Honeywell

Experion
Migration User's
Guide

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R300.1
7/06

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About This Document

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Contacts

World Wide Web

The following Honeywell web sites may be of interest to Process Solutions customers.

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Honeywell Process Solutions	*http://hpsweb.honeywell.com*

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Symbol Definitions

The following table lists those symbols used in this document to denote certain conditions.

Symbol	Definition
	ATTENTION: Identifies information that requires special consideration.
	TIP: Identifies advice or hints for the user, often in terms of performing a task.
	REFERENCE -EXTERNAL: Identifies an additional source of information outside of the bookset.
	REFERENCE - INTERNAL: Identifies an additional source of information within the bookset.
CAUTION	Indicates a situation which, if not avoided, may result in equipment or work (data) on the system being damaged or lost, or may result in the inability to properly operate the process.
	CAUTION: Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices. **CAUTION**: symbol on the equipment refers the user to the product manual for additional information. The symbol appears next to required information in the manual.
	STOP: Indicates that you have completed this task. Return to the checklist that led to this task

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1. About This Guide

1.1. Purpose

The Experion Migration User's Guide is to assist you to understand, plan and execute migration of your Experion System. Migration of system components can be performed on-process with a valid license and off-process without a license.

Intended audience

This guide is for people responsible for the planning, administration and operation of the Experion system and the process in which it controls. These people may include Plant Managers, Process Engineers, and System Administrators.

Prerequisite skills

It is assumed that you are familiar with the operation of Experion system software and the plant processes which Experion controls, and Microsoft Windows system and network administration tasks.

How to use this guide

This guide is organized into the following sections:

Topic	Description
Migration Overview	This section defines Experion migration, server migration, controller migration, qualified migration paths and the applications and tools developed that automate various tasks for migration.
Interoperability	This section introduces the concept of interoperability within the Experion system. Specific rules for release interoperability and the restrictions of interoperability between system functions for R300.1 are described.
Starting a Migration	Provides the starting point for conducting a migration and presents typical migration scenarios.
Planning for On-process Migration	This section provides important planning information and topics that require consideration for users planning to conduct on-process or off-process migrations.
On-Process Migration	This section provides top level checklists for users

Topic	Description
	to follow when conducting an on-process migration.
Off-Process Migration	This section provides top level checklists for users to follow when performing off-process migration tasks.
Common Software Tasks	This section contains more detailed step procedures which are used to perform migration.
Controller Migration	This section contains procedures for migrating Experion control hardware to new release firmware.
Troubleshooting	This section provides description of error messages and guidance for troubleclearing during a migration.
Migration Readiness Tool	This section describes the application and use of the Migration Readiness Tool.

Special terms

The following terms are defined here which are unique to the subject presented in this guide. Please note that unless specifically noted, the term “Migration” pertains to both on-process migration and off-process migration.

Term	Definition
Base release	The release version of Experion that is currently in use before the start of a migration.
Controller Migration Wizard	A software application which migrates process controllers and associated control hardware to newer release firmware with minimal user action.
Engineering Repository Database (ERDB)	The database or set of databases which support the control system development.
Enterprise Model Database (EMDB)	A database that contains the hierarchical representation and description of the plant’s assets and alarm groups.
ERDB Consistency Checker	Engineering Repository Database Consistency Checker. A tool to validate the internal consistency of the ERDB.

Term	Definition
Installation Application	A software application that installs the Experion system software with minimal user action.
Mismatched component	Any component that is installed with or is running at a release other than the target system release.
Migration Application	A software wizard application which migrates Experion system components to newer release system software.
Experion Migration Storage Node (EMSN)	Experion Migration Storage Node. A location used to store data (databases, system configuration, operating system preferences, etc.) when migrating an Experion platform.
Migration Readiness Tool (MRT)	Migration Readiness Tool. A wizard which, when run, performs checks on servers, controllers and other system components to see if they are in a state of readiness for migration.
Off-process migration	Migration of an Experion control system or migration of an Experion system component while it is not controlling the process and there is no view of the process. NOTE: This definition applies to Experion Servers and CEE controllers only and not to Integrated Experion-TPS Nodes.
On-process migration (OPM)	Migration of an Experion control system or migration of an Experion system component while maintaining view and control of the process. This is achieved by utilizing redundant system components.
Redundant Chassis Pair (RCP)	A pair of modules, such as two FIMs, IOLIMs or other chassis I/O modules that support redundancy, each installed in redundant chassis (Primary and Secondary).
Release interoperability	The ability of system components loaded and operating with different releases to be compatible, and interact in stable manner.
Server A and Server B	The standardized names of the redundant servers. Server A is the server operating as primary before the start of on-process migration. Server B is the server operating as the backup.

Term	Definition
System migration	The migration of Experion control system from one release to a newer release.
Target release	The release version of system software or firmware which system components are running once migration is completed.

Related documents

The following documents and sources contain additional information related to installation, upgrade and migration of Experion system software and firmware.

- *Experion Release 300.1 Software Change Notice – SCN (EP01300119)*
- *Getting Started with Experion Software Guide (EP-DCSX24)*
- *Experion Software Installation and User's Guide – SIUG (EP-DCSX34)*
- *Experion Supplementary Installation Task Guide – SITG (EP-DCX504)*
- *Control Hardware and I/O Module Firmware Upgrade Guide (EP-DCX514)*
- *Integrated Experion-TPS Nodes User's Guide (EP-DCX494)*
- Additional information about the Experion system can be found in the online documentation reference, Knowledge Builder for Experion R300.1, supplied with the Experion Software package.

Experion migration notice

Like prior generations of Honeywell products, Experion contains substantial infrastructure that supports the migration from one release to another, while still maintaining process control. However, while open systems technology brings beneficial flexibility, it can also introduce complexity with on-process migration.

TIP

We recommended that you contact the Honeywell Technical Assistance Center (1-800-822-7673) before starting an on-process migration. Arrangements can be made to have Honeywell personnel at your site to assist you with migration.

1.2. Using the checklists

This guide uses checklists to help you to migrate to Experion. For on-process migration it is important that the procedures and steps are performed in the order they are presented in this guide.

ATTENTION

You must use the checklists to avoid migration problems.

Also, some tasks include a list of prerequisites and considerations—do not start a task unless you have satisfied its prerequisites and noted the considerations.

When using a checklist:

- Make a copy of the checklist so that it is easier to keep track of where you are in the migration.
- Make sure you satisfy the **Prerequisites** before starting each task.
- Complete the tasks in order shown, unless specified otherwise.
- Complete only the specific task, and then return to the table that led to the task.
- Mark off each task in the **Done** column after completing it.

1.3. Solution Support On-line (SSOL)

Use the following procedure to register for access to the Solution Support Online (SSOL) site so you can access the most up-to date versions of this Guide, the Migration Readiness Tool and the ERDB Consistency Checker utility.

To check the Solution Support Online site:

Step	Action
1	In your web browser application, type the following URL: **www.honeywell.com\ps**
2	Click Login to My Account.
3	Type your user name and password, and then click **Login**.
4	Choose "Legacy SSOL" from the Quick Links section.
5	Select Solution Support Online.
6	In the **Your Entitled Products** section, choose **Experion**. *Experion Migration User's Guide* updates are listed in the Experion home page. The latest versions of the Migration Readiness Tool and ERDB Consistency Checker are located in the section **Software Library section -> On Process Migration Tools**. You should look specifically for any required R300 patches that need to be downloaded before you begin a migration.

2. Migration Overview

This section covers the following topics which provide an overview of what migration is:

Topic
Migration defined
Server migration
Controller migration
Qualified migration paths
Migration applications and tools

ATTENTION

Experion Release 300.1 supports the migration of **single Experion clusters** in which this migration guide describes. This document does **not** contain the details of multi-cluster migration. If you are planning to migrate multiple Experion clusters, call Honeywell Technical Assistance Center for further information.

ATTENTION

- CEE and Server/Client can be off process migrated without the TPS control environment being off line.
- R201 and some R210 ESVT's are installed as SCADA systems and customers should contact TAC prior to migrating.

2.1. Experion System migration defined

Experion system migration is the migrating of Experion platform components such as servers, stations, clients, ACE, SIM-C200 and SIMIOLIM nodes to new release system software. The firmware residing in Experion controller hardware is also migrated as part of system migration.

You can perform a migration either on-process, where Experion components are migrated while maintaining a view and control of the process, or off-process. On-process migration can only be performed on redundant Experion components, specifically servers and controllers and it requires a valid license.

System migration involves two major stages:

- Server migration (Software Migration)
- Controller migration (Firmware Migration)

Server migration

Server migration is the migration of Experion Servers and Stations and their loaded software. Migration can also include upgrades to the computer's operating system and server hardware —for example, adding more memory to a server, or even upgrading to a newer computer or operating system. The other Experion components can not be migrated until the server migration is completed. The Migration Application is used to migrate Experion Servers and Stations. Only redundant servers can be migrated on-process.

TIP

You can choose to migrate only the servers and then migrate other components at a later date.

Controller migration

Controller migration is the migration of firmware installed in Experion control hardware to a newer version release. Only control hardware that is redundant can be migrated on-process. Non-redundant control hardware is migrated off-process. The following table shows the Experion control hardware that supports migration:

Experion Control Hardware	Comment
Controllers: • C200* (CPM), C300	C200 Controller includes a Redundacny Module (RM) and may contain any of the following interface modules: IOLIM, FIM, FTEB, CNI, LOIM. C200 controller may also contain I/O modules.
Interface Modules: • RM, IOLIM, FIM, FTEB, CNI, LIOM, and Series C FIM4.	These modules support redundancy and can be migrated on-process.
I/O Modules: • Series C IOMs	These modules support redundancy and can be migrated on-process.
• Series A IOMs, Series H IOMs (non-redundant)	Non-redundant modules support only off-process migration.
* Redundant C200 Controllers, which comprise a Redundant Chassis Pair (RCP), contain identical chassis modules.	

The Controller Migration Wizard application is used to migrate controller and control hardware firmware. The wizard automates many of the tasks performed in controller migration and is used for both on-process and off-process migration. The controller migration wizard is accessed from the Controller menu in Control Builder.

