Administration Console if you have it open.

9. Go to the location in which you have saved the file and edit it in a text editor.
10. Modify the location paths in all the lines except for those starting with the REM comment:

Replace this path:	With:
C:\Program Files (x86)\Rockwell Software\FactoryTalk Historian\Server\PI\	C:\Program Files\Rockwell Software\FactoryTalk Historian\Server\
C:\Program Files\Rockwell Software\FactoryTalk Historian\Server\PI\	

11. Put each location path in quotation marks.

    The figure below presents a modified registration .BAT file. The location paths point to the new default location of the archives, and they are placed in quotation marks.

```
REM Archive listing from PI Server HAIO-W2K8R2-V22
REM 12/03/2012 04:40:28 AM

REM Registering archive C:\Program Files (x86)\Rockwell Software\FactoryTalk Historian
\Server\PI\dat\piarch.002
"C:\Program Files\Rockwell Software\FactoryTalk Historian\Server\adm\piartool.exe" -ar
"C:\Program Files\Rockwell Software\FactoryTalk Historian\Server\dat\piarch.002"

REM Registering archive C:\Program Files (x86)\Rockwell Software\FactoryTalk Historian
\Server\PI\dat\piarch.003
"C:\Program Files\Rockwell Software\FactoryTalk Historian\Server\adm\piartool.exe" -ar
"C:\Program Files\Rockwell Software\FactoryTalk Historian\Server\dat\piarch.003"

REM Registering archive C:\Program Files (x86)\Rockwell Software\FactoryTalk Historian
\Server\PI\dat\piarch_2012-09-06_00-26-01.arc
"C:\Program Files\Rockwell Software\FactoryTalk Historian\Server\adm\piartool.exe" -ar
"C:\Program Files\Rockwell Software\FactoryTalk Historian\Server\dat\piarch_2012-09-06_00
-26-01.arc"

REM Registering archive C:\Program Files (x86)\Rockwell Software\FactoryTalk Historian
\Server\PI\dat\piarch_2012-09-05_01-52-51.arc
"C:\Program Files\Rockwell Software\FactoryTalk Historian\Server\adm\piartool.exe" -ar
```

12. Save the file.

Execute 1_PreMigrationBackup.bat

Do either of the following:

- Execute the **1_PreMigrationBackup.bat** file from your local copy of the migration scripts.
- Perform these steps manually:
  1. Create the directory structure for the backup (page 33).

2. Create the archive log file (page 34).
3. Stop the Historian server (page 34).
4. Stop the FTLDIntAgent service (page 35).
5. Disable the PI Network Manager service (page 35).
6. Back up the Historian 2.1/2.2 server (page 35).

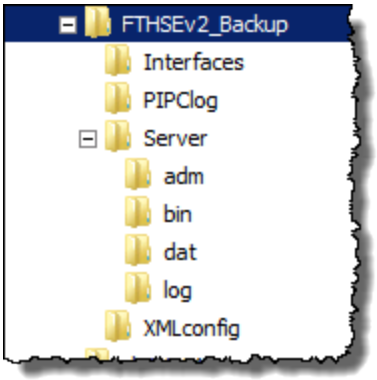
1_BAT: Create the Directory Structure for the Backup

IMPORTANT The path to your Historian backup cannot contain any blank spaces. Otherwise the migration may fail.
A correct path to the backup would be, for example: *H:\FTHSEv2_Backup*.

In these steps you will prepare and perform a backup of the Historian data.

If you perform the steps manually, first you need to create a backup folder structure that would reflect the original structure of FactoryTalk Historian folders that you are about to back up.

Create the following folder structure:



If you migrate the Historian server from a source to target computer, and on both computers you use a location for your Historian archives that is different from the default one, you will also need to create a backup folder for your archives, for example: **FTHSEv2_Backup\Archives**.

NOTE *%piserver%* and *%pihome%* are path variables that point to specific locations in the FactoryTalk Historian system.

1_BAT: Create the Archive Log File

To create the archive log file:

1. Open the Command Prompt window with administrative privileges.
2. Type *cd /d %piserver%\adm* and press Enter.
3. At the command prompt, type *piartool -al* > <*FullPathToTheFile*>\<*filename*>.txt and press Enter.

   For example: *piartool –al > c:\backup\archivelog.txt*.

   The archive log file will be created.

   The file stores a list of all Historian archives. You will need this file when registering archives of the PI Server (page 44).

1_BAT: Stop the Historian Server

To stop the Historian server:

1. Click *Start* > *All Programs* > *Rockwell Software* > *FactoryTalk Historian SE* > *Stop FactoryTalk Historian SE system*. The Command Prompt window appears and a series of commands is executed.
2. Wait until the Command Prompt window is closed and the server is stopped.

1_BAT: Stop the FTLDIntAgent Service

To stop the FTLDIntAgent service:

1. Go to *Start* > *All Programs* > *Administrative Tools* > *Services*. The **Services** dialog box appears.
2. Right-click **FTLDIntAgent** and select **Stop**.
3. Wait until the service is stopped.

1_BAT: Disable the PI Network Manager Service

NOTE The following steps are required to be performed on the source computer only, during the migration from the source to target computer.

To disable the PI Network Manager service:

1. In the **Services** dialog box, right-click **PI Network Manager** and select **Properties**.
2. From the **Startup type** list, select **Disabled**.
3. Click **Apply**.

Disabling this service ensures that the PI server on the source computer is not restarted automatically.

1_BAT: Back up the Historian 2.1/2.2 Server

In this step, you will copy FactoryTalk Historian files to your backup location.

Copy these files:	From these source folders:
All configuration .XML files.	• On a 32-bit operating system: C:\Program Files\Rockwell Software\FactoryTalk Historian\Server • On a 64-bit operating system: C:\Program Files (x86)\Rockwell Software\FactoryTalk Historian\Server
Server-related files: • Data • All files except **pisubsys.cfg** and **pilicence.dat**.	• %piserver% • %piserver%\dat

Copy these files:	From these source folders:
• Scripts • All **.BAT** files.	• %piserver%\adm • %piserver%\bin
• Logs • All **.DAT** files.	• %piserver%\log
FTLD interface-related files: • Configuration **.BAT** files.	• %pihome%Interfaces\LDInterface
PIPC logs:	• %pihome%\dat
(Optional) If your Historian archives are not in the default location:	
• Archive and annotation files.	• The folder in which you keep your Historian archives.

See the following example to learn how to copy the files using the *xcopy* command.

In this example, we will copy the **.BAT** files from the **%piserver%\adm** folder to the **H:\FTHSEv2_Backup\Server\adm** backup folder.

To back up .BAT files from the %piserver%\adm folder:

1. Open the Command Prompt window.
2. Type *cd /d %piserver%\adm* and press Enter.
3. Type *xcopy /O *.bat h:\FTHSEv2_Backup\Server\adm* and press Enter.

   The files that have been copied are listed in the Command Prompt window.
4. Repeat the steps for the other folders that you need to back up.

NOTE It is recommended to use the **xcopy /O** command in order to retain extended permissions to the folders being copied.
For more information, see the Microsoft Knowledgebase article (http://support.microsoft.com/kb/323007).

Source to Target: Rename the Source Computer

NOTE It is recommended that you change both the name and the IP address of the source computer so that you can transfer the original name and IP to the target computer. If the target computer has a different IP address than the source computer has originally had, you will need to update all the trusts in the Historian environment that make references to the original IP address.

Perform the following steps on the source computer:

1. Rename the source computer (with FactoryTalk Historian SE 2.1/2.2) so that you can use the original name for the target computer (with FactoryTalk Historian SE 3.01).
2. Restart the computer.
3. Move the backup files from the source to the target computer.
4. Turn off the source computer.

Source to Target: Rename the Target Computer

Perform the following steps on the target computer:

1. Set the name of the target computer as it originally was on the source computer.
2. Restart the computer.

Migration Steps

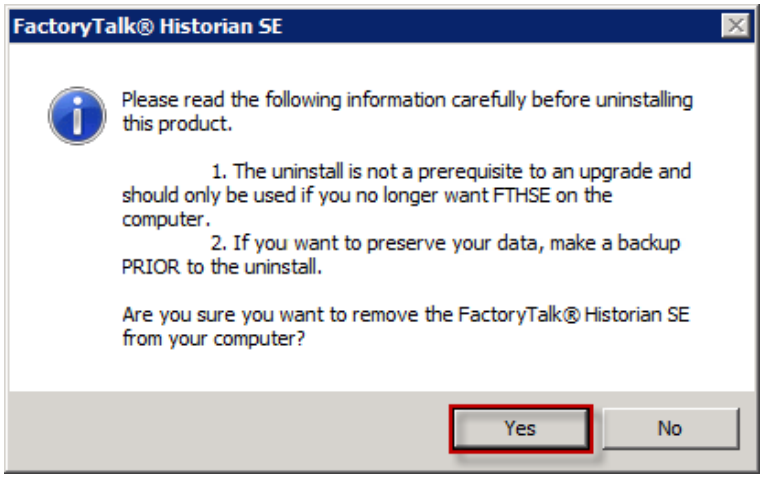
In the following sections you will find detailed instructions on migration steps.

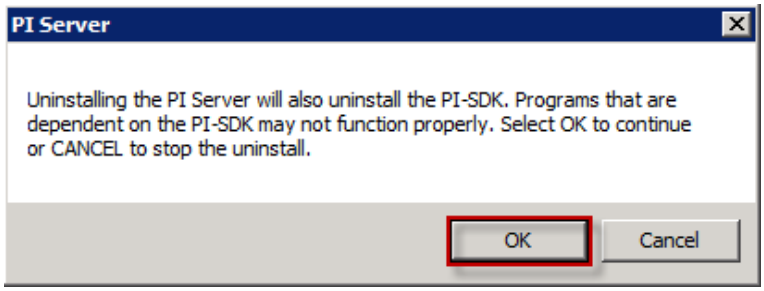
Remove Historian 2.1/2.2 from the Computer

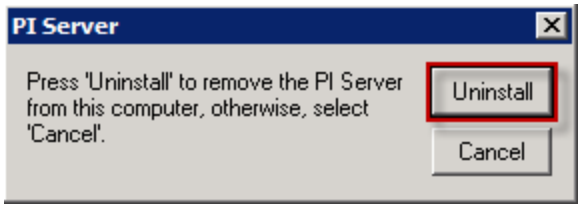
To prepare a single computer for the upgrade:

1. Remove the Historian server from the computer.
   1. Go to *Start* > *All Programs* > *Rockwell Software* > *FactoryTalk Historian SE* > *Uninstall FactoryTalk Historian SE*. The removal wizard appears.
   2. Follow the on-screen instructions to complete the process.

During the removal process, make sure to click **Yes**, **OK**, and **Uninstall** in the following message boxes:







2. Remove any other FactoryTalk Historian components, such as FactoryTalk Historian ActiveView, FactoryTalk Historian DataLink, FactoryTalk Historian ProcessBook, and FactoryTalk Historian Management Tools.
3. Remove any applications whose names begin with OSIsoft or PI.
4. Verify in Control Panel that all components whose names begin with FactoryTalk Historian, OSIsoft, or PI have been removed.
5. Restart the computer.

Install FactoryTalk Services Platform

NOTE FactoryTalk Historian Live Data Interfaces of FactoryTalk Historian SE 3.01 are supported on FactoryTalk Services Platform SR4, SR5 and SR5.1. If you currently have either SR4 or SR5 installed, it is your choice whether to upgrade to SR5.1 or not. Typically, this is dependant upon what type of the Data server you have installed on the computer and its compatibility with FactoryTalk Services Platform. In general, it is considered best practice to upgrade FactoryTalk Services Platform to the latest version.

To install FactoryTalk Services Platform:

1. On the FactoryTalk Historian SE 3.01 installation DVD, click *Install FactoryTalk Historian Site Edition* > *Install FactoryTalk Services Platform* > *Install FactoryTalk Services Platform*.
2. Follow the on-screen instructions to complete the process.

   NOTE You can choose to restart the computer later, after you have installed FactoryTalk Activation Manager.

Install RSLinx Enterprise (Optional)

To install RSLinx Enterprise:

1. On the FactoryTalk Historian SE 3.01 installation DVD, click *Install FactoryTalk Historian Site Edition* > *Install RSLinx Enterprise*.
2. Follow the on-screen instructions to complete the process.

   NOTE You can choose to restart the computer later, after you have installed FactoryTalk Activation Manager.

Source to Target: Configure FactoryTalk Directory and FactoryTalk Activation Manager on the Target Computer

Perform the following steps on the target computer:

1. If the target computer functions also as the FactoryTalk Directory, restore the backup files from the exported data of FactoryTalk Services Platform.
2. If the target computer does not function as the FactoryTalk Directory, specify the location of the FactoryTalk Directory using the **Specify FactoryTalk Directory Location** utility.

   NOTE For more information, refer to the *FactoryTalk Historian SE Installation and Configuration Guide*, section "Specify FactoryTalk Directory Server Location".

3. If the target computer does not function as the FactoryTalk Activation server, run the FactoryTalk Activation Manager and specify the FactoryTalk Activation server that stores Historian licenses.

   NOTE For more information, refer to the FactoryTalk Activation leaflet available with your FactoryTalk Historian SE package and the *FactoryTalk Activation Manager Help*.

4. If the target computer functions also as the FactoryTalk Activation server:
   1. Get new license activations for the target computer or rehost the existing activations using the FactoryTalk Activation Manager.
   2. Save the new activations in the location indicated by the FactoryTalk Activation Manager.

      NOTE For more information, refer to the FactoryTalk Activation leaflet available with your FactoryTalk Historian SE package and the *FactoryTalk Activation Manager Help*.

Execute 2_TargetFolderStruct.bat

Do either of the following:

- Execute the **2_TargetFolderStuct.bat** file from your local copy of the migration scripts.
- Perform the steps described below manually.

NOTE Perform the steps 1 and 2 of the following procedure for the migration on a single computer only.

To create the target folder structure:

1. Rename the **C:\Program Files\Rockwell Software\FactoryTalk Historian\Server\PI** folder so that archives from the folder do not get automatically registered after the upgrade.
2. Rename the **PIPC.ini** file in the **C:\Windows** directory.
3. Create the following paths:
   - *C:\Program Files\Rockwell Software\FactoryTalk Historian\PIPC*
   - *C:\Program Files\Rockwell Software\FactoryTalk Historian\Server*
   - *C:\Program Files (x86)\Rockwell Software\FactoryTalk Historian\PIPC*

   NOTE: For more information, refer to the Microsoft support (http://support.microsoft.com/kb/142982/en-us) article.

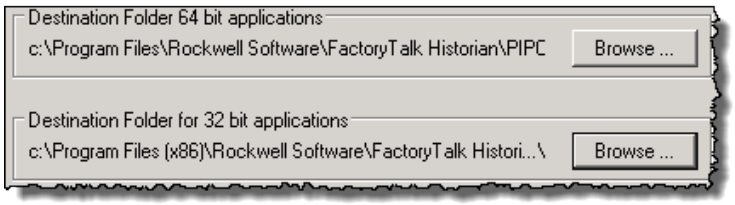
Install the Intermediate PI Server FTHSE 22 x64 (PI Server 3.4.375x64)

NOTE During this installation, we will accept the majority of the default settings, except when defining the paths.

To install the PI server:

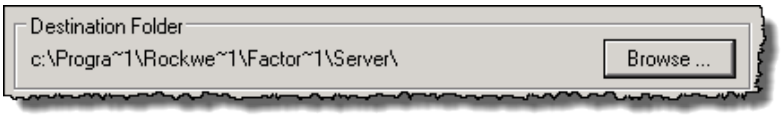
1. Open the copy of the FactoryTalk Historian SE 3.01 installation DVD on your portable storage device or shared folder.
2. Go to the **Redist\Migration\PI375x64** folder, and double-click **setup.exe**. The **PI Server X64 Setup** installation wizard appears.

3. Follow the on-screen instructions to complete the process.
   - On the **License Agreement** page, where you are prompted for the license file folder, navigate to the **Redist\Migration\Licenses\Intermediate** folder on your copy of the installation DVD. The system will use the **pilicense.dat** file that is stored in the folder.
   - On the **User Information** page, for the serial number, type *1*.
   - On the **Default Interface Destination** page:
     - For the 64-bit path, point to *C:\Program Files\Rockwell Software\FactoryTalk Historian\PIPC*
     - For the 32-bit path, point to *C:\Program Files (x86)\Rockwell Software\FactoryTalk Historian\PIPC*



   - On the **Destination Folder** page, for the destination folder of the PI server, type the short file path name to the location in which the intermediate PI server.

     For example: *C:\Progra~1\Rockwe~1\Factor~1\Server*



NOTE The number after the tilde may differ for each folder in the path. See "Check the Short Name of Folders (page 43)" for details.

4. Accept the remaining default settings and follow the instructions on the screen to complete the installation.

NOTE Do not restart the server after the installation is complete.

Check the Short Name of Folders

To check the short names of folders:

1. Open the Command Prompt window.
2. Navigate to the parent folder of the folder whose short name you want to check.
3. Type *dir <FirstLettersOfFolderName>*.*/x* and press Enter.
4. In the information that is displayed, check the short name of the folder you have indicated.
5. Repeat the steps for all other folders in the location path to the PI server.

In the example presented below, we will check the short name of the Program Files folder.

To check the short name of the Program Files folder:

1. Open the Command Prompt window.
2. Navigate to the root level of the drive, on which you want to install the intermediate PI server.
3. Type *dir prog*.*/x* and press Enter.
4. In the information that is displayed, check the short name of the 64-bit Program Files folder.

```
Command Prompt
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation.  All rights reserved.

C:\>e:

E:\>dir prog*.* /x
 Volume in drive E is New Volume
 Volume Serial Number is 0011-0F75

 Directory of E:\

10/23/2012  03:51 AM    <DIR>          PROGRA~2      Program Files
10/23/2012  03:51 AM    <DIR>          PROGRA~1      Program Files (x86)
               0 File(s)              0 bytes
               2 Dir(s)  36,232,069,120 bytes free

E:\>_
```

In this example, the short name for the Program Files folder is *PROGRA~2*.

Execute 3_RestorePIPart.bat

Do either of the following:

- Execute the **3_RestorePIPart.bat** file from your local copy of the migration scripts.
- Perform the steps described below manually.

NOTE Perform these steps without starting the server.

To copy and rename backed up files:

1. Copy the backup files using the **xcopy /O/Y** command, overwriting the existing ones, if prompted:

   Go to individual folders (**Server\dat**, **Server\bin**, **Server\adm**, and **Server\log**) in your backup directory, and copy all the backup files to respective folders:

   - The files from *Server/dat* copy to *C:\Program Files\Rockwell Software\FactoryTalk Historian\Server\dat*.
   - The files from *Server/bin* copy to *C:\Program Files\Rockwell Software\FactoryTalk Historian\Server\bin*.
   - The files from *Server/adm* copy to *C:\Program Files\Rockwell Software\FactoryTalk Historian\Server\adm*.

- The files from *Server/log* copy to *C:\Program Files\Rockwell Software\FactoryTalk Historian\Server\log*.
- (Optional). If you migrate the Historian server from a source to target computer, and on both computers you use a location for your Historian archives that is different from the default one:
  1. Create the target folder in which you want to keep the Historian archives on a disk, for example: *G:\HistorianArchives*.
  2. Copy the files from the **FTHSEv2_Backup\Archives** folder to the target folder.

2. Rename the **pirunonce.dif** file located under *C:\Program Files\Rockwell Software\FactoryTalk Historian\Server\adm* so it will not be executed during the first start of the server.

Execute 4_StartAndConfigPIX64.bat

Do either of the following:

- Execute the **4_StartAndConfigPIX64.bat** file from your local copy of the migration scripts.
- Perform the steps described below manually.

To start and configure the intermediate PI server:

1. Start the intermediate PI server using the **pisrvstart.bat** command:
   1. Open the Command Prompt window.
   2. Navigate to *C:\Program Files\Rockwell Software\FactoryTalk Historian\Server\adm*.
   3. Type *pisrvstart* and press Enter.
   4. Wait until the server is started.

2. Modify the tuning parameters in the PI System Management Tools:
   1. Go to *Start* > *All Programs* > *PI System* > *PI System Management Tools*. The **System Management Tools** dialog box appears.
   2. Under **System Management Plug-Ins**, go to **Operation** > **Tuning Parameters**.
   3. Go to the **Archive** tab, and double-click **Archive_AutoArchiveFileRoot**. The parameter dialog box appears.
   4. Under **Value**, update the location so that it points to:
      - For archives stored in the default location:

        *C:\Program Files\Rockwell Software\FactoryTalk Historian\Server\dat\piarch_*

      - For archives stored in another location than the default one:

        *<ArchiveLocation>\piarch_*

        For example: *D:\Historian_archives\piarch_*
   5. Go to the **Snapshot** tab, select **Snapshot_EventQueuePath**, and set **Value** to the following location:

      C:\Program Files\Rockwell Software\FactoryTalk Historian\Server\dat
   6. Click **OK**.

Register the Archives

NOTE Skip the following steps, if you have stored your Historian archives in another location than the default one and the location of the archives before and after the migration is the same, for example: *D:\Historian_archives*.