The Migration wizard allows you to select redundant pairs of components for on-process migration. For example, when a Redundant Chassis Pair is selected for migration all modules installed in the primary and secondary chassis are migrated. When a single pair of FIMs installed in a redundant chassis are selected for migration, both modules are migrated.

Non-redundant I/O components associated with the controllers are migrated off-process; after the controller and/or after I/O interface modules have been migrated.

2.2. Qualified migration paths

Server/Client migration paths

Migration paths illustrate the path for migrating an Experion system from one release to a newer release. A migration path may also include intermediate steps. For example, if your system is currently operating with Release 201 software, it is possible to migrate on-process to Release 210, upgrade to R210 SP2.1, and then migrate on-process to Release 300.1. See On-process migration of R201 Servers/Clients to 300.1 Servers/Clients for additional information on this migration path. Note that migration paths apply to Servers and Clients. Table 1 lists the migration paths that are supported in Experion Release 300.1 for Experion Servers, Console and Flex Stations. Refer to the Software Change Notice (SCN) document supplied with your software for the most up-to-date migration paths.

ATTENTION

The only qualified on-process migration path which is supported in this document for Experion Release 300.1 is:

- **Experion R210 SP2.1 to Experion R300.1.**

Table 1 Supported Server/Client migration paths

Migration Path	Supported for	
	On-process Migration	Off-process Migration
R201 P23 to R210 SP2		X
R201 P24 to R210 SP2.1	X *	X
R201 P24 to R300.1		X
R210 SP2.1 to R300.1	X	X
R300.0 to R300.1		X **

* Migration path not covered in this guide. Refer to *Experion PKS Software Installation and Upgrade Guide* for Release 210, document number EP-DCSX33 for instructions.

** Without interoperability.

Controller migration paths

The qualified migration paths for migrating controller, interface module and I/O module firmware for Experion R300.1 are found when using the Migration Readiness Tool. Only valid firmware release versions are listed in the Select Target Release combo box of the Controller Migration dialog. Consult the Software Change Notice (SCN) document supplied with your software for the most up-to-date migration paths. In Table 2, on-process migration applies only to redundant components.

Table 2 Controller migration nodes

Experion Control Hardware	On-process migration (Only if redundant)	Off-process
Controllers: C200 (CPM), C300	X	X
Interface Modules:		
RM, IOLIM, FIM, FIM4, FTEB, CNI, LIOM	X ♦	X
I/O Modules:		
Series C IOMs	X	X
Series A IOMs, Series H IOMs (non-redundant)		X
Application Environments:		
ACE, SIM-C200, SIMLIOM		X
♦ LIOM migration not supported for OPM.		

OPM and Redundancy license requirements

Experion systems require a license to conduct on-process migration of system software. For Experion R201 and R210 systems, an OPM license is required. The license must be present on the system release from which you begin a migration.

For Experion R300.0 and R300.1 systems, the OPM license is now combined with the Server Redundancy purchasable option. When the redundancy option is purchased, both the redundancy and OPM license information is enabled. Controller redundancy is a secondary requirement which must be satisfied, otherwise the Controller Migration Wizard will not enable the OPM option.

2.3. Migration applications and tools

Various software applications and utilities have been developed specifically to help streamline the system migration process for Experion, by

- Detecting system conditions prior to a migration that may cause problems or faults once a migration begins.
- Detecting inconsistencies in system databases and system components that may cause errors during migration.
- Automating many of the tasks that are performed during a migration.

Migration Readiness Tool – The Migration Readiness Tool (MRT) is a software application that performs prerequisite checks on the system and its components which are necessary to ensure that an Experion system is ready for migration. The MRT is run for servers, controllers, I/O chassis and remote chassis modules and control network platforms prior to starting a migration. Once the MRT is run, a report is generated to indicate the readiness of the system and its components for migration. See Section 12 for details in using the MRT. You can download the latest version of the MRT from the Honeywell SSOL site at **www.honeywell.com\ps**.

ERDB Consistency Checker – This utility performs a check on the Engineering Repository Database for any inconsistencies that may cause a problem during a migration or cause a migration to fail. You should run this check before you start a migration in order to detect and eliminate problems which might appear during or perhaps even after the migration. You can download the latest version of this utility from the Honeywell SSOL site at **www.honeywell.com\ps**.

Migration Application – This software application orchestrates the migration of system software to the new release for Servers and Stations. The Migration Application automates many of the migration tasks that were performed manually in previous releases. The application is run on a Server/Station to be migrated and safely handles system database and configuration information so that it can be reload to the server after the new release system software is installed. It also allows for hardware and operating system upgrades during the migration process.

Controller Migration wizard – This application wizard migrates (upgrades) the firmware in Experion control hardware to a newer release. Experion control hardware includes process controllers, I/O interface components and associated I/O modules.

ERDB/Controller Inconsistency Checker tool – This utility is used for identifying any inconsistencies between data objects loaded in a process controller and objects defined in the Engineering Repository Database (ERDB). This tool identifies these inconsistencies between the controller configuration and the database. You should run this tool prior to

controller migration of firmware to a new release. See Controller Migration for more information about this tool.

3. Interoperability

This section covers the following topics that explain more about interoperability:

Topic
Interoperability defined
Server release interoperability
Controller release interoperability
Configuration Studio interoperability
Enterprise Model Database interoperability
Custom Algorithm Blocks (CAB)

3.1. Interoperability defined

Interoperability is defined as “the ability of system components, which are loaded and operating with different releases of software to work together.” For example, a redundant Server pair which is loaded and operating with Experion R300.1 software should be able to communicate with a Server that is operating with Experion R210 through Distributed System Architecture (DSA).

Release interoperability and interoperability rules

When you perform on-process migration, redundant servers are migrated to the new release first. Then redundant controllers are migrated to the new release. There is a period of time that servers and controllers must interoperate, which is the time that servers have been migrated and are operating with the new release software, and the controllers which have not been migrated and are operating on the base release. Control of the process is maintained and communication occurs between these Experion system components that are running on different releases of system software.

Release interoperability may not be necessary when you migrate a system off-process, if all system components are migrated before re-starting the process.

Some rules and restrictions apply for release interoperability within Experion systems:

- Servers must be migrated to the new release before controllers. Migration rules state that a server can operate with controllers running on an older release. But, controllers can not operate with servers running on an older release. See Server release interoperability with controller release.

- There is no release interoperability between servers and clients. Servers and clients must be at the same release to operate together. On-process migration starts when you migrate Server B of a redundant server pair. Next you must migrate a client that can be connected to that server, so that you can view the process via Server B once it is migrated and operating with the new release.

ATTENTION

Interoperability between nodes operating with Experion Release 300.0 and other Experion Releases (R201, R210, R300.1) is not supported.

3.2. Server release interoperability

Interoperability between Servers operating with different release software is supported. A DSA Server on Release 300.1, (such as an Experion Server, eServer, or ACE) can interoperate with another DSA Server on Release 210 and 201. No interoperability support is provided for R300.0 servers.

Server release interoperability with client release

In general, interoperability is not supported between servers and clients (Flex and Console Station) operating with different release software. For example, an R300.1 server cannot connect to and operate with a client operating with R201 software. Clients and servers should be loaded with the same release software to provide full support.

Server release interoperability with controller release

The following table summarizes the release interoperability support between server and the various controller type nodes:

Server Release ↓	Experion Controllers (C200, FIM, C300, FIM4, IOLIM, LIOM, ACE and SIM-C200)		
	R300.1	**R210**	**R201**
R300.1	Supported	Supported	Supported
R210	Not supported	Supported	Supported
R201	Not supported	Not supported	Supported

In the table, Server Release represents all applications running in a server (such as Control Builder and real time data cache) interacting with the applications running in a controller, (such as CEEs). The table indicates that R300.1 Server interoperates with controllers operating with R300.1, R210, and R201 firmware.

eServer interoperabililty

If your system contains eServer nodes, please be aware of the following interoperability restrictions:

eServer with Standard access: Due to the limited functions in which Standard access provides, an eServer operating with R210 software can connect to and communicate with a Server operating with R300.1. There are no client requirements for eServer Standard access.

eServer with Premium access: Interoperability is not supported with eServers using premium access. For example, an R300.1 server cannot connect to and operate with an eServer operating with R201 software.

Domain controller interoperability

A domain controller (server) used in an Experion system operates as an independent node. The domain controller is not migrated as part of Experion migration and may operate with Windows Server 2000 and Windows Server 2003 operating systems. The following interoperability of a domain controller in an Experion system is supported:

Domain Controller Operating System ↓	Experion Server		
	R300.1	R210	R201
Windows Server 2000	Supported	Supported	Supported
Windows Server 2003	Supported	Not supported	Not supported

As shown in the table, a domain controller upgraded to Windows Server 2003 supports Experion Release 300.1, but the domain controller does not support Experion nodes on older releases.

3.3. Controller release interoperability

The following tables summarize the release interoperability for C200 and C300 controllers with other controller type nodes:

C200 Controller Release ↓	Experion Controllers (C200, FIM, C300, FIM4, IOLIM, LIOM, and ACE)		
	R300.1	R210	R201
R300.1	Supported	Supported	Supported
R210	Supported	Supported	Supported
R201	Supported	Supported	Supported

C300 Controller Release ↓	Experion Controllers (C200, FIM, C300, FIM4, IOLIM, LIOM, ACE)		
	R300.1	R210	R201
R300.1	Supported	Supported	Supported

Peer to peer communication between a C200 controller operating with R210 firmware and a C300 controller operating with R300.1 firmware is possible only when the connection is defined in the C300 controller.

Note that C300 and FIM4 controllers were introduced in Release 300.

3.4. Configuration Studio interoperability

When using Configuration Studio on a client node, you can only connect to a server which is operating with the same release software. For example, a R210 client running Configuration Studio may connect only to a R210 Server. Interoperability between a client and server on different release software is not supported.

Control Builder

When using Control Builder operating on a client node to access a server, interoperability is supported only if both the client and server are at the same release level. In other words, interoperability between a R201 Client running Control Builder and a R300.1 Server that contains the ERDB is not supported.

Migration rules dictate that Servers must be migrated before controllers. Therefore, the server will always be at the same or higher release level. Control Builder allows

interoperability of the controller load function from a server to a controller operating with R300.1, R210 and R201 firmware.