The default locations of Historian 2.1/2.2 archives are the following:

- For 32-bit operating systems:
  C:\Program Files\Rockwell Software\FactoryTalk Historian\Server\PI\dat
- For 64-bit operating systems:
  C:\Program Files(x86)\Rockwell Software\FactoryTalk Historian\Server\PI\dat

To register and verify the server archives:

1. Run the registration .BAT file that you have created in "Prepare the Registration .BAT File (page 31)". The files are registered.
2. Go to *Start* > *All Programs* > *PI System* > *PI System Management Tools*. The **System Management Tools** dialog box appears.
3. Under **System Management Plug-Ins**, go to **Operation** > **Archives**.

   A list of the archives registered with the registration .BAT file is displayed.
4. Check if the list of the archives is the same as it was before the migration.

Remove Old References to the Archives

NOTE

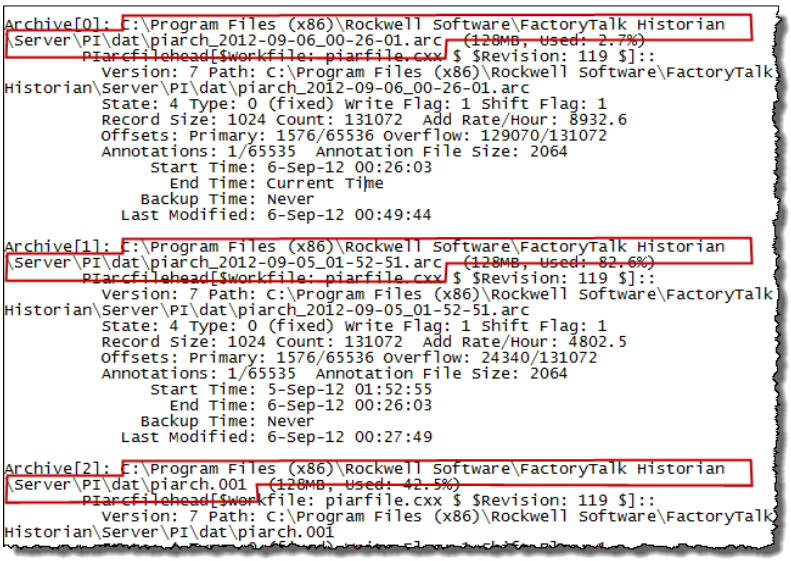
Skip these steps, if you have stored your Historian archives in another location than the default one and the location of the archives before and after the migration is the same, for example: *D:\Historian_archives*. The default locations of Historian archives are the following:

- For 32-bit operating systems:
  C:\Program Files\Rockwell Software\FactoryTalk Historian\Server\PI\dat
- For 64-bit operating systems:
  C:\Program Files(x86)\Rockwell Software\FactoryTalk Historian\Server\PI\dat

To remove old references to the archives:

1. Open the **archivelog.txt** file from your backup on the portable storage device or shared folder.

   From this file, you will copy the locations of **all** the archives listed there.



```
Archive[0]: C:\Program Files (x86)\Rockwell Software\FactoryTalk Historian
\Server\PI\dat\piarch_2012-09-06_00-26-01.arc  (128MB, Used: 2.7%)
        PIarcfilehead[$Workfile: piarfile.cxx $ $Revision: 119 $]::
          Version: 7 Path: C:\Program Files (x86)\Rockwell Software\FactoryTalk
Historian\Server\PI\dat\piarch_2012-09-06_00-26-01.arc
          State: 4 Type: 0 (fixed) Write Flag: 1 Shift Flag: 1
          Record Size: 1024 Count: 131072  Add Rate/Hour: 8932.6
          Offsets: Primary: 1576/65536 Overflow: 129070/131072
          Annotations: 1/65535  Annotation File Size: 2064
               Start Time: 6-Sep-12 00:26:03
                 End Time: Current Time
             Backup Time: Never
            Last Modified: 6-Sep-12 00:49:44

Archive[1]: C:\Program Files (x86)\Rockwell Software\FactoryTalk Historian
\Server\PI\dat\piarch_2012-09-05_01-52-51.arc  (128MB, Used: 82.6%)
        PIarcfilehead[$Workfile: piarfile.cxx $ $Revision: 119 $]::
          Version: 7 Path: C:\Program Files (x86)\Rockwell Software\FactoryTalk
Historian\Server\PI\dat\piarch_2012-09-05_01-52-51.arc
          State: 4 Type: 0 (fixed) Write Flag: 1 Shift Flag: 1
          Record Size: 1024 Count: 131072  Add Rate/Hour: 4802.5
          Offsets: Primary: 1576/65536 Overflow: 24340/131072
          Annotations: 1/65535  Annotation File Size: 2064
               Start Time: 5-Sep-12 01:52:55
                 End Time: 6-Sep-12 00:26:03
             Backup Time: Never
            Last Modified: 6-Sep-12 00:27:49

Archive[2]: C:\Program Files (x86)\Rockwell Software\FactoryTalk Historian
\Server\PI\dat\piarch.001  (128MB, Used: 42.5%)
        PIarcfilehead[$Workfile: piarfile.cxx $ $Revision: 119 $]::
          Version: 7 Path: C:\Program Files (x86)\Rockwell Software\FactoryTalk
Historian\Server\PI\dat\piarch.001
```

2. Open the Command Prompt window.
3. At the command prompt, go to *Program Files\Rockwell Software\FactoryTalk Historian\Server\adm*.
4. Execute the **piartool** command so that it points to your old location of the archive, following the syntax:

piartool –au *"OldPathToTheArchive\ArchiveFileName.arc"*

Make sure to place the path to the archive in quotation marks.

The example below presents the **piartool** command pointing to the archive file located in the old archive directory, *(i.e., C:\Program Files(x86)\Rockwell Software\FactoryTalk Historian\Server\PI\dat)*.

```
c:\Program Files\Rockwell Software\FactoryTalk Historian\Server\adm>piartool -au "C:\Progr
am Files (x86)\Rockwell Software\FactoryTalk Historian\Server\PI\dat\piarch_2012-09-06_00-
26-01.arc"
```

5. Press Enter and wait until the reference to the archive is removed from the system.
6. Repeat the steps for all the other archives listed in the **archivelog.txt** file.

Stop the Intermediate Server

To stop the server:

1. Open the Command Prompt window.
2. Navigate to *C:\Program Files\Rockwell Software\FactoryTalk Historian\Server\adm*.
3. Type *pisrvstop* and press Enter.
4. Wait until the server is stopped.

Install FactoryTalk Historian Asset Framework

Install Microsoft SQL Server and FactoryTalk Historian Asset Framework Server.

To install Microsoft SQL Server:

1. Run the FactoryTalk Historian SE installation DVD.
2. On the welcome page of the installation wizard, click *Install FactoryTalk Historian SE > Install FactoryTalk Historian Asset Framework > Install Microsoft SQL Server 2008 Express.*

   The installation wizard appears.

3. Follow the on-screen instructions to complete the process.

To install FactoryTalk Historian Asset Framework Server:

1. Run the FactoryTalk Historian SE installation DVD.
2. On the welcome page of the installation wizard, click *Install FactoryTalk Historian SE* > *Install FactoryTalk Historian Asset Framework* > *Install FactoryTalk Historian AF Server*.
3. Follow the on-screen instructions to complete the process.

Install FactoryTalk Historian Management Tools

To install FactoryTalk Historian Management Tools:

1. If your System Management Tools application is still open, close it before you start the installation.
2. Run the FactoryTalk Historian SE installation DVD.
3. On the welcome page of the installation wizard, click *Install FactoryTalk Historian Site Edition* > *Install FactoryTalk Historian Management Tools*.
4. Follow the on-screen instructions to complete the process.
5. If prompted, restart the computer.

Start the Intermediate Server

To start the server:

1. Open the Command Prompt window.
2. Navigate to *C:\Program Files\Rockwell Software\FactoryTalk Historian\Server\adm*.
3. Type *pisrvstart* and press Enter.
4. Wait until the server is started.

Prepare MDB to AF Synchronization

To prepare the MDB to AF synchronization:

1. Click *Start* > *All Programs* > *Rockwell Software* > *FactoryTalk Historian SE* > *System Management Tools*. The **System Management Tools** dialog box appears.
2. Under **System Management Tools**, select **Operation > MDB to AF Synchronization**.
3. On the toolbar, click . The **PI MDB to AF Preparation Wizard** appears.
4. Follow the on-screen instructions to complete the process.

Stop the Intermediate Server

To stop the server:

1. Open the Command Prompt window.
2. Navigate to *C:\Program Files\Rockwell Software\FactoryTalk Historian\Server\adm*.
3. Type *pisrvstop* and press Enter.
4. Wait until the server is stopped.

Upgrade the Historian Server to Version 3.01

To upgrade the Historian server to version 3.01:

1. Open your copy of the FactoryTalk Historian installation DVD.
2. Go to *Setup\InstallationManager\InstallationConfiguration*.
3. Open the **FTHistorianSE.xml** file for editing.

4. Set the **RESTARTSRV** parameter to **NO** so that the server is not restarted after the installation, and default settings are not loaded.

```
- <Component>
    <Name>^FactoryTalk Historian SE \d{1}\.\d{1,2} Server Core x64
      Installer$</Name>
    <DisplayName>FactoryTalk Historian Site Edition 3.00 x64
      Core</DisplayName>
    <DistributionDir>..\..\Redist\OtherComponents</DistributionDir>
    <SetupFileName>FTHServerCoreInstaller x64.exe</SetupFileName>
    <IniFileName />
    <Version>3.00.00.1117</Version>
    <InstallType>msi</InstallType>
    <InstallSize>1</InstallSize>
    <InstallArg>/s /v"/qn INSTALLDIR=\"%INSTALLDIRPISERVER%\"
      RESTARTSRV=\"YES\""</InstallArg>
    <RebootRequired>false</RebootRequired>
    <RebrandingRequired>false</RebrandingRequired>
  </Component>
```

5. On your copy of the FactoryTalk Historian installation DVD, click **Setup.exe** to install the FactoryTalk Historian SE 3.01 server:

   1. Click *Install FactoryTalk Historian Site Edition* > *Install FactoryTalk Historian Server*.
   2. Follow the on-screen instructions to complete the process.

IMPORTANT Do not reboot computer, even if prompted, and do not start the Historian server.

Check if the Communication to the Historian Server is Blocked

During the installation of the Historian server the 5450 TCP port is automatically open for accepting incoming connections.

If you have blocked the communication with the Historian server by blocking the 5450 TCP port, make sure that the port is still blocked on the firewall after the FactoryTalk Historian SE 3.01 is installed.

For more information, refer to the firewall documentation.

Execute 5_RestoreRAPart.bat

Do either of the following:

- Execute the **5_RestoreRAPart.bat** file from your local copy of the migration scripts.
- Perform these steps manually:
  1. Restore and rename files (page 54).
  2. Merge customized .BAT files (page 54).
  3. Start the Historian server (page 55).
  4. Update database security settings (page 55).