3.5. Enterprise Model Database Interoperability

When performing an on-process migration, the server that contains the system Enterprise Model Database (EMDB) should be migrated first. Otherwise each cluster may contain its own EMDB. Once the EMDB server is migrated, migrate a client node to the same Experion release as the server and then connect it to the server. This will ensure full support to the EMDB at the new release.

A client, which is running Configuration Studio, can connect only to an EMDB on a server at the same release as shown in Figure 1.

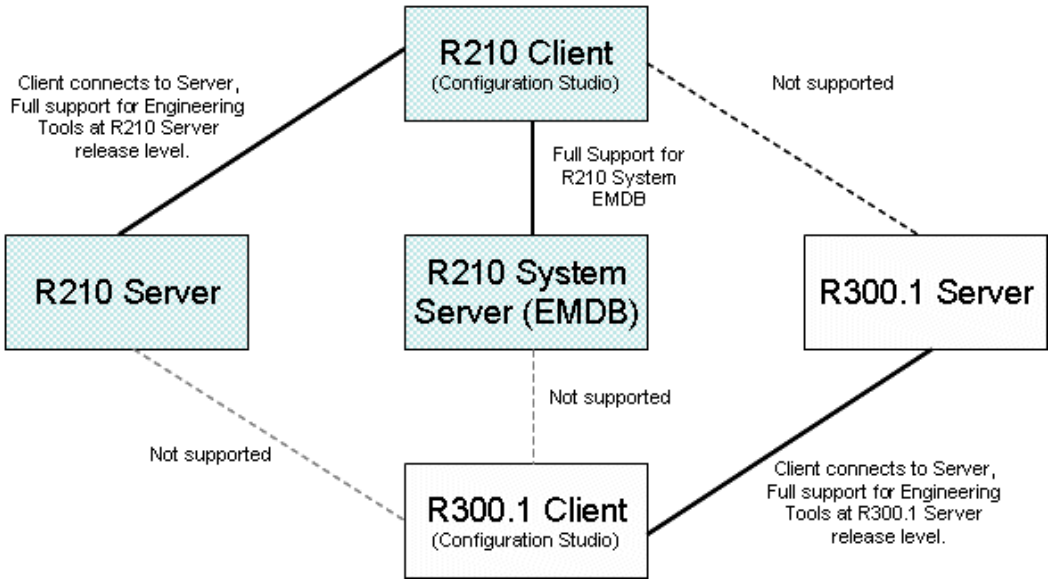


Figure 1 EMDB interoperability in R210 Server

Certain functions are disabled during migration. For example, the EMDB is locked to prevent any changes until migration is completed. Any new functionality which is available in the new release will not be available to servers operating at the older release until they are migrated to the new release. For example, an EMDB server and a client that are migrated to Release 300.1 can take advantage of the features available with the new release, (for example, the System Management Domain). The client (at R300.1) can

load EMDB changes to a server still at the older release, but the System Management Domain will not be available to use on that server. The server must be migrated to Release 300.1 in order to use this new feature. Figure 2 shows the EMDB interoperability in Release 300.1 server.

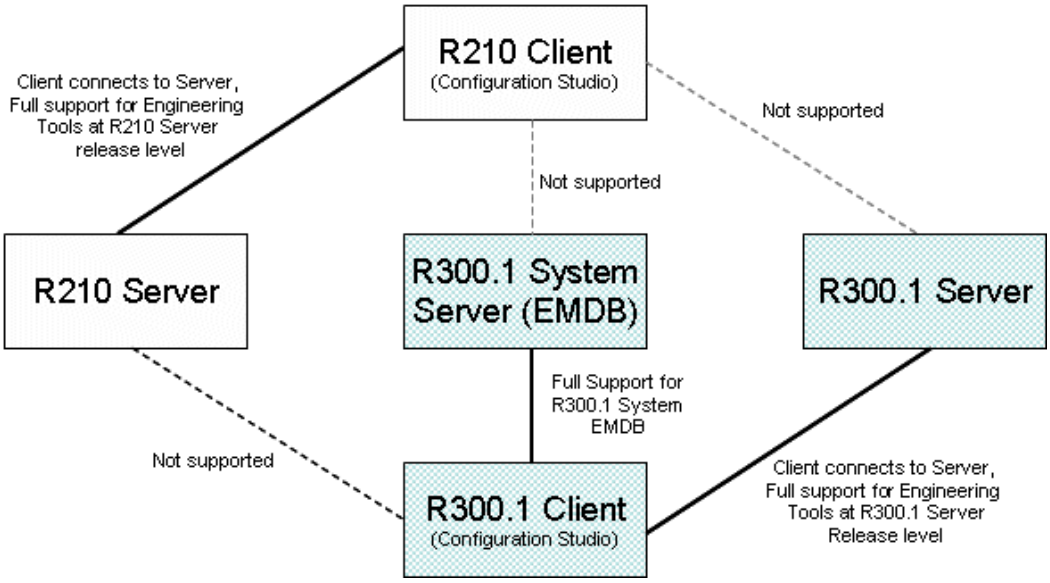


Figure 2 EMDB Interoperability in R300.1 Server

3.6. Custom Algorithm Blocks (CAB)

CAB types existing within the ERDB on an R210 Server, which are migrated to R300.1 and left unchanged, can be loaded to both R210 and R300.1 ACE nodes.

ATTENTION

Once a CAB type is opened and edited by the R300.1 build-time, it can no longer be loaded to an older release (R210) ACE node.

Release which created or last editied the CAB type to be loaded ↓ See Note 1	ACE		
	R300.1	**R210**	**R201**
R300.1	Supported	Not supported	N/A
R210 SP2	Supported	Supported	N/A
R210	Supported	Supported	N/A
R201	N/A	N/A	N/A

Note 1: Indicates the release of the CAB build-time application which was last used on the CAB type in the ERDB. It is assumed that the Server, Control Builder and CAB build-time are at Release 300.1.

The table above is based on the following assumptions.

- ERDB has been migrated to R300.1.
- For all cases shown the CAB type is loaded from project view to monitoring view using the R300.1 Control Builder.
- The only controller which supports the CAB run-time is ACE.
- CAB types created or edited using Experion R300.1 can not be loaded to an R210 ACE.
- A CAB type left unmodified after migration does not require any modification or rebuilding in order to load it to an ACE at newer release.

- Preexisting CAB types within ERDB retain a version identifier from the build-time which created or edited them.
- The CABSOFTVER parameter on the main form of the CAB instance or CAB type indicates the CAB release version that was used to build or last edit the CAB type.
  - For CAB types built or edited on R210, CABSOFTVER = 1.0.0.0.
  - For CAB types built or edited on R300.0 or R300.1, CABSOFTVER = 2.0.0.0.

4. Starting Migration

4.1. Selecting a migration path

This section provides the starting point of your path for Experion system migration. Selecting one of the following migration paths will direct you to a checklist that will guide you through a migration scenario. When finished, return to this page to select the next migration path.

Typical migration scenarios are described in Figure 3, Table 3, and Table 4 below.

ATTENTION

Read the Planning for On-process Migration section. It contains pertinent information which is essential to performing a successful migration.

Migration Path
Read the Planning for Migration section
On-process scenarios
On-process migration of R201 Servers/Clients to 300.1 Servers/Clients
On-process migration of R210 Servers/Clients to R300.1 Servers/Clients
On-process controller migration
Off-process scenarios
Off-process migration of R201 Server/Clients to R300.1 Server/Clients
Off-process migration of R210 Server/Clients to R300.1 Server/Clients
Off-process migration of R300.0 Server/Clients to R300.1 Server/Clients
Off-process migration of eServer nodes
Off-process migration of ACE and SIM-C200 nodes
Off-process controller migration

On-process migration of R201 Servers/Clients to 300.1 Servers/Clients

On-process migration of R201 servers to R300.1 is possible, although it requires additional procedures which are not covered in this document. Referring to Figure 3, there are three on-process migration paths from R201to R210.

1. You must make sure that your R201 servers at correct software update level to migrate to R210. Note that this migration path is not covered in this document. (See *Experion PKS System Installation and Upgrade Guide* for R210, document number EP-DCSX33 for these migration procedures. Read the *Software Change Notice* for Experion R210, to find out if it contains any migration-related information that is applicable to you.)

2. Then, operate the system on R210 for a period of 3 to 5 days to ensure all control and operational aspects of the R210 system are working and stable.

3. Migrate your R210 servers to R300.1 on-process, provided your R210 servers are at the correct release level to perform the migration. (Use the 'On-process migration of R210 Servers/Clients to R300.1 Servers/Clients' migration path to perform the migration.)

Figure 3 graphically shows the valid migration paths supported for Experion R300.1. It also describes the starting point for a migration path, the minimum software release level in which a node must be to start a migration scenario.

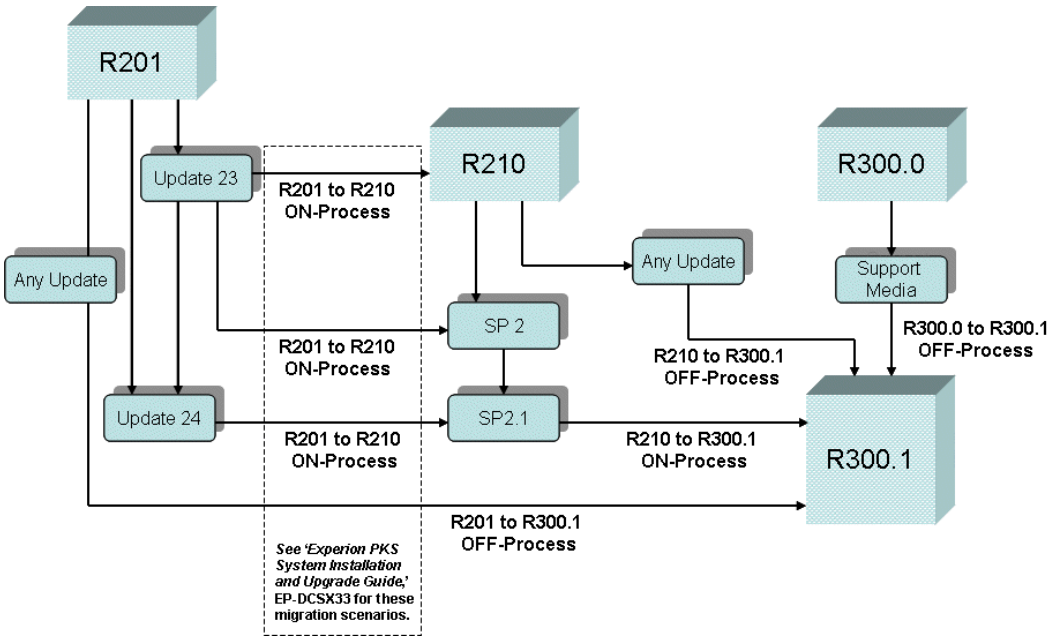


Figure 3 Migration paths for Experion R300.1

4.2. Server/Client migration scenarios

Table 3 shows the Server/Client migration and installation scenarios which are supported for Experion Release 300.1. The Application DVD media contains the Migration Application that executes migration. The table also shows the Windows operating system that is supported for the different Experion node types. In some migration scenarios a hardware upgrade or re-installation of the operating system may be necessary.

Table 3 Experion Server/Client migration scenarios

Operating System Installed	Experion Release Installed	Migration Application Behavior (Application DVD media)
Windows 2000 Server/Professional	Experion R210/R201	Detection of previous version of Experion. Performs migration to Experion R300.1 with OS installation. (See Notes 1 and 2)
Windows 2003 Server (See Note 1.)	None	Performs Experion R300.1 Installation.
Windows XP Professional (See Note 2.)	None	Performs Experion R300.1 Installation.
Windows 2000 Server/Professional	None	Application terminates with the Information message: Windows 2000 Server/Prof does not support R300 Installation. You must install Windows 2003 Server or XP Professional operating system. (See Notes 1 and 2) Then perform Experion R300.1 installation.
Windows XP Professional (See Note 2.)	Experion R300 (Off Process)	Detection of previous version of Experion. Perform migration to Experion R300.1
Windows 2003 Server (See Note 1.)	Experion R300 (Off Process)	Detection of previous version of Experion. Perform migration to Experion R300.1
Windows 2000 Server/Professional	Experion R101	Application terminates with the Information message: Migration from Experion R101 is not supported. Refer to *Experion PKS System Installation and Upgrade Guide*, EP-DCX33

Note 1: Windows 2003 Server operating system supports Experion R300.1 installation for Experion Server, eServer, ACE, SIM-C200 and EHG nodes.

Note 2: Windows XP Professional operating system supports Experion R300.1 installation for Console, Flex Station and other client nodes.

4.3. Controller migration scenarios

The migration of controllers and associated components can be performed a number of ways, depending upon the system topology and the compliment of installed I/O. Typical scenarios are described in Table 4.

Table 4 Controller migration scenarios

Controller Migration scenario	Use the Controller Migration Wizard and…
On-Process Migration scenarios	
On-Process migration, Redundant Controller Chassis – which includes redundant controller modules, such as CPM, RM, CNI, IOLIM, and FIM. The controller may reside either on the Supervisory Network or on a I/O Network (currently not supported for the CPM and IOLIM modules).	Select redundant controller chassis (primary and secondary chassis) at one time for on-process migration. All redundant components in the controller chassis will be migrated at once. Also, individual controller interface components in an RCP that are redundant can be selected for migration, such as FIMs and IOLIMs.
On-Process migration, Redundant C300 Controllers	Select redundant controller modules for migration.
On-Process Migration, Redundant FIM4	Select redundant Fieldbus Interface Modules (FIM4) for migration.
Off-process Migration scenarios	
Off-process Migration, Redundant Chassis	Perform migration of redundant controller chassis off-process. All redundant components in the controller chassis will be migrated at once.
Off-process Migration, Non-Redundant Chassis	Select a non-redundant controller chassis for off-process migration. All components in the controller chassis (except I/O) are migrated at once.
Off-process Migration, Redundant C300 Controllers	Select redundant controller modules for migration.

Controller Migration scenario	Use the Controller Migration Wizard and…
Off-process Migration, Non-redundant C300 Controllers	Select individual controller modules for migration.
Off-process Migration, Non-redundant controller modules, (CPM, CNI, IOLIM, FIM)	Select Individual controller modules for off-process migration.
Off-process Migration, Redundant FIM4	Select redundant Fieldbus Interface modules for migration.
Off-process Migration, Non-redundant FIM4	Select individual redundant Fieldbus Interface modules for migration.
Off-process Migration, Associated I/O modules	Select Individual I/O modules for off-process migration.
Off-process Migration, ACE/SIM-ACE and SIM-C200	Select individual ACE/SIM-ACE or SIM-C200 control nodes for off-process migration.

5. Planning for On-process Migration

This section covers topics that describe preliminary planning, considerations and tasks which are essential for conducting a successful system migration while on-process. Click on a topic to display it.

Topic
Migration planning
Develop a migration strategy
Develop a migration timetable
Review software requirements
Migrating other Honeywell products and applications
Migrating Non-Experion third-party applications
Review hardware requirements
Experion Migration Storage Node (EMSN)
Product and Network topology changes
Perform pre-migration checks
Migration considerations Important!
Ethernet, FTE networks and migration
Domain controllers used in Experion
Post-migration tasks
Canceling migration

5.1. Migration planning

Preparation for system migration should begin well in advance of the day that you plan to start a migration. You will find that to execute a migration successfully requires the coordination of many things along with the cooperation of various plant personnel.

Devise a comprehensive migration plan that addresses the considerations described in the following sections. Also a plan will help to alert responsible plant personnel on what to expect before, during and after the migration.

Migrating non-redundant Experion systems and control components (OffP migration)

Non-redundant Experion system and control components must be migrated off-process. If a migration is planned during a scheduled plant maintenance shutdown, a migration plan should be developed to make sure that people and resources are available for the migration. The same migration applications and tools can be used to perform off-process migration.

5.2. Create an on-process migration plan

It is essential that you develop a migration plan for your process control system to minimize any problems which may occur during a migration and ensure that a migration is successful. In developing a migration plan you must take into account the structure and size of the process control system, as well as the process which Experion controls.

A system contains one Experion cluster, or in a larger system, a number of Experion clusters. An Experion cluster may consist of computers that host redundant servers, a console station, a Flex station associated with the servers and controllers associated with the cluster. Larger Experion clusters may consist of computers that host redundant servers; Stations (both Flex and Console) associated with the servers, an ACE node and a set of controller components. Large plants may contain a number of control systems that have many Experion clusters populated throughout the plant.

You may decide to migrate the Server/Station nodes of one cluster and then migrate all, none, or a portion of the controller components of that cluster. The servers in all the Experion clusters of a control system may be selected for migration now, and the controller migration could be scheduled for a later time. Interoperability of system components is possible with some restrictions. For example, you could migrate and operate servers and Stations on the new release software and operate controllers and other system nodes running at the base release until migration is scheduled for those components. In any case, server migration (which includes Stations) is always performed before the migration of ACE nodes and controllers within a single cluster.

Also, consider any hardware upgrades that may be necessary or desired. Servers may require a newer platform (computer) in order to operate and run new release system software. See Hardware requirements for more information.

A well-planned migration plan must be developed beforehand to ensure success. A control system should be partitioned in such a way so that migration of Experion clusters is accomplished with minimal upset to the process.

5.3. Develop a migration strategy

Identify the scope of migration.

- Which part(s) of the system are to be migrated at this time?
- What parts of the system are identified for subsequent migration?
- How will the migrated system nodes interoperate with the nodes that remain on the base release?

If your system comprises one Experion cluster or a number of clusters, will all server nodes in the clusters be migrated to the target release now? Do server nodes share databases between clusters? For example, The Enterprise Model Database (EMDB) may exist on a dedicated node which is shared between servers in different clusters. How will this impact migration? How will this impact system operation and interoperability if one Experion cluster is migrated to the target release and another cluster is left at the base release?

For larger systems that include multiple clusters, a migration strategy should contain two scenarios:

1. How will the system migration be conducted?
2. How will each Experion cluster migrated?

System migration planning

Depending upon how your system topology is arranged, determine the order of migration for the nodes and clusters that comprise the system. Server node(s) that host the EMDB should be migrated first, along with a client to provide connectivity to the migrated server. If your system contains a standalone EMDB server, (such as Experion Application Framework or Experion Application Server), then migrate it first. If individual clusters in the system host an EMDB, then migrate these servers first. Contact Honeywell TAC for additional planning information.

Cluster migration planning

Within a single cluster, on-process migrate Experion nodes in the following order:

- Server B
- One Flex Station
- One Console Station
- Console Extension Stations (CES) connected to the migrated Console Station

- Perform Compatibility Tests
- Remaining Flex Stations
- Remaining Console Stations
- Remaining Console Extension Stations (CES) connected to the Console Stations
- Server A
- ACE and SIM-C200 nodes (migrated off-process)
- Controllers

Other nodes which may be associated with a number of servers across multiple clusters, such as eServer, can be migrated off-process, independent of the system migration. See Migrating multiple clusters for more information.

If your system contains Series C control hardware, (C300 controllers, FIM4s) you must upgrade the CF9 control firewall to the latest firmware before you migrate the Series C hardware. See Control Firewall firmware upgrade.

State of the process

Determine what is a satisfactory state for the process to begin an on-process migration? The process should be stable, and if possible, quiescent. If the process is a batch operation, it is recommended that a batch not be in progress during system migration. Verify that the process is appropriate for on-process migration by using normal system displays to view and monitor the process.

5.4. Develop a migration timetable

Develop a timetable for conducting the migration. Consider the timing of the various migration tasks that need to be performed and the order of such tasks. Estimate the time required for completing each task. For example, estimate the time for:

- Obtaining new hardware, if required
- Completing pre-migration checks
- Performing server migration of one redundant node
- Performing migration of associated Client nodes
- Completing Compatibility Tests on migrated nodes
- Performing server migration of second redundant node

- Completing server post-migration tasks
- Re-installation of other Honeywell applications.
- Re-installation of third-party applications
- Migration of other Experion nodes, ACE, SIM-C200, etc.
- Performing controller migration
- Completing controller post-migration tasks

Migration time estimates

Use the following information as a guide for estimating the time to perform an on-process migration from R210 SP2.1 to R300.1, or an off-process migration from R201/R210/R300.0 to R300.1. The estimates are based on a cluster with 5-10 stations, redundant servers, 1 ACE node, 3 - 10 controllers, and a number of LCN connections. These times can vary significantly based on user experience, database size, and the current condition of the system.