> **ATTENTION**
>
> When upgrading the secondary server in a collective, do not execute the **5_RestoreRAPart.bat** file. Instead, perform the following steps manually:
> 1. Restore and rename files (page 54).
> 2. Merge customized .BAT files (page 54).

5_BAT: Restore Files

Restore the Historian server configuration .XML files stored in the **XMLconfig** folder to the **C:\ProgramData\Rockwell Automation\FactoryTalk Historian** folder.

NOTE In certain configurations of the Windows operating system, the **ProgramData** directory may be hidden from the user. In such a case, you may need to change the Windows settings so that the folder becomes visible and accessible to you.

5_BAT: Merge Customized .BAT Files

WARNING The following steps should be performed by advanced users only.

During the installation of FactoryTalk Historian SE 3.01, the .BAT files stored in the following folders have been overwritten.

- *C:\Program Files\Rockwell Software\FactoryTalk Historian\Server\adm*
- *C:\Program Files\Rockwell Software\FactoryTalk Historian\Server\bin*

If you customized the .BAT files for FactoryTalk Historian SE 2.1/2.2 and you want to use the customized settings from these files in FactoryTalk Historian SE 3.01:

1. Compare the .BAT files that you have backed up from the **adm** and **bin** folders to your backup directory (page 35) with the current .BAT files for the version 3.01.
2. Merge the content that you want to use for the 3.01 server in the current files.

5_BAT: Start the Historian Server

To start the Historian server:

1. Go to *Start* > *All Programs* > *Rockwell Software* > *FactoryTalk Historian SE* > *Start FactoryTalk Historian SE*.
2. Wait until the server is started.

5_BAT: Update Database Security Settings

To update database security settings for new objects:

1. At the command prompt, type *piconfig* < *migration.dif*, and press Enter.
2. Wait until the security settings of new database tables are updated.
3. Check if the new database security settings are consistent with those migrated from the database security model of FactoryTalk Historian SE 2.1/2.2. Adapt the settings in case of inconsistencies.

Post-migration Steps

In the following sections you will find detailed instructions of post-migration steps.

Complete and Verify the MDB to AF Synchronization

To complete the MDB to AF synchronization:

1. Create a security mapping for the FTHEngineers group. In FactoryTalk Historian SE 2.1/2.2 this group was assigned to manage the MDB.
   1. On the Active Directory, create an FTHEngineers group.
   2. On the Historian server computer, go to *Start* > *All Programs* > *Rockwell Software* > *FactoryTalk Historian SE* > *System Management Tools*. The **System Management Tools** dialog box appears.

3. Under **System Management Tools**, select **Security > Mappings & Trusts**.
4. On the toolbar, click . The **Add New Mapping** dialog box appears.
5. Click **Browse** next to **Windows Account**. The **Select User, Computer, or Group** dialog box appears.
6. Select the **FTHEngineers** group that you have created on the Active Directory computer.
7. Click **OK**.
8. Click **Browse** next to **PI Identity**. The **Select PI Identity, PI Group, or PI User** dialog box appears.
9. Under **Type**, select **PI Groups**.
10. Under **Name**, select **FTHEngineers**, and click **OK**.
11. Click **OK**.

2. Using System Management Tools, restart the **PI AF Link Subsystem** service:
   1. Under **System Management Tools**, select **Operation > PI Services**.
   2. Right-click PI AF Link Subsystem, and click **Stop Service**.
   3. Wait until the service is stopped.
   4. Right-click the service again, and click **Start Service**.
   5. Wait until the service is started.
3. Using System Management Tools, verify the MDB to AF synchronization:
   1. Under **System Management Tools**, select **Operation > MDB to AF Synchronization**.

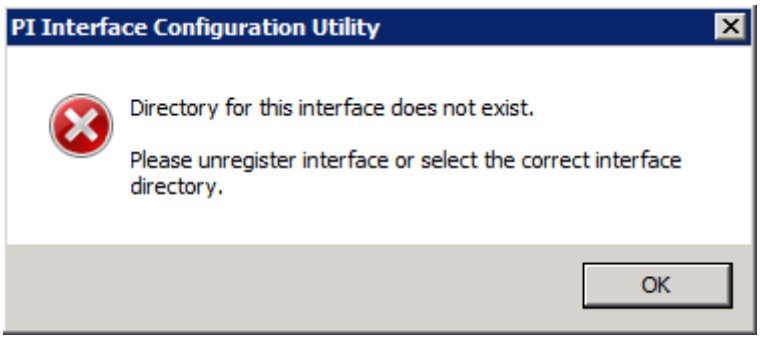
      If the synchronization is operating correctly, a green icon appears next to the name of the server.

Migrate Local FTLD Interfaces (If Applicable)

NOTE For collectives, this step is required for the primary server only.

To migrate FTLD local interfaces:

1. Copy the backed up interface .BAT file to *C:\Program Files (x86)\Rockwell Software\FactoryTalk Historian\PIPC\Interfaces\LDInterface*.
2. Run the Interface Configuration Utility and restore the local interface:
   1. Go to *Start* > *All Programs* > *Rockwell Software* > *FactoryTalk Historian SE* > *Interface Configuration Utility*. The **Interface Configuration Utility** dialog box appears.
   2. From the **Interface** list, select the local FTLD interface.
   3. In the error message box that appears, click **OK**.



   4. On the toolbar, click . The interface you have selected gets unregistered.
   5. Click . The **Open Interface Configuration File** dialog box appears.
   6. Navigate to and select the .BAT file you have just copied.
   7. Click **Open**. The interface settings are displayed in the **Interface Configuration Utility** dialog box.
   8. Click **Service**, and check the service-related settings. Modify them, if necessary.

9. Under **Service Configuration**, change **Display name** to *FTLDx*, where *x* is your interface ID number, for example: *FTLD1*.
10. Click **Create** to create a service for the interface.
11. In the message box that appears, click **Yes** or **No** depending on how you want the interface service to be configured.
12. Click **FTLDInt**, and type */MultiCOM* at the beginning of the parameter list.
13. Click **Apply**.
14. On the toolbar, click  to start the interface service.

Verify that Historian Services are Running

Use Historian Services in System Management Tools to view, configure, start and stop Historian services for each connected Historian server. The status of each service is updated every 30 seconds by default. You may change this refresh rate. You can also view the status, errors, and thread details for services used by the connected Historian server, and export a list of Historian services.

To open Historian services:

1. Click *Start* > *Program Files* > *Rockwell Software* > *FactoryTalk Historian SE* > *System Management Tools*. The **System Management Tools** dialog box appears.
2. Under **Collectives and Servers**, select the server for which you want to view the information.
3. Under **System Management Tools**, select **Operation > PI Services**.
4. Verify that the following Historian services and default interfaces are running:
   - Archive Subsystem
   - Backup Subsystem

- Base Subsystem
- License Manager
- Network Manager
- Ramp Soak Simulator (rmp_sk) Interface
- Random Simulator (random) Interface
- Snapshot Subsystem
- SQL Subsystem
- Update Manager

Depending on your license, you might see additional services.

Verify that the Historian Server is Updating Data for Default Tags

To verify that the Historian server is updating data for default tags:

1. On the computer with the Historian server installed, go to *Start* > *All Programs* > *Rockwell Software* > *FactoryTalk Historian SE* > *System Management Tools*. The **System Management Tools** dialog box appears.
2. Under **Collectives and Servers**, select the Historian server whose data you want to view.
3. Under **System Management Tools**, select **Data** > **Archive Editor**.
4. In the **(Tag Not Specified)** tab, click  The **Tag Search** dialog box appears.
5. In the **Tag Mask** text box, type *cdt158*, and click **Search**.

   The **cdt158** tag appears in the search results list.
6. Click **OK**.

   The list of events of the selected tag is displayed in the tab in the right pane of the **System Management Tools** dialog box.

NOTE For more information on the Archive Editor, click .

Create a Transitory Security Configuration for the Historian Environment

Perform the following steps to ensure communication between the upgraded Historian server and the computers that communicate with the server.

To create a transitory security configuration:

1. Go to *Start* > *All Programs* > *Rockwell Software* > *FactoryTalk Historian SE* > *System Management Tools*. The **System Management Tools** dialog box appears.
2. Under **System Management Tools**, select **Security** > **Mappings & Trusts**.
3. Click the **Trust** tab, and then on the toolbar. The **Add Trust Wizard** appears.
4. Fill in the following information:

For:	Type:
Trust Name	Subnetwork
Trust Description	This is a transitory solution after the migration.

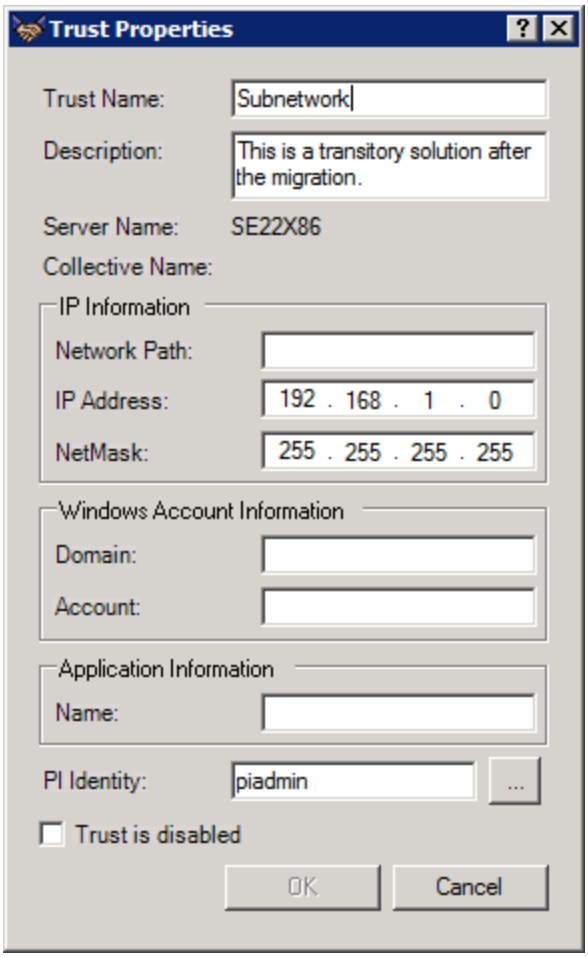
5. Click **Next** until the **Specify Client Connection Information** page appears.
6. Fill in the following information:

For:	Do:
Network Path	Leave this box empty.
IP Address	Type the IP address of your subnetwork. For example: If you have a subnetwork IP address *192.168.1.x*, where *x* is a range from 1 to 255, you will type *192.168.1.0*.
NetMask	Type the net mask for your subnetwork. For the example presented above, it would be *255.255.255.0*.

Click **Next**.