On-process Migration to Release 300.1

Migration Task	Estimated Time
Overall planning	2 – 5 days
Preparation and backups	2 - 5 days
Server B migration together with some stations or consoles	3 - 4 days
Migrate remaining stations and consoles:	
• each Flex Station	2 - 3 hours
• each Console Station	4 - 6 hours
Verification proper Server R300.1 functionality (Compatibility Testing)	1 - 2 days
Server A migration	1 - 2 days
Controller migration	1 - 4 hours per controller
ACE node	2 - 3 hours
TPS functionality	1 - 2 days

Migration Task	Estimated Time
Migration verification	1 - 2 days

Off-process Migration to Release 300.1

Migration Task	Estimated Time
Overall planning	1 - 2 days
Preparation and backups	1 - 3 days
Server A and B migration	2 - 3 days
Migrate the stations and consoles:	
• each Flex Station	2 - 3 hours
• each Console Station	4 - 6 hours
Controller migration	1 - 4 hours per controller
ACE node	2 - 3 hours
TPS functionality	1 - 2 days
Migration verification	1 - 2 days

5.5. Review software requirements

Review and address the software requirements for the migration. What is the base release (or current release) of the system components identified for migration? Is the release at the correct patch level? What is the target release for the system components? Does the migration path for the system create any special requirements that must be met? For example, if all system components are not currently operating at the base release, then should components at older releases be migrated to the base release before migration to the target release?

ATTENTION

Only valid migration path for on-process migration is:
Experion Release 210 Service Pack 2.1 to Experion Release 300.1

Therefore, before you run the Migration Readiness Tool (MRT) or start an on-process migration -

- Verify that R210 SP2.1 or later patch is installed on both Server A and Server B.
- Verify that all controllers have been migrated to R210 SP2.1.

Software media required for Experion R300.1

Whether you are migrating to or installing Experion R300.1, you will need the following software media for upgrading either Experion Server or Station:

Honeywell Media:

- Experion PKS R300.1 Client/Server Initialization DVD (EXPPlus).
- Experion PKS R300.1 Application Software Media
- Experion PKS R300.1 Support Application Media

For Windows server 2003:

- Microsoft Windows Server 2003 (Standard Edition) CD, *or*
- Microsoft Windows Server 2003 R2 (Standard Edition) CD Set, *or*
- Dell Windows Server 2003 (Standard Edition) re-installation CD, *or*
- Dell Windows Server 2003 R2 (Standard Edition) CD Set re-installation CD.

  Note: If you have the " R2" version (2 CD Pack) , then only "Disk 1", which contains Windows Server 2003 Service Pack 1, should be used.

For Windows XP:

- Microsoft Windows XP Professional CD or Dell re-installation Windows XP Professional CD.

Migrating other Honeywell products and applications

The following Honeywell applications may be installed on nodes within an Experion system and are not migrated as part of Experion migration. Specific considerations for

some of these applications when migrating Experion software are noted below. During server migration you may get a message screen that informs you of software applications (both Honeywell and third-party applications) that will not be migrated forward.

- Alarm Pager – If you are using Alarm Pager option, you will need to reconfigure the alarm paging after migration. This requires that you check to make sure that the modem (if one is used) is connected to the system and configured properly. See Knowledge Builder > *Server and Client Configuration Guide* > 'Configuring alarm paging' for details and procedures.
- Control Component Libraries (CCLs) – The system standard CCLs supplied with Experion are migrated forward to the new release. Special consideration is required for customer specific CCLs. These customer-defined files are not migrated, and therefore must be saved before system migration and then reinstalled after migration. See Custom CCLs for more details.
- DVM – Digital Video Manager. See the Digital Video Manager User Guide for details to migrate DVM client and host components.
- Integrated Experion-TPS nodes (EST/ESVT) – Software for Integrated Experion-TPS nodes are installed last, after other Experion nodes (Server, Console or ACE) have been migrated. Integrated Experion-TPS node configuration data is saved and restored during Experion migration, although installation of the Experion R300.1 TPS components software is required to retain the configuration. Guidance on migrating Integrated Experion-TPS nodes is provided in the migration checklists.
- FDM – Field Device Manager. Experion systems that have Field Device Manager installed should be aware of the following considerations and restrictions when migrating your Experion system to a newer release:
  - If you are migrating your Experion system to Release 300.1 you must install Field Device Manager R300.
  - Field Device Manager Release 102 and 200 are compatible with Experion R201 and R210. So, if you are migrating your Experion system to R210, you can continue to use Field Device Manager R102 or R200.
  - See the *FDM Software Upgrade Installation Guide* for details to migrate the Field Device Manager application.
- Asset Manager
- Business Flex
- Da Vinci Server, Quality Server, MxProLine Server

- OMS
- Operator Effectiveness
- OptiVISION
- PMD
- POMS
- Process History Database (PHD)
- Process Performance
- Profit Suite
- Safety Manager
- Simulation
- TPB
- User Alert
- Uniformance

Migrating non-Experion third-party applications

Most non-Experion applications are not migrated as part of Experion migration. If your control system includes non-Experion (third party) applications, consider a strategy for saving the data and configuration files for the application so that the data and configuration settings can be re-installed with the application after Experion software migration is completed. During server migration you may get a message screen that informs you of software applications that will not be migrated forward and will be deleted from the server.

Additional considerations should be made such as: Are the third-party applications currently operating with the Experion system compatible with the new release operating system requirements? Are they interoperable with the new Experion platform software release? Are there upgrades available for the third-party software? Should compatibility testing be performed off-line to ensure that the applications will operate properly in a stable manner? Here are some examples of third-party software applications.

- RS-Linx is migrated as part of Experion migration due to the fact that RS-Linx is integral to the operation of ControlNet communications protocol.

- Virus protection services applications are not migrated forward as part of Experion migration.
- Profibus
- Oil/movement/Blending, Business applications

Custom CCLs

Users that have custom CCLs installed in the system should contact the CCL developer to obtain an updated version of the CCL which has been qualified for use in the target release and, if performing on-process migration, has been qualified for OPM.

Step	Action
Before migration:	
1	Identify the current and target release for migration
2	Contact the custom CCL supplier for an updated CCL package
3	If a new CCL version is available, verify that the new version CCL is qualified for OPM: – From the controller on the base release firmware running the current version of the CCL – To the controller on the target (new) release firmware running the new version of the CCL.
4	If no new CCL version is available, verify that the current version of the CCL is tested and compatible with the target release of the controller firmware. Verify that the current version CCL is qualified for OPM – From the controller on the base release firmware running the current version of the CCL – To the controller on the target (new) release firmware running the current version of the CCL.
	ATTENTION If the custom CCL is not qualified for on-process migration, ensure that the custom CCLs are removed from the controller, before starting controller migration.
After completing server migration and before controller migration:	
5	Complete server migration.

Step	Action
6	From Server B, install the updated version of custom CCL into the ERDB Refer Installing Custom CCLs for procedure.
7	Migrate the controllers using the Controller Migration Wizard.

SCADA system communication protocols

Experion SCADA Server communicates with a variety of SCADA devices using different protocols (such as, Modbus, Allen-Bradley, etc). Most of these protocols are not under control of Honeywell, but the majority of these protocols have not changed. Unless there is a protocol change, it can be assumed that the new releases of Experion Server will continue to be compatible with existing SCADA devices.

5.6. Review hardware requirements

Migrating an existing Experion system to new system software may require that the hardware platform (computer system) which supports software operation to be upgraded also. Hardware platforms may be configured as an Experion Servers, Flex Stations, Consoles, ACE or SIM-C200 nodes, or other client nodes. A new computer system may be needed to meet the performance requirements for Experion software operation. . Typical upgrades may include adding memory cards, installing additional disk drives and upgrading to newer interface cards.

Refer to PC Platform Performance Requirements section in the *Experion R300.1 SCN* for more information. If hardware upgrades are necessary, identify which components need to be upgraded or replaced.

The following Dell computer platforms are no longer supported on Experion systems running R300.1:

PE1400	PE2500SC	PE2800
PE1400SC	PE2550SC	PE2650

Any third-party hardware interfaces, if installed, need to be transferred to the new hardware platforms. Verify if the interface hardware is compatible and can be installed in the new platform's card slots. Will the interface hardware need to be replaced? Make sure that any replacement hardware is equivalent in function of the hardware that it replaces. Estimate how long it will take to obtain any new hardware.

Experion Migration Storage Node (EMSN)

The Experion Migration Storage Node (EMSN) is a shared folder which is used to store and retrieve the database and configuration information contained on an Experion node identified for migration. The EMSN should be located on a node separate from the node to be migrated, but within the same network or Experion cluster.

The EMSN must have sufficient disk storage so that the information can be copied to the EMSN from the server or client node to be migrated. Table 5 provides estimates for disk space needed based on the node type that is being migrated and database size. You create a shared folder on the EMSN during the migration procedure. Although a space check is performed during migration to ensure the EMSN has sufficient disk space, use Table 5 as a guide to estimate the EMSN size needed before migration is started.

The Base size in Table 5 is the estimate for the Experion software installed in the server/client node, minus Experion data and database files stored on the node. Options include optional Experion software files (CAB) and other third-party applications, although the applications are not saved or migrated forward during migration. If you plan to use the same EMSN as storage for other node migrations, you must consider the additional disk space. You can also reuse the space on the EMSN, but you must first delete the folders from previous node migrations.