7. On the **Select PI User** page, click **Browse** next to **PI Identity**. The **Select PI Identity, PI Group, or PI User** dialog box appears.
8. Under **Type**, select **PI Users**.
9. Under **Name**, select **piadmin**, and click **OK**.
10. Click **Finish** to close the wizard.

    The trust has been added to the trust list.



Disable Virus Scanning

Rockwell Automation considers it a good practice to exclude the following directories from anti-virus software scanning:

- On Historian server computers, exclude the **Server\dat** directory and any directory where archive or event queue files are located.
- For Interface nodes, exclude the **pipc\dat** and **pipc\log** directories, as well as the directory where buffer queue files are located.

By excluding these directories you avoid random signature match incidents, potential performance impacts, and conflicts with locked files.

NOTE For more details, see the *FT Historian SE Server Reference Guide*, available in the **Redist\Docs** folder on the FactoryTalk Historian SE installation DVD and in the **Common Files\Rockwell\Help** folder in your **Program Files** directory.

Restore the Communication to the Historian Server

In order to restore the communication of the Historian server with remote interfaces and clients, you need to unblock the 5450 TCP port on the firewall that runs on the computer hosting the server.

For more information, refer to the firewall documentation.

Source to Target: Reconfigure Historian ME Data Transfer (If Applicable)

If you transfer data from Historians ME to your Historian SE and you have changed the IP address of your Historian SE server during the migration, you need to update the data transfer configuration of your Historians ME so that it points to the new IP address of the Historian SE server.

To update the Historian ME data transfer configuration:

1. Open Microsoft Internet Explorer.
2. In the address bar, type the IP address of your Historian ME module, and then press Enter.
3. On the logon page, type your user ID and password, and then press Enter.
4. Click **Configure Historian**.
5. Click **Data Transfer**.
6. Under **Data Transfer**, in the **Host Server** text box type the new IP address of your Historian SE server.
7. Click **Test Connection**.
8. Once the connection to the Historian SE server is established, click **Save**.

   Changing the IP address results in stopping the data transfer.

   When prompted, restart the data transfer:

   1. Under **Data Transfer Parameters**, click **Start**.

      When the data transfer is restarted, its status changes to **Running**.
9. Repeat the steps for all other Historians ME that you use.

Migrate FactoryTalk Services Platform Users to the Integrated Windows Authentication

ATTENTION

Before performing the following procedure, verify if your Historian computer supports the integrated Windows authentication.
To check the Windows authentication support on your Historian computer, see "Verify if the FactoryTalk Historian Computer Supports Windows Authentication (page 68)".
If it does not support it, you will need to create an explicit trust for this Historian computer.
To learn how to create an explicit trust, see "Create a Trust for a Historian Computer without Windows Authentication Support (page 69)".

Perform the following steps to migrate FactoryTalk Services Platform users to the integrated Windows authentication.

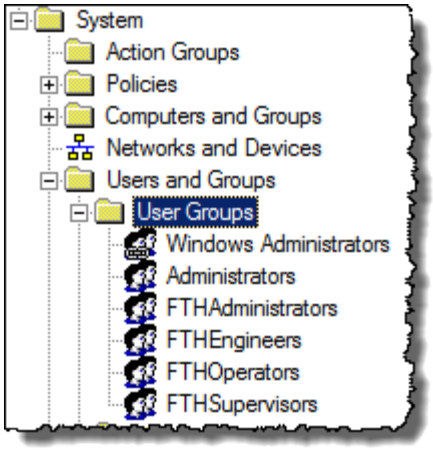
The steps use the FTHAdministrators group as the example. Make sure to repeat the steps for all other FTH groups, (i.e., FTHEngineers, FTHOperators, and FTHSupervisors).

Map this group:	To these PI users:
FTHAdministrators	piadmin
FTHEngineers	FTHEngineer
FTHSupervisors	FTHSupervisor
FTHOperators	FTHOperator

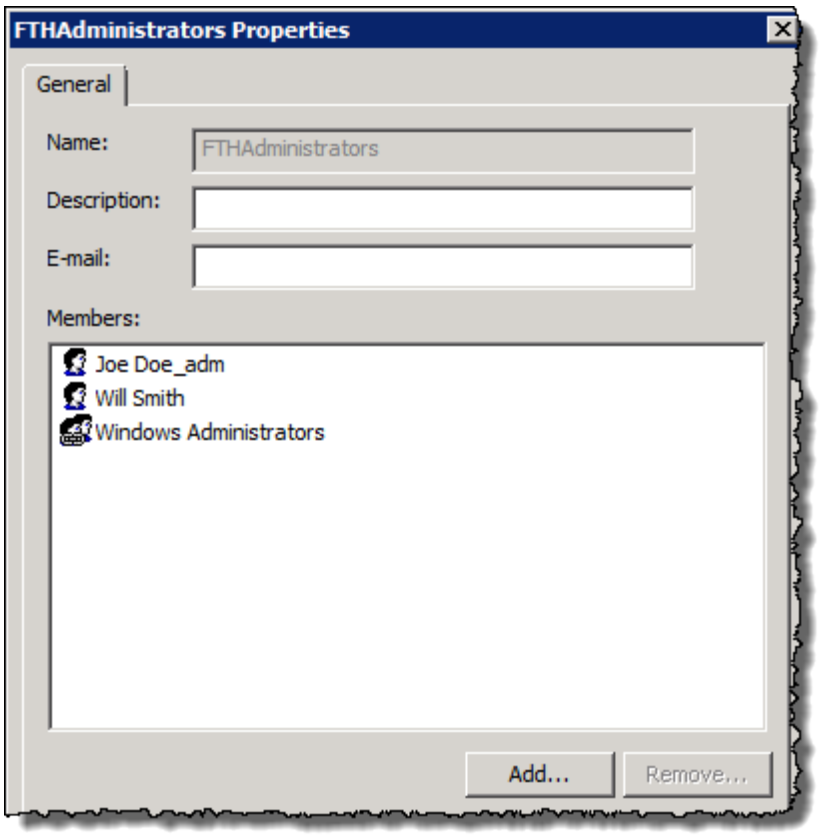
To migrate PI users to the integrated Windows authentication:

1. Go to *Start* > *All Programs* > *Rockwell Software* > *FactoryTalk Administration Console*. The **FactoryTalk Administration Console** dialog box appears.

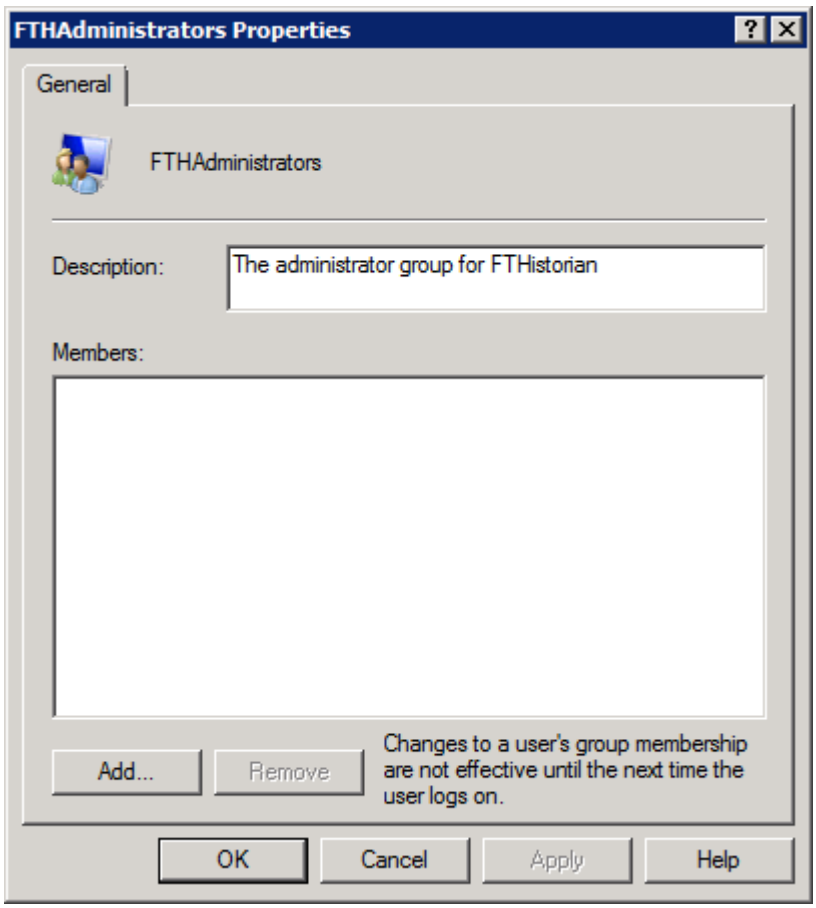
2. In the **Explorer** tree, go to **Systems** > **Users and Groups** > **User Groups**.



3. Double-click **FTHAdministrators**. The properties dialog box appears.



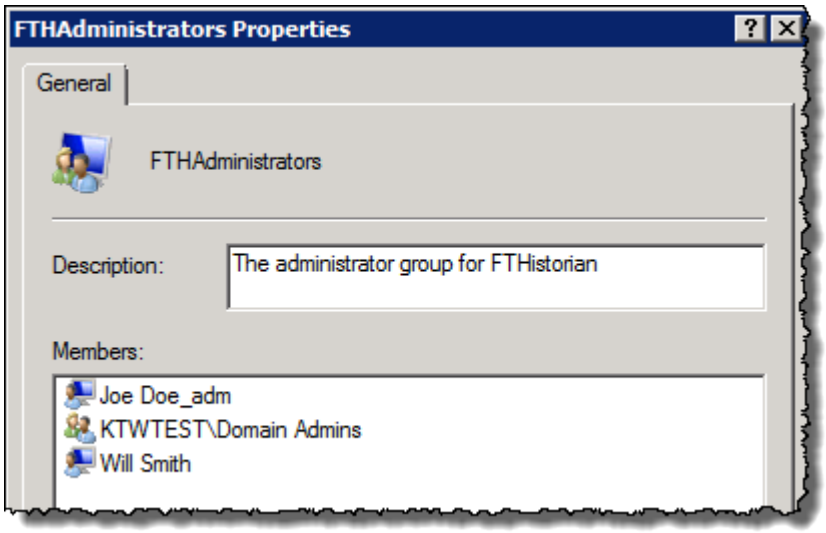
4. On the Active Directory computer, create the **FTHAdministrators** group. The example below presents the group created with the **Administrative Tools > Computer Management** tool.



5. On the Active Directory, create users with the same names and passwords as those that are assigned to the **FTHAdministrators** group in the FactoryTalk Services Platform.