Table 5 Experion Migration Storage Node estimated size

Node Type	Total size (T)	Base size (B)	Options (O) (Eg, CAB)	Estimated EMSN Size needed T – (B +O) = EMSN
Release 201				
Process Server		6 GB	+ Options	
SCADA Server, eServer		5 GB	+ Options	
Process Flex Station, Console Extension Station		4 GB	+ Options	
SCADA Flex Station, Console Extension Station		4 GB	+ Options	
Process Console Station		4.5 GB	+ Options	
SCADA Console Station		4.5 GB	+ Options	
ACE, SIM-C200		3.5 GB	+ Options	

Node Type	Total size (T)	Base size (B)	Options (O) (Eg, CAB)	Estimated EMSN Size needed T – (B +O) = EMSN
Release 210				
Process Server		7 GB	+ Options	
SCADA Server, eServer		5 GB	+ Options	
Process Flex Station, Console Extension Station		8 GB	1.5 GB	
SCADA Flex Station, Console Extension Station		5 GB	+ Options	
Process Console Station		7 GB	1 GB	
SCADA Console Station		7 GB	+ Options	
ACE, SIM-C200		3 GB	1 GB	
Release 300				
Process Server		7 GB	+ Options	
SCADA Server, eServer		7 GB	+ Options	
Process Flex Station, Console Extension Station		6 GB	3 GB	
SCADA Flex Station, Console Extension Station		6 GB	+ Options	
Process Console Station		7 GB	3 GB	
SCADA Console Station		7 GB	+ Options	
ACE, SIM-C200		5 GB	1 GB	
Formula: Total Size – (Base size + Options) = Estimated EMSN space Options include CAB software, Third Party software and applications installed on the node, etc				

5.7. Product topology changes (SCADA and Process)

Product topology changes are not allowed during migration. For example, an Experion R210 SCADA type system cannot be migrated to an R300.1 Process system. Although Experion SCADA and Process type systems use the applications and the same procedures for system migration, the control configuration and topologies are still different. Conversion of a SCADA type system to a Process type system is possible. Consult your Honeywell Technical Assistance Center for more information about product topologies and to help you determine your system topology.

ATTENTION

R201 and some R210 ESVT's are installed as SCADA systems and customers should contact TAC prior to migrating.

5.8. Network topology changes

ATTENTION

Honeywell recommends that any changes to the control or supervisory communications topology in the system should be made **after** migration is completed.

Identify any changes to the system or network topology that can be made after the migration. For example, you may want to add CISCO switches, update the CISCO switch firmware, and then update the CISCO switch configuration, and add a control Firewall. Also, you may want to install C300 controllers and Series C I/O modules, add Stations, add controllers, and/or update the control firewall. You should then determine a strategy for performing these changes.

5.9. Migration considerations for Integrated Experion-TPS nodes

TPS components will continue to be On-Process during the migration and ES-Ts will continue to have view and control capabilities to the TPS system during the migration procedure. They will lose that capability when they are the specific node that is being migrated and will regain that capability as soon as they are migrated and operational on the new release.

5.10. Migrating DSA-connected Experion/TPN systems

The ESVTs and ESTs in Experion clusters that are connected to TPN can be migrated without affecting the operation of the TPN.

The version of TPN required for the integrated Experion-TPS nodes has not changed in R300 from R210, so there is no requirement to upgrade it.

5.11. Migrating multiple clusters

Considerations for Experion system architectures that include a single Experion cluster or multiple Experion clusters, and the necessary considerations for proper migration of the Enterprise Model Database (EMDB) for these architectures are described below. As a general rule, when conducting a system migration you should migrate the servers that contain the EMDB first.

Migrating R201 to R300.1

Migrating Experion control clusters from Experion R201 to R300.1 require the following considerations. On-process migration from R201 to R300.1 requires two OPM activities and addtional procedures that are not covered in this document. See On-process migration of R201 Servers/Clients to 300.1 Servers/Clients for more information.

Note that the Enterprise Model is a feature that was introduced in Release 210 and therefore did not exist in R201.

- When planning to create a single Experion system, you can host the EMDB on an eServer which is non-redundant server. You need to ensure that the appropriate selection is made during installation. A redundant server pair or redundant system nodes in the cluster can host the EMDB, but not on any other server node within the system. Migrate the node that hosts the EMDB first.
- When planning to create multiple Experion systems, there should be one cluster in each system that will host the EMDB for the system. Identify the clusters that will host the EMDB, and migrate those nodes first.
- After all nodes in the system(s) have been migrated, you must add the ‘previous R201’ servers to the EMDB of the various “systems”. Log into Configuration Studio and connect to the system you wish to configure. When prompted, choose “Continue” to import the asset models from the servers to add them to the Enterprise Model.

Migrating R210 to R300.1 – Single EMDB cluster

Migrating a single R210 Experion system that contains a single EMDB cluster (redundant system nodes that host the EMDB) to Experion R300.1 requires the following considerations:

- Migrate the EMDB cluster first.
- Do not make any engineering changes until all clusters within the system have been migrated.
- Minimize the amount of time that clusters running on different releases are allowed to co-exist.

Migrating R210 to R300.1 – Multiple EMDB clusters

Migrating multiple R210 Experion systems that each contain an EMDB cluster (redundant system nodes that host the EMDBs) to Experion R300.1 require the following considerations:

- Migrate the EMDB clusters within each system first.
- Do not make any engineering changes until all systems have been migrated.
- Do not make any engineering changes until all clusters within each system have been migrated.
- Minimize the amount of time that clusters running on different releases are allowed to co-exist.

5.12. Interoperability restrictions

If the migration plan specifies that only some system components (for example, servers) will be migrated to the target release now and other components (such as controllers) will remain at the base release, there may be some restrictions on the interoperability of these components. See the Interoperability section for details.

Interoperability cannot be avoided during an on-process migration, since servers, controllers and other Experion nodes cannot always be migrated simultaneously.

5.13. Perform Pre-migration checks

Perform these tasks in this checklist to help ensure that your system is in a state of readiness for on-process migration. These checks will help to minimize or eliminate any errors/faults that may be encountered during an on-process migration.

Table 6 Pre-Migration Task Checklist

Task	Requirement, Details and Document Reference	Done
Make sure that all CD/DVD Drives installed in Experion Station computers are in working order and accessible	Note that older Flex Stations may not contain DVD drives and may not provide support for migration. Install an external DVD drive, if necessary.	
Ensure that all Communications Networks are intact	Verify that there are no reported errors or active alarms on devices, the I/O network, or the supervisory communications networks. Confirm this by viewing appropriate system management displays. • If there are errors or if alarms are active, perform tasks to correct faults.	
Verify Network Configurations:		
a. Verify that the **binding order for the FTE network adapter ports** is consistent with the FTE Tree structure.	*Requirement*: **The Yellow Port must be listed first in the binding order.**	
	R210 KB reference: 'Fault Tolerant Ethernet Installation and Service Guide' *See the topic:* '7.2 Verifying proper installation' *Use the procedure:* 'Verify TCP/IP network binding order is correct' *To change the network binding order –* *See the topic*: 7.5 Changing the Network Binding Order > 'Modify network binding order after FTE is configured.'	
Note that items, b, c and d below are verified using the same reference in R210 Knowledge Builder. The specific reference is described below.		
b. Verify LAN **Interface metric** settings are correct	*Requirement*: The **LAN Interface Metric must be set to 1 on the Yellow link,** and **5 on the Green link**. The **Automatic metric check box is cleared on both links,** (does not appear in Windows 2000).	
c. Verify **DNS** settings are correct.	*Requirement*: **The A - Yellow link is the address registered with DNS**.	

Task	Requirement, Details and Document Reference	Done
d. Verify **NetBIOS settings** are correct.	*Requirement*: **NetBIOS is enabled on A -Yellow link and disabled on the Green link**.	
	KB reference: 'Fault Tolerant Ethernet Installation and Service Guide' *See the topic:* '4.2 Connecting and Configuring Network Adapter Ports' ***To check the Yellow link:*** *Follow the procedure:* 'Configure the A – yellow FTE network adapter port,' to verify the • LAN Interface metric is set to 1 and the Automatic metric check box is cleared, if shown. • DNS setting: 'Register this connection's addresses in DNS' option is checked. • NetBIOS setting: 'Enable NetBIOS over TCP/IP' option is selected. Change value or options if necessary. ***To check the Green link:*** *Follow the procedure:* 'Configure the B – green FTE network adapter port,' to verify the • LAN Interface metric is set to 5 and the Automatic metric check box is cleared, if shown. • DNS setting: 'Register this connection's addresses in DNS' option is cleared. • NetBIOS setting: 'Disable NetBIOS over TCP/IP' option is selected Change value or options if necessary.	
e. Verify the **Default Gateway** IP address for the A – Yellow FTE network adapter port	*Requirement*: The **Default Gateway IP address must not be set to zero, or blank**. If used, it must be set to **a valid IP Address**.	

Task	Requirement, Details and Document Reference	Done
	KB reference: 'Fault Tolerant Ethernet Installation and Service Guide' *See the topic:* '4.2 Connecting and Configuring Network Adapter Ports' ***To check the Yellow link:*** *Follow the procedure:* 'Verify correct IP addresses'	
f. Verify **Persistent Route configuration**, if applicable	To view the Route command configuration: • Select **Start** > **Run** > and type **command** and press **Enter**. • From the command prompt window, type **route print** and press **Enter**. • If you are using a Persistent route for your network, it will show the route commands at the bottom of the configuration listing. If you need to change the route command or need further details *see the R210 KB reference*: 'Fault Tolerant Ethernet Installation and Service Guide,' 7.8 Using Route Commands.' *See the topic*: 'Configure a route add for Level 1 FTE nodes' *Or see the R210 KB reference:* 'Fault Tolerant Ethernet Overview and Implementation Guide' *See the topic:* '3.4 Allowing Level 1 to Level 2 Communication'	
g. Verify **CISCO switch configuration**.	**ATTENTION** – This check should be performed only by a system administrator who is familiar with the switch configuration for this system. Depending upon the structure of your network you want to ensure that the correct Honeywell FTE configuration is running on your network switches. Different configurations may be configured on ports of switches controlling controller-to-server communications, (Level 1 and Level 2) and switches controlling communications on your supervisory network, (Level 2 and Level 3).	

Task	Requirement, Details and Document Reference	Done
h. Verify **Embedded FTE configuration**	*To verify the address settings for i, ii, and iii below:* • In Control Builder – Select **Tools** > **System Preferences** to call up the System Preferences dialog. • Select the **Embedded FTE** tab. If you need to change the route command or need further details *see the R210 KB reference*: 'Fault Tolerant Ethernet Installation and Service Guide' *See the topic*: 'Using Route Commands'	
i. Base IP Address	*Requirement*: The Base IP address must be within the same subnet as server's IP address unless a persistent route command is used.	
ii. Subnet mask	*Requirement*: The Subnet Mask must be meaningful, that is it should allow communication between Server and embedded node. The Base IP should equal the Server IP unless a persistent route command is used.	
iii. Default Gateway	*Requirement*: Default Gateway should be either zero (the default entry) or the Gateway IP.	