6. Assign the users to the **FTHAdministrators** group you have created on the Active Directory computer.

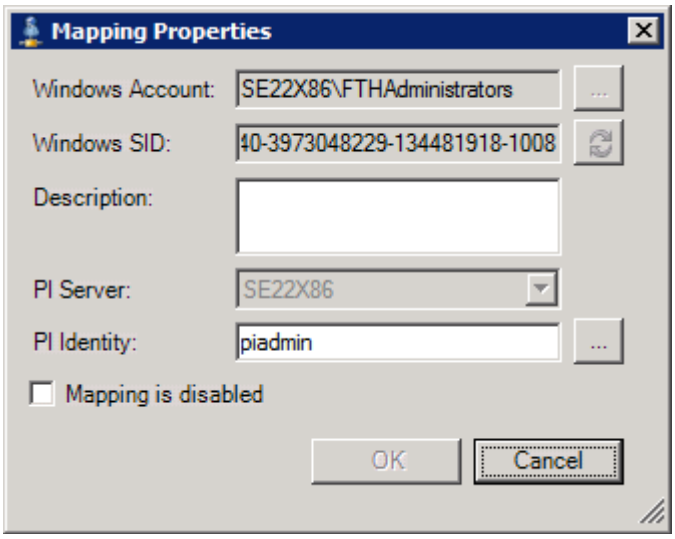
The example below presents the **FTHAdministrators** group and the users assigned to the group on the Active Directory computer.



7. On the FactoryTalk Historian SE server computer, go to *Start > All Programs > Rockwell Software > FactoryTalk Historian SE > System Management Tools*. The **System Management Tools** dialog box appears.
8. Under **System Management Tools**, select **Security > Mappings & Trusts**.
9. On the toolbar, click . The **Add New Mapping** dialog box appears.
10. Click **Browse** next to **Windows Account**. The **Select User, Computer, or Group** dialog box appears.
11. Select the **FTHAdministrators** group that you have created on the Active Directory computer.
12. Click **OK**.
13. Click **Browse** next to **PI Identity**. The **Select PI Identity, PI Group, or PI User** dialog box appears.
14. Under **Type**, select **PI Users**.
15. Under **Name**, select **piadmin**, and click **OK**.

16. Click **OK** to close the wizard.

    The mapping has been added to the mapping list.



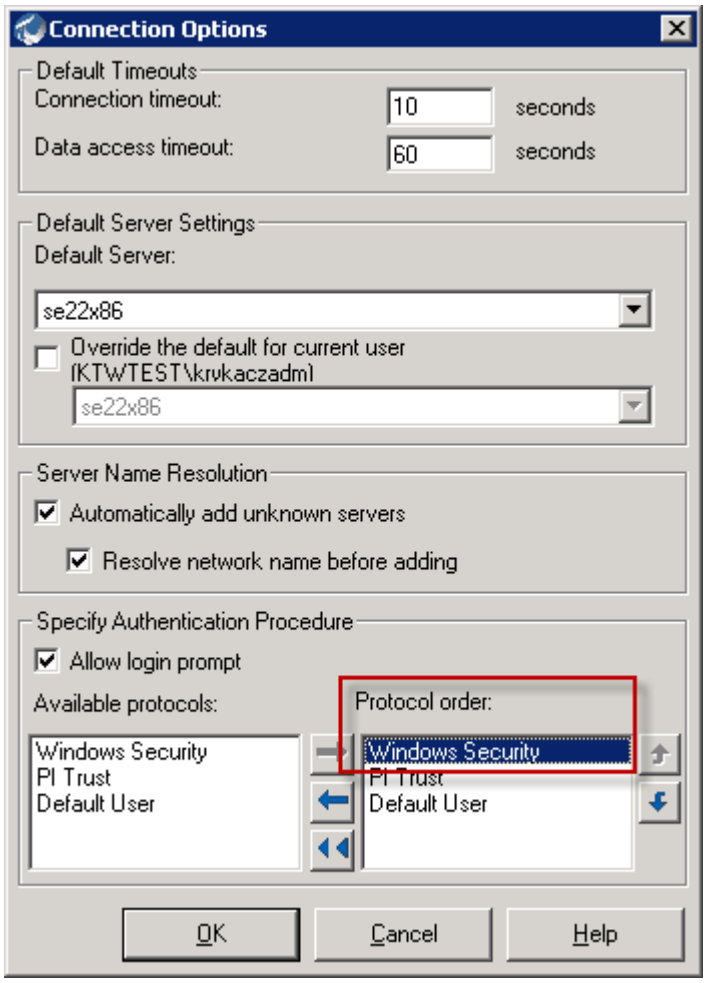
17. Repeat the steps for the rest of the FTH groups assigning them to the appropriate PI users, as specified at the beginning of the procedure.
18. Disable the transitory security trust for Historian computers (page 60):
    1. Under **System Management Tools**, select **Security > Mappings & Trusts**.
    2. In the **Trusts** tab, double-click the subnetwork trust you have created.
    3. In the trust properties dialog box of the subnetwork trust, check **Trust is disabled**.
    4. Click **OK**.

Verify if the Historian Computer Supports Windows Authentication

To check if your Historian computer supports the integrated Windows authentication:

1. Open **AboutPI-SDK**.
2. From the menu bar, click **File > Connections**. The **Connection Manager** dialog box appears.

3. From the menu bar, click **Tools > Options**. The **Connection Options** dialog box appears.
4. Under **Specify Authentication Procedure**, make sure that the **Windows Security** item is listed as a protocol order.



Create a Trust for a Historian Computer without Windows Authentication Support

To create an explicit trust for a Historian computer:

1. Go to *Start* > *All Programs* > *Rockwell Software* > *FactoryTalk Historian SE* > *System Management Tools*. The **System Management Tools** dialog box appears.
2. Under **System Management Tools**, select **Security > Mappings & Trusts**.

3. Click the **Trust** tab, and then  on the toolbar. The **Add Trust Wizard** appears.
4. Complete the following:

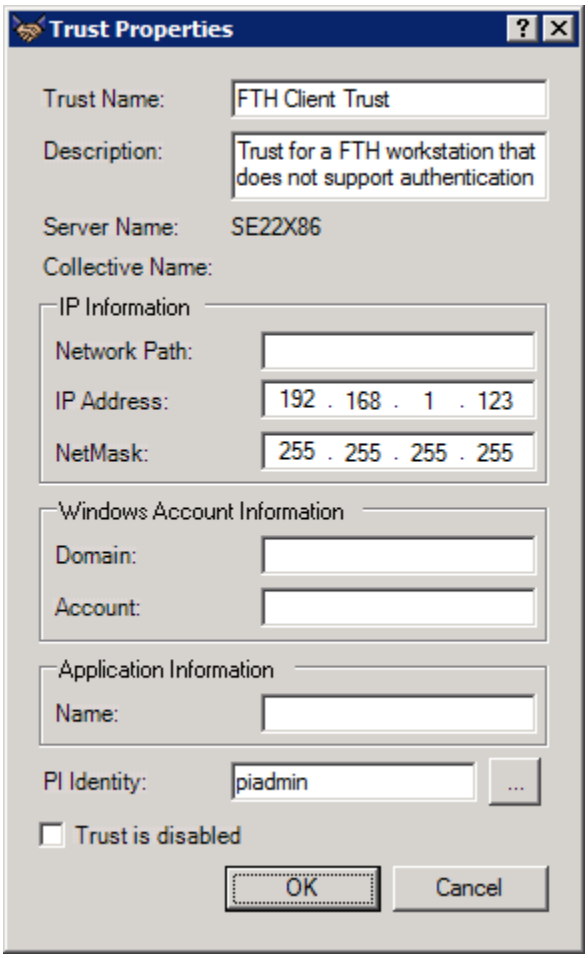
For:	Type:
Trust Name	A name for the trust, for example: *FactoryTalk Historian Client Trust*.
Trust Description	A description of the trust (optional).

5. Click **Next** until the **Specify Client Connection Information** page appears.
6. Complete the following:

For:	Do:
Network Path	Leave this box empty.
IP Address	Type the IP address of the Historian computer, for example *192.168.1.123*.
NetMask	Type the net mask for your subnetwork. For the example presented above, it would be *255.255.255.255*.

   Click **Next**.
7. On the **Select PI User** page, click **Browse** next to **PI Identity**. The **Select PI Identity, PI Group, or PI User** dialog box appears.
8. Under **Type**, select **PI Users**.
9. Under **Name**, select **piadmin**, and click **OK**.
10. Click **Finish** to close the wizard.

The trust has been added to the trust list.



Execute 6_EnvVarsCleaning.bat

Execute the **6_EnvVarsCleaning.bat** file from your local copy of the migration scripts.

The script removes from your operating system the environment variables that have been set by the **0_Locations.bat** file for the purposes of the migration.

Create a Backup of Your Migrated Historian

To create a backup of your migrated Historian system:

1. Open the Command Prompt window.
2. Navigate to *C:\Program Files\Rockwell Software\FactoryTalk Historian\Server\adm*.
3. Run the **pibackup** command with the following syntax:

   pibackup *<CompletePathToTheBackupFolder> <NumberOfArchivesToBackUp>*

   For example: *pibackup c:\backup 3*.

   Press Enter.
4. Wait until the backup is complete.

Migrating a Collective of Historian Servers

This instruction is based on the following assumptions:

- The collective consists of two FactoryTalk Historian SE 2.1/2.2 servers.
- The machines constituting a collective should be in the same domain.
- The FactoryTalk Activation Manager must be installed on every migrated server and it should search for FactoryTalk Directory machine for licenses. As a result, the licenses are visible on both nodes of the collective.
- The migration is performed in the following order so that the work of the collective is undisturbed:
  1. The primary server in the collective is isolated and migrated. In the meantime, the secondary server is collecting data and communicating with clients and interfaces.
  2. The network communication is restored on the primary server. The primary server starts collecting data and receiving data from the buffering. The collective members are not able to communicate with one another in such a configuration.
  3. The secondary server in the collective is isolated and migrated. In the meantime, the primary server is collecting data and communicating with clients and interfaces.
  4. The secondary server is reinitialized.

NOTE To perform this procedure, administrative rights are required.

Checklist: Migration of a Historian Server Collective

Perform the following migration steps:

1. Block the primary server from incoming process data (page 74).
2. Migrate the primary server (page 75).
3. Restore the communication between the primary server and the network (page 75).
4. Block the secondary server from incoming process data (page 74).
5. Migrate the secondary server (page 75).
6. Restore the communication between the secondary server and the network (page 75).
7. Reinitialize the secondary server (page 76).
8. Verify communication between collective members (page 78).
9. Verify the replication of configuration changes in the primary server (page 80).

Block the Historian Server from Incoming Process Data

Before upgrading the Historian server, you need to isolate it from all incoming process data, from client applications such as FactoryTalk Historian ProcessBook, and from other members of the collective.

During the migration, users and applications fail over to the other member of the collective.

NOTE The isolation methods have no effect on the communication between the Historian server and the Asset Framework server. The communication between those two is required by the **Historian MDB to AF Preparation** wizard.

To isolate the Historian server, use either of the following:

- A Windows Firewall or another commercial firewall to block port 5450.

  Refer to the firewall documentation for details.

- The **Firewall** tool in the System Management Tools (SMT) to set up a Historian firewall.

  1. Go to *Start* > *All Programs* > *Rockwell Software* > *FactoryTalk Historian SE* > *System Management Tools*. The **System Management Tools** dialog box appears.
  2. Under **Collectives and Servers**, select the server for which you want to set up a firewall.
  3. Under **System Management Tools**, go to **Security** > **Firewall**.
  4. Configure a firewall for the selected server.

     NOTE Refer to the *System Management Tools User Guide* for more information. Click on the toolbar in the System Management Tools to open the guide.

Migrate Historian Servers to Version 3.01

Follow the steps described in "Upgrade the Historian Server to Version 3.01 (page 51)" to migrate the primary and secondary Historian servers to version 3.01.

Restore the Communication Between the Historian Server and the Network

To restore the communication to the Historian server use either of the following:

- A Windows Firewall or another commercial firewall to unblock port 5450.

Refer to the firewall documentation for details.

- The **Firewall** tool in the System Management Tools (SMT) to disable the Historian firewall.
  1. Go to *Start* > *All Programs* > *Rockwell Software* > *FactoryTalk Historian SE* > *System Management Tools*. The **System Management Tools** dialog box appears.
  2. Under **Collectives and Servers**, select the server for which you want to set up a firewall.
  3. Under **System Management Tools**, go to **Security** > **Firewall**.
  4. Disable the firewall for the selected server.

NOTE Refer to the *System Management Tools User Guide* for more information. Click on the toolbar in the System Management Tools to open the guide.

Reinitialize the Secondary Historian Server

To reinitialize the secondary Historian server:

1. Make sure that the secondary Historian server is isolated from the primary server in the collective.

   See "Isolate the Historian Server from Incoming Process Data (page 74)" for more information.
2. Log on to a computer that has access to all members of the collective.
3. Click *Start* > *All Programs* > *Rockwell Software* > *FactoryTalk Historian SE* > *Collective Manager*. The **Collective Manager** dialog box appears.
4. Click the icon of the secondary server to select it.

Under **Connection Status**, the values of **CommStatus** and **SyncStatus** indicate that communication with the secondary server has been disrupted. For example:

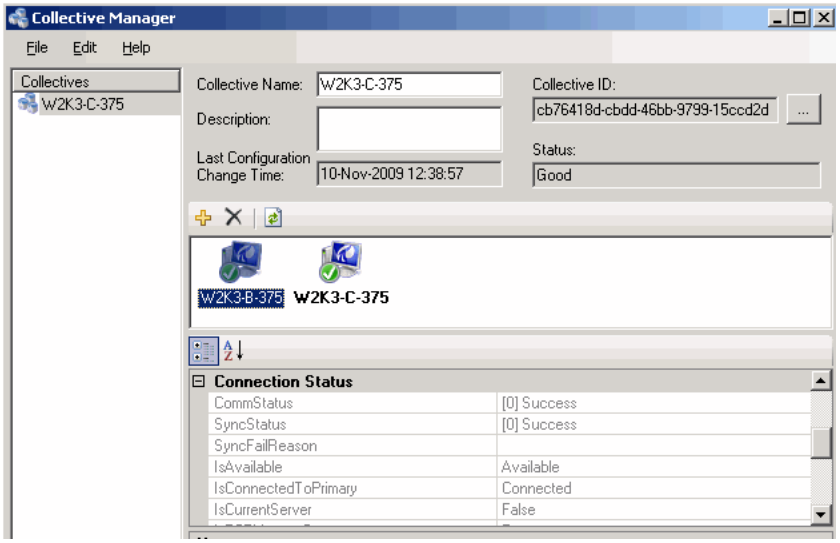
5. From the menu bar, click **Edit > Reinitialize Secondary Server**.
6. When prompted to select archives to copy to the secondary server, select the primary archive and any archives that have been added or changed since the primary Historian server was upgraded.

   NOTE By default, Collective Manager selects all existing archives to be copied. It is not necessary to copy all archives when reinitializing, but only those that have changed since the primary Historian server was upgraded.

7. Click **Next**.
8. Follow the on-screen instructions to complete the process.
9. Click **Finish**.

   In the **Connection Status** group, the values of **CommStatus** and **SyncStatus** change to show that the secondary server is successfully communicating with the primary server.

For example:



Verify Communication Between Server Collective Members (Migration Guide)

Use the Collective Manager to verify that the members of your collective are communicating.

To check communication of the members of a collective:

1. Click *Start* > *All Programs* > *Rockwell Software* > *FactoryTalk Historian SE* > *FactoryTalk Historian SE System* > *Collective Manager*. The **Collective Manager** dialog box appears.

   If the collective does not appear under **Collectives**, you must enable communication between the Collective Manager and the collective:

   1. Select **File > Connections**. The **Connection Manager** dialog box appears.
   2. Click the check box next to the name of the collective to select it.

      If the collective is not listed in the Connection Manager, add it:

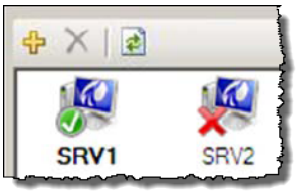
      1. Select **Server > Add Server**.

2. In **Network Node**, type the fully qualified domain name (FQDN) for the primary server in the collective.
3. Click **OK**.

3. Select the collective.
4. Click **Save** to close the Connection Manager.

2. Under **Collectives**, select your collective.

   The right pane of the dialog box displays the current status of the connection between the members of the selected collective. The Collective Manager shows a diagram of collective members. An icon represents each server in the collective. A green check mark on the icon indicates that the server is communicating correctly. A red X indicates that the server is not communicating correctly.



   If a server icon is not communicating correctly, you can:

   - Wait a few moments. Occasionally, the status of the secondary server will get updated at the next attempt to synchronize.
   - Try to reinitialize the server. To do so, right-click the server icon and select **Reinitialize Server**.

Verify Replication of Configuration Changes in the Primary Server

To verify that a Historian server collective replicates primary server configuration changes to all secondary servers, you can edit a point on the primary server and verify the change on the secondary server in the collective.

To verify configuration replication in a Historian server collective:

1. Click *Start* > *All Programs* > *Rockwell Software* > *FactoryTalk Historian SE* > *System Management Tools*. The **System Management Tools** dialog box appears.
2. Under **Collectives and Servers**, select all the servers that are members in the collective.
3. Under **System Management Tools**, select **Points** > **Point Builder**.
4. Add a point found in all the servers to the list of points:
   1. On the toolbar, click . The **Tag Search** dialog box appears.
   2. In **Tag Mask**, type *sinusoid*.
   3. Click **Search** to find all instances of this built-in point on the selected servers.
   4. Click **Select All** to choose all instances.
   5. Click **OK** to add these points to the list of points in the Point Builder.
5. Edit the point on the primary server:
   1. Select the point on the primary server.

      The Point Builder shows the configuration of the selected point in the tabs at the bottom of the **System Management Tools** dialog box.

2. In the **General** tab, change the text in the **Descriptor** text box. For example, change *12 Hour Sine Wave* to *12-hour sine wave*.
3. Click .

   The Point Builder shows the updated **Descriptor** text for this point on the primary server.

6. Click .

   If the replication is working properly, the modified **Descriptor** text appears for the sinusoid point on all the servers in the collective.

   If the replication fails, refer to the *FT Historian High Availability Administrator Guide*, section "Historian Collective Health".

Upgrading FactoryTalk Historian Live Data Interface

The migration and upgrade to FactoryTalk Historian SE 3.01 requires that you upgrade your FactoryTalk Historian Live Data Interface.

The migration may be performed:

- For a single Live Data interface with buffering (page 83).
- For Live Data redundant interfaces with buffering (page 83).

Checklist: Migration of a Single Live Data Interface

Perform the following migration steps:

1. Remove the Live Data interface. (page 84)
2. Upgrade FactoryTalk Services Platform (page 84).
3. Install the new Live Data interface (page 85).
4. Verify the buffering configuration (page 88).
5. Create and run the Live Data interface service (page 89).

Checklist: Migration of Live Data Redundant Interfaces

On the computer with the primary interface installed:

1. Remove the Live Data interface. (page 84)
2. Upgrade FactoryTalk Services Platform (page 84).
3. Install the new Live Data interface (page 85).
4. Verify the Phase 2 failover configuration (page 87).
5. Verify the buffering configuration (page 88).
6. Create and run the Live Data interface service (page 89).

On the computer with the secondary interface installed:

1. Repeat the same steps like for the primary interface.

Remove the Live Data Interface

To remove the Live Data interface:

1. On the computer with the Live Data interface installed, go to *Start* > *All Programs* > *Rockwell Software* > *FactoryTalk Historian SE* > *Uninstall FactoryTalk Historian SE*.
2. In the message box that appears, click **Yes** to confirm that you want to remove the product. The installation wizard appears.
3. On the **Welcome** page, click **Next**.
4. On the **Program Maintenance** page, click **Next**.
5. On the **Remove the Program** page, click **Remove**.
6. In the message box that appears, click **OK** to continue with the removal process.

   The **Uninstalling** page presents the status of the removal process.
7. On the **InstallShield Wizard Completed** page, click **Finish**.

Upgrade FactoryTalk Services Platform

To upgrade FactoryTalk Services Platform:

1. On the FactoryTalk Historian SE 3.01 installation DVD, click *Install FactoryTalk Historian Site Edition* > *Install FactoryTalk Services Platform* > *Install FactoryTalk Services Platform*.
2. Follow the on-screen instructions to complete the process.

   NOTE During the installation, the previous version of the component is removed from the computer and the new version is installed.

Install FactoryTalk Historian Live Data Interface

To install the FactoryTalk Historian Live Data Interface:

1. Run the FactoryTalk Historian SE installation DVD.
2. On the welcome page of the installation wizard, click *Install FactoryTalk Historian SE > Install FactoryTalk Historian Live Data Interface*.

   The installation wizard appears.

   If there are any software prerequisites missing from the computer, they are listed in red at the bottom of the installation wizard **Welcome** page. Click **Cancel** and **Finish** to exit the wizard, install the prerequisites, and start the installation wizard again.
3. On the **Welcome...** page, click **Next**.
4. On the **License Agreement** page, read and accept the terms of the license agreement, selecting the **I accept...** option.
5. Click **Next**.
6. On the **Review Component Installation** page, review the list of the components that are already installed and those that will be installed during the installation process.

   Click **Next**.
7. On the **Destination Drive** page, select the drive on which you want to install the product.

   If the space available on the drive is not sufficient for the installation, a warning message will appear below the **Installation drive** list. In such a case, select another drive or increase the available space on the drive you have originally selected.