Task	Requirement, Details and Document Reference	Done
Use the Migration Readiness Tool (MRT) to: • **Verify Server Readiness for on-process migration** • **Verify Controller Readiness for on-process migration** Note that you should load the version of the MRT utility for the release that you are planning to migrate to. For example, if you are planning a system migration to Experion Release 300.1, load the R300.1 version of the MRT on your Servers and then use that MRT to perform the readiness checks. See Obtain latest Migration Readiness Tool on page 210 for details to install the MRT.	Perform a Server Readiness Check to confirm that communications with all system nodes selected for migration are intact. See page 211 for the procedure. • If any failures are reported, correct them and then re-run the Server Migration Readiness Check until no failures are reported. Perform the Controller Readiness Check well in advance of the migration to allow sufficient time to resolve any errors that the tool might identify. See page 213 for the procedure. If configuration errors in control strategies are identified, be sure to notify the responsible personnel for correction and testing before starting migration. Also notify responsible personnel if no configuration errors are found, and request that any planned database changes be deferred until after the migration. For changes that cannot be deferred, be sure to identify and thoroughly test these changes to eliminate errors before starting migration. • If any failures are reported, correct them and then re-run the Readiness Check until no failures are reported. • If non-compliant hardware or firmware is detected, replace it with supported components. If hardware or firmware are needed and must be ordered, do so in order not to delay the migration schedule. • Also, if the Controller Migration Report indicates a Status of 'Fail' on any of the following checks you should run the Database Consistency Check on the controller. – Are there any Dangling Peer Connections? – Are there any Inconsistencies between ERDB and Controller?	

Task	Requirement, Details and Document Reference	Done
Make sure that all Controller, Server/Station performance issues have been identified and addressed	If there are persistent or reoccurring errors or alarms in the system, they should be addressed and if possible corrected prior to beginning migration. This will help to minimize errors and the elapsed time for completing migration. Requirement for C200 and C300 controllers before migration: • CPU Free – (CPUFREEAVG parameter) must be not less than 20% • Minimum CPU Free – (CPUFREEMIN parameter) must not be less than 5%	
Ensure that system backups are up to date	Perform backups periodically for your system. Ensure that your system files are backed up before you start a migration. *See KB reference* 'Backup and Restore Guide' for details and procedures.	
Make a disk image of the hard drive	Create a disk image (ghost) of the hard drive for the node that is to be migrated. This image can be used in the event that you must restore the node to its original condition.	
Perform an 'Upload With Contents' for the controller(s)	In Control Builder, perform an 'Upload with Contents' for the controller(s) Note: Do not select (uncheck) the 'Upload Server Configuration Information' option.	

Task	Requirement, Details and Document Reference	Done
Run ERDB Consistency Check	The ERDB consistency check provides a status of the ERDB. The check must be run on the same node as the primary ERDB (Server B). Download the latest version of the ERDB Consistency Check from SSOL. It can be launched from the Start menu: • Choose **Start >Run…** • Browse to the file **_CheckErdb.sql.cmd** • Click **OK**. • Choose the "For OPM and Database Check" option (O) and press **Enter**. • Check the log file in C:/temp folder. The report generated by the consistency checker identifies any inconsistencies in the database. • Call Honeywell Solutions Support Center if any inconsistencies are reported.	
End of Pre-migration tasks		

You have completed this task. Return to the checklist that led to this task.

5.14. Migration considerations

ATTENTION

The following sections contain important information that you should consider before you begin a migration. The information is arranged by system function or feature and describes conditions where data may be lost through the migration process if precautions or procedures are not followed. Where possible, workarounds are provided to help safeguard and restore data.

Therefore, if your Experion system uses these features or contains certain configurations, you should read the related section to determine if the information is relevant to your system or situation. If so, take precautions to backup your data files and follow any workarounds.

5.15. Time synchronization during migration

Planning time topology during migration

Maintaining the correct time synchronization during a server migration is critical. There are a number of considerations that are required, before and after migration. You must consider whether the current system time topology, if you have one, is comprehensive enough to distribute time to all system nodes during a migration. Keep in mind that during a migration some nodes will be operating at the new release (such as servers and Clients that have been migrated), while other nodes (such as controllers) still will be operating at the base release. Establish a time topology that provides reliable time distribution to all nodes in the system. The system time source should derive its time from a reliable external time source.

Experion nodes in a system that are not synchronized to the same time source may drift through time and cause control and/or migration problems. For example – at one point during server migration, a redundant server pair is operating in a dual primary mode, (Server B has been migrated and is operating at the new release and Server A is operating at the base release). Each server may be distributing time to the controllers associated with the servers. If time is not synchronized between the servers, the controllers may execute control strategies incorrectly due to inconsistent time received from the servers.

NTP servers (time source for Series C control hardware)

Experion R300.1 uses Network Time Protocol (NTP) to furnish system time to all Experion nodes. Series C control hardware (C300 controllers, FIM4), use time distributed from an NTP server, so if your system contains any Series C control

hardware, you must setup an NTP server. Preferably the NTP server should be setup on a Windows 2003 node which will derive its time from a reliable external time source.

Review the topics 'Time Synchronization' in the *Server and Client Planning Guide* in Knowledge Builder for a discussion of the planning considerations for system time. See the topic 'Setting up Time Synchronization' in the *Supplementary Installation Tasks Guide* in Knowledge Builder for procedures to setup system time.

Time check on system before you start migration

Server time and time zone settings must remain consistent during migration. Before starting migration on a redundant server pair, check to make sure the time and time zone settings are the same on both Server A and Server B, as well as the Client nodes (Console Stations, ACE node, etc.). Change if necessary. After migration check the time zone setting on the server and Client nodes to ensure they are the same. Change if necessary. Do not change time zone settings during a migration.

Additionally, check the time zone setting on other servers in the system, (any servers that are connected to the migrated servers by DSA), and make any changes so that all are the same.

5.16. BootP Service

An Experion system that is operating with Release 300.1 must have a BootP server running on a server node also operating with Release 300.1. Experion BootP service provides embedded Experion nodes with network operating information, such as IP Address, subnet mask and for R300.1 - time sources. Before installing any Series C control hardware, at least one R300.1 Experion Server must be operational. R300.1 BootP service must be used with Experion Series C control hardware, and supports R300.1 nodes and all nodes running on prior release software. After configuring FTE Preferences and restarting Experion R300.1 BootP service, all BootP services on older releases must be disabled.

See "Setting Up Drivers and IP Addresses" in the *Ethernet Implementation Guide* in Knowledge Builder for instructions to set up the BootP server on a node operating with Release 300.1

ATTENTION

If you made address changes, be sure you stop and re-start the BootP Service, so it does not use the old address as a reply to a module. Please refer to *Fault Tolerant Ethernet Bridge Implementation Guide* in Knowledge Builder. See topic "Checking status of BootP server service" for information on how to access the **Experion BootP Server Properties** dialog to stop and

start the service.

ATTENTION

All FTE System Preferences for all clusters must be configured with the same information.

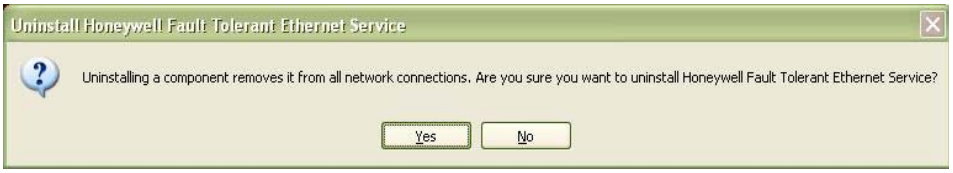
5.17. Ethernet, FTE networks and migration

Uninstall Phantom FTE Devices from System

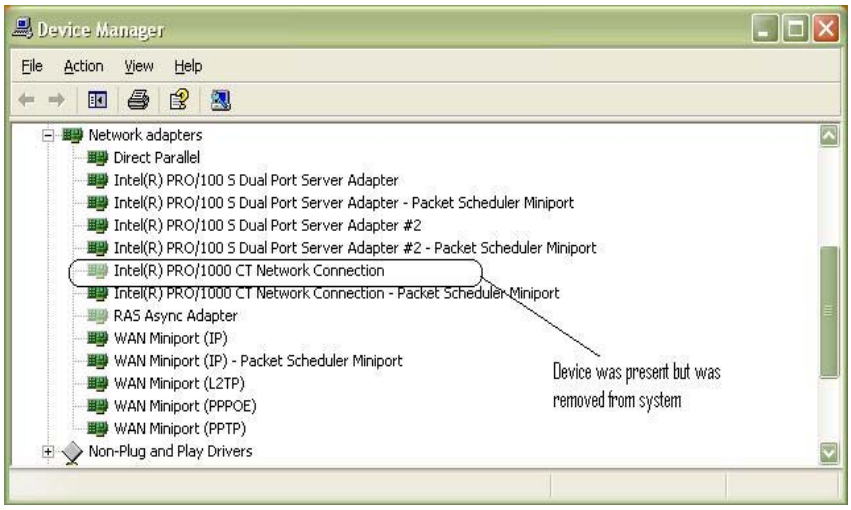
Devices that were once installed on the system and were properly uninstalled will sometimes remain as a configured device in the registry. For example, an on-board NIC that was once used on the system may still exist in the registry even though it was uninstalled and disabled in the BIOS to allow the installation of a dual NIC adapter for FTE support.

The Window's 'Add/Remove Hardware' utility retains the 'now removed' device configuration in the windows registry and so the FTE Service binds to this phantom or non-present device. For Experion migration and other over installation tasks, this presents a problem for the FTE Service. To ensure proper uninstall and migration operations, perform the following procedure to remove these phantom devices from the computer.

Step	Action
1	Select **My Network Properties**: Right mouse Click on the **Yellow** adapter Ethernet adapter and select **properties**.

Step	Action
2	Select **Uninstall**. Select "**Yes**" to any confirmation prompts.
	