   NOTE You can choose the destination drive only if you install the component on the selected machine for the first time. If there have been any FactoryTalk Historian components installed on the machine before, the **Installation drive** list will not be enabled.

   Click **Next**.

The **Installation Progress** page appears. It lists the components that are going to be installed. The status of the installation is displayed in the **Status** column of the component table.

8. Click **Install** to start the installation.
9. Wait until the components are installed. The installation time will vary depending on the number of components being installed and the computer performance. The installation status is displayed below the component table.

   During the installation process, the *Release Notes* appear. Close the dialog box to proceed with the installation.

   If the FactoryTalk Activation Manager has not been installed yet, the wizard for installing USB dongles software appears.

   The FactoryTalk Activation Manager installation wizard appears with a list of prerequisite packages.

   Click **Continue**.
10. In the message box that appears:
    - Click **Yes**, if you want to install the software for Rockwell Automation USB dongles.

      The drivers are used to support mobile activations which are locked in a hardware dongle.

      Follow the on-screen instruction to install the software.
    - Click **No**, if you want to skip this step.

    The installation wizard appears.
11. Follow the instructions displayed on the screen to complete the installation.
12. In the **FactoryTalk Directory Server Location Utility** dialog box, verify that it points to the correct computer that hosts the FactoryTalk Directory server.

13. On the **Installation Wizard Completed** page, click **Show the installation log**, if you want to view the installation log after the installation wizard closes.

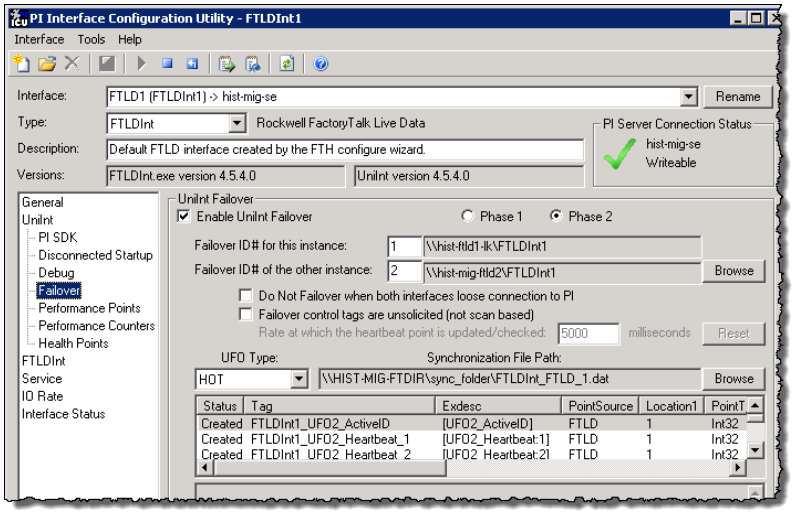
    If any of the installed components requires rebooting the computer, a relevant message will appear on the installation wizard page, and you will be prompted to restart the machine after the installation wizard closes.
14. Click **Finish** to exit the installation wizard.
15. If prompted, restart the computer.

Verify the Phase 2 Failover Configuration

To verify the phase 2 failover configuration:

1. Go to *Start* > *All Programs* > *Rockwell Software* > *FactoryTalk Historian SE* > *Interface Configuration Utility*. The **Interface Configuration Utility** dialog box appears.
2. From the **Interface** list, select the interface that you have upgraded.
3. On the left pane, click **Failover**.
4. Under **UniInt Failover**, verify that the following settings are correct:
   - The phase 2 is selected.
   - The failover IDs point to the correct interface machines.
   - The UFO Type is set to *HOT*.

- The synchronization file path is set correctly.



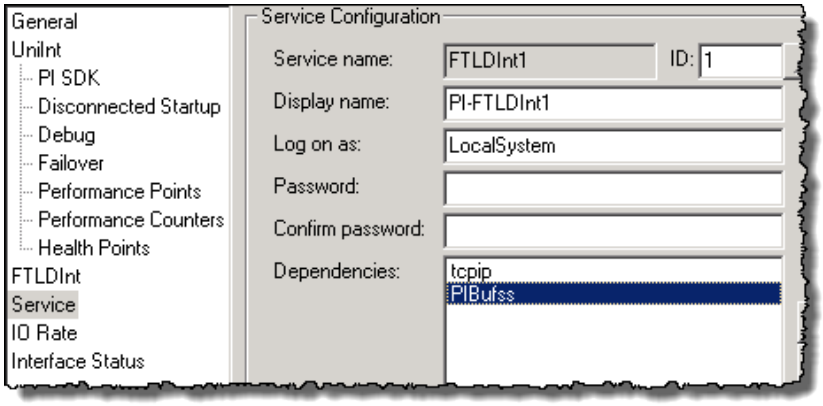
NOTE For more information on configuring phase 2 failover, see the *FactoryTalk Historian SE Installation and Configuration Guide*, chapter "Configuring Live Data Interface Redundancy".

Verify the Buffering Configuration

To verify the buffering configuration:

1. Go to *Start* > *All Programs* > *Rockwell Software* > *FactoryTalk Historian SE* > *Interface Configuration Utility*. The **Interface Configuration Utility** dialog box appears.
2. From the **Interface** list, select the interface that you have upgraded.
3. On the left pane, click **Service**.

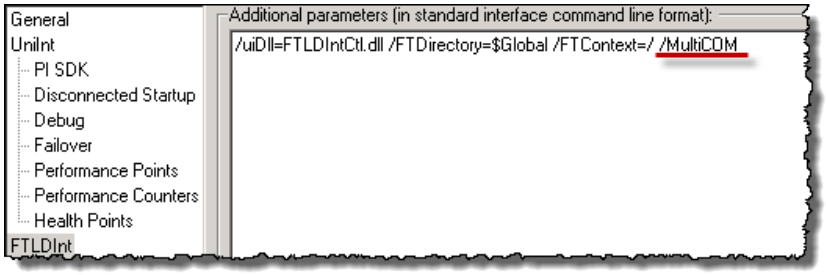
4. Under **Service Configuration**, make sure that **PIBufss** is listed as one of the dependencies.



Create and Run the Live Data Interface Service

To create and run the Live Data interface service:

1. In the Interface Configuration Utility, select the interface you have upgraded.
2. On the left pane, click **FTLDInt**.
3. Under **Additional parameters**, type */MultiCOM*.



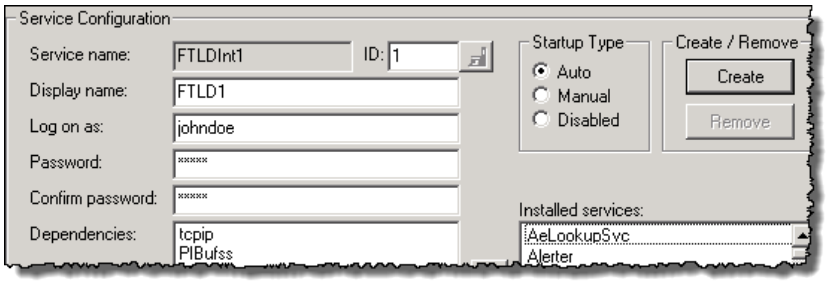
4. On the left pane, click **Service**.
5. Under **Service Configuration**, perform the following actions:
   - *For a single Live Data Interface:*

In this text box:	Do the following:
Display name	Change to *FTLD1*.

   - *For Live Data interfaces in a failover mode:*

In this text box:	Do the following:

In this text box:	Do the following:
Display name	Change to *FTLD1*.
Log on as	Type the name of the user that has access to the .DAT file (page 87) specified in the synchronization file path.
Password	Type the password for the user.
Confirm password	Retype the password.



6. Click **Create**, and then **Apply**.

   The interface service is created and the status at the bottom of the dialog box changes to **Ready**.

7. From the toolbar, click  to start the interface.

8. In the message box that appears, click **Yes** to start the **PIBufss** service.

9. The interface service is started and the status at the bottom of the dialog box changes to **Running**.

NOTE To verify if the interface is functioning properly, refer to the *FactoryTalk Historian SE Installation and Configuration Guide*, chapter "Configuring Live Data Interface Redundancy".

Upgrading Engineering Workstations

NOTE FactoryTalk Historian Management Tools of FactoryTalk Historian SE 3.01 are supported on FactoryTalk Services Platform SR4, SR5 and SR5.1. If you currently have either SR4 or SR5 installed, it is your choice whether to upgrade to SR5.1 or not. In general, it is considered best practice to upgrade FactoryTalk Services Platform to the latest version.

The migration and upgrade to FactoryTalk Historian SE 3.01 requires that you upgrade your engineering workstations on which you have FactoryTalk Historian Management Tools installed.

Upgrade Steps

To upgrade engineering workstations:

1. Remove FactoryTalk Historian Management Tools 2.2/2.1.
   1. Go to *Start* > *All Programs* > *Rockwell Software* > *FactoryTalk Historian SE Uninstall FactoryTalk Historian SE Management*. The installation wizard appears.
   2. Follow the on-screen instructions to complete the process.
2. (Optional) Upgrade FactoryTalk Services Platform.
   1. On the FactoryTalk Historian SE 3.01 installation DVD, click *Install FactoryTalk Historian Site Edition* > *Install FactoryTalk Services Platform* > *Install FactoryTalk Services Platform*.
   2. Follow the on-screen instructions to complete the process.
3. Install FactoryTalk Historian Management Tools 3.01.
   1. On the FactoryTalk Historian SE 3.01 installation DVD, click *Install FactoryTalk Historian Site Edition* > *Install FactoryTalk Historian Management Tools*.
   2. Follow the on-screen instructions to complete the process.

3. If prompted, restart the computer.

Rockwell Automation Support

Rockwell Automation provides technical information on the Web to assist you in using its products. At http://www.rockwellautomation.com/support/, you can find technical manuals, a knowledge base of FAQs, technical and application notes, sample code and links to software service packs, and a MySupport feature that you can customize to make the best use of these tools.

For an additional level of technical phone support for installation, configuration, and troubleshooting, we offer TechConnect support programs. For more information, contact your local distributor or Rockwell Automation representative, or visit http://www.rockwellautomation.com/support/.

Installation Assistance

If you experience a problem within the first 24 hours of installation, review the information that is contained in this manual. You can contact Customer Support for initial help in getting your product up and running.

United States or Canada	1.440.646.3434
Outside United States or Canada	Use the Worldwide Locator at http://www.rockwellautomation.com/support/americas/phone_en.html, or contact your local Rockwell Automation representative.

New Product Satisfaction Return

Rockwell Automation tests all of its products to ensure that they are fully operational when shipped from the manufacturing facility. However, if your product is not functioning and needs to be returned, follow these procedures.

United States	Contact your distributor. You must provide a Customer Support case number (call the phone number above to obtain one) to your distributor to complete the return process.
Outside United States	Please contact your local Rockwell Automation representative for the return procedure.

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