3	If a prompted for you to restart the computer, select "**No**".
4	Select **Close**, Select **No** to Restart Computer prompt.
5	From Task Bar Select **Start>Run…** From Run window, type "**cmd**" and verify Command Prompt window.
6	In Command Prompt type: **set devmgr_show_nonpresent_devices=1** press Enter.
7	Type: **start devmgmt.msc** press Enter
8	In Device Manager, select **View > Show hidden devices**.
9	Expand **Network adapters** tree. Any non-present (Phantom) NIC device will be shown in low intensity color.

Step	Action



10	Select a non-present device. Right mouse click and select **uninstall**.
11	Select **OK** to confirm uninstall.

12	**Reboot** the computer.
13	Login as Administrator to reinstall FTE Driver Service.
14	Select **My Network Properties:** Right mouse click on the **Yellow** adapter Ethernet adapter and select **properties**.

Step	Action
15	In the **Yellow Adapter Properties** dialog, select **Install.**
16	Select **Network Component Types**, Select **Service**, Select **Add**.
17	Select **Network Service**, Select **Have disk…**
18	Install from Disk Select **Browse.** Locate File at **C:\Program Files\Honeywell\FTE_Driver** Select **Open**.
19	Install From Disk, Select **OK**.
20	Select **Network Service**, Select **Honeywell Fault Tolerant Ethernet**. Select **OK**
21	Verify return to Yellow Adapter properties dialog. Select **Honeywell Fault Tolerant Ethernet Service,** Select **Properties.**
22	Select the **Yellow** and **Green** adapter check boxes. Verify or enter the correct device index, Multicast address etc…settings Select **OK**
23	Return to the **Yellow Adapter Properties** dialog Select **Close**
24	**Reboot** the computer.
25	Restart the Migration application by selecting **setup.exe** in the root of DVD/Network drive.

Ethernet switch configuration

All Cisco Ethernet switches qualified for use in R201, R210 and R300.0 are qualified for use in Release 300.1. In certain cases, reconfiguration of the switches may be necessary. The switch firmware and configuration files supplied with Experion Release 300.1 are compatible with previous releases. Use the following guidelines to determine if you need to reconfigure the Cisco switches.

Switch reconfiguration is not necessary if the configuration files supplied with Release 210 were used to configure the Cisco switches in the system, and if migration of the system does not increase the number of FTE nodes in a community to over 200.

Switch reconfiguration is necessary if the number of FTE nodes in a community increases beyond 200 nodes. Also when there are no FTEB based communication interfaces in the FTE community. Load the proper configuration file supplied with Release 300.1 to reconfigure the Ethernet switches.

See the *Fault Tolerant Ethernet Installation and Service Guide* in Knowledge Builder and the *R300.1 SCN* for more information on FTE and Ethernet switches. If you plan to upgrade your FTE network after migration, contact Honeywell Technical Assistance to receive more information.

Using Fault Tolerant Ethernet Bridge (FTEB) modules

When one or more Fault Tolerant Ethernet Bridge (FTEB) modules are used in an FTE community, the maximum number of FTE nodes in that community is limited to 200. Additionally, up to 99 of the nodes can be FTEB nodes.

When no FTEB modules are used in an FTE community, the maximum number of FTE nodes is 330.

FTEB module firmware is upgraded, along with the modules that it supports, during controller migration.

Control Firewall firmware upgrade

Control Firewall (CF9) firmware is installed to Server and is included in the Engineering Tools supplied with Experion R300.1 software. All Control Firewall modules must be loaded with the latest version firmware before migrating C300 and FIM4 controller firmware, or installing new C300 and FIM4 controller hardware in the system. Refer to the *Software Change Notice* (SCN) supplied with your Experion system for the latest firmware version and file location details. Use the Control Firewall Update Tool to update the firmware.

5.18. Expressions used in control strategies

For Experion R300.1 there are changes in the syntax of some expressions used in control strategies which introduce ERDB inconsistencies after migration. These inconsistencies will not prevent migration or impact on-process control after the migration. However, the affected expressions should be manually edited to correct the syntax error and remove the database inconsistency as soon as possible after the migration. The expression types (Date and time constants, OPC type casting in ACE, etc.) are discussed in the following sections which detail the syntax changes to the expressions.

To detect and resolve the syntax errors:

1. Use the ERDB Consistency Checker before migration to detect ERDB inconsistencies. The error log file (Errorlog.txt) will identify the inconsistent expressions. Also, ERDB Checker may identify some false positives, (the detection of an expression that is correct). These inconsistencies will not cause migration to fail, although there may some error messages that warn of inconsistencies in the database.

2. After migration, use Control Builder to access these expressions. Edit the expressions using the guidelines in the following sections so that they conform to the correct syntax. Note that once you attempt to edit the affected expressions the syntax must be changed to the new syntax in order to save the edited expression.

3. Reload the CM that contains the edited expression to the controller to completely resolve the inconsistency within the database.

Note that expressions in Custom Algorithm Blocks (CAB expressions) use different technology and are not affected.

Date and time constants

A sequence of three integers separated by colons could have three completely different meanings in expressions. To improve the robustness of the expression parser and reduce the user mistakes, R300.1 expressions have two additional suffixes. Suffix “S” is used after delta time constant and “Z” is used after absolute time and absolute date/time constants. The following examples show how there is no suffix after the parameter list and there is a suffix after a time constant:

1. 12:34:56 = list of integer constants in a cascaded conditional operation.

2. 12:34:56S = delta time in hours, minutes, and seconds.

3. 12:34:56Z = Z time in the current Z date.

4. 2005-12-31 23:59:59Z (This represents the last starting second in Greenwich during 2005).

The first string could be used in a R201 expression like:

```
CM.NUMERICA.PV := (CM.NUMERICB.PV > 0) ? (CM.NUMERICC.PV > 0) ? 12:34:45
```

The simple parameter list could be avoided by using an extra pair of parenthesis as shown below.

CM.NUMERICA.PV := (CM.NUMERICB.PV > 0) ? ((CM.NUMERICC.PV > 0) ? 12:34):45

The second string could be used in a R210 expression, like:

CM.NUMERICA.PV := (CM.DELTATIME.PV > 12:34:45) ? 7.0 : 8.0

In R300.1 this expression must be rewritten as:

CM.NUMERICA.PV := (CM.DELTATIME.PV > 12:34:45**S**) ? 7.0 : 8.0

The third and fourth strings may exist in R210 expressions (not in R300.0 where they we are not supported), for example:

CM.NUMERICA.PV := (ZTOD > 12:34:45) ? 7.0 : 8.0

CM.NUMERICB.PV := (ZNOW > 2005-12-31 23:59:59) ? 7.0 : 8.0

In R300.1 these expressions must be rewritten as

CM.NUMERICA.PV := (ZTOD > 12:34:45**Z**) ? 7.0 : 8.0

CM.NUMERICB.PV := (ZNOW > 2005-12-31 23:59:59**Z**) ? 7.0 : 8.0

All delta times and absolute times written in R210 will generate error messages during migration to R300.1. These inconsistencies cannot be corrected while in R210, since the syntax is not supported in R210. They can be corrected once data is migrated to R300.1

The new format in Release 300.1 for time constants is as follows.

ABSOLUTE TIME VALUE -- The time is UTC as defined by the international standard date and time notation ISO 8601. The suffix is case sensitive and must be upper case Z.

Example: YYYY-MM-DD hh:mm:ss.ffffZ

TIMEOFDAY -- The time of day is UTC as defined by the international standard date and time notation ISO 8601.

Example: hh:mm:ss.ffffZ

DELTATIME -- Delta Time value has a format like TOD but ends with an upper case S, not Z.

Example: hh:mm:ss.ffffS

OPC type casting in ACE

In Release 300.0 the types of OPC variables were implicit and the op codes were generated to match the actual types. This generated some inconsistencies during migration. To resolve these inconsistencies, you should define enough type information for expression parser to generate the right OP codes. It is not necessary that all OPC variables have to be casted with the type - they can if that is the desired user practice. In R210 there can be non-numeric OPC variables that need the casting operations when migrated to R300.1.

The following inconsistencies may be expected when migrating from a lower release to R300.1:

- When migrating from R201, no expected problems
- When migrating from R210, potential migration problems in non-numeric operations shown as syntax errors.
- When migrating from R300.0, potential migration problems in non-numeric operations may be shown as syntax errors. Some errors may pass the syntax check and loading validity check causing run-time errors.

For example, the expression in R210:

OPC.NUMERIC.VAL1 := (OPC.NUMERIC.VAL1 < OPC.NUMERIC.VAL2) ? 8.0 : 9.0

In R300.1 this expression must be rewritten as:

OPC.NUMERIC.VAL1 := (**NUM(**OPC.NUMERIC.VAL1**)** < OPC.NUMERIC.VAL2) ? 8.0 : 9.0

For example, the expression in R300.0:

CM.TEXTA.STR[0] := OPC.STRING.VAL2 + OPC.STRING.VAL3

In R300.1 this expression must be rewritten as:

CM.TEXTA.STR[0] := **STR(**OPC.STRING.VAL2**)** + OPC.STRING.VAL3

Comma as a list operator

Previous Experion releases have tolerated C-language type of list operations, where multiple expressions were shown in a comma separated list.

For example, there can be an assignment

X := 5,6

This could have been interpreted as a mistake for cultural or other reasons when the intention was to assign 5.6 to X. In previous Experion releases the actual value assigned to X would be 6, which is the last expression in the list of expression. If this is not corrected, there will be a syntax error in R310. The correction for this example is

```
X := 5.6
```

The comma as a list operator will not be removed in R300.1, but the R300.1 tool used to detect potential syntax problems for migration can detect this problem and allow it to be fixed on Release 300.1 and before subsequent migrations.

Short and long names in Control Builder

This inconsistency was introduced in R300.0, and it will be addressed in a future release. The inconsistency becomes visible where the user has defined a parameter that has the same names as a parameterless function, such as NOW, TOD, UTCNOW, or UTCTOD; or a named constant, such as NAN, PI, or E.

The interpretation of these names depends on the presentation format that the Control Builder user has selected.

- If the **short name** presentation is selected, these names are interpreted as a function or constant – even if the user has entered a valid name long name with the module name, block name, and parameter name.
- If the **long name** presentation is selected, these names are interpreted as the parameter name – even if the user has not entered the long name – just the function or constant name

Until there is a change in the expression syntax, such dot-prefix or parenthesis-suffix, the issue can be solved only by avoiding the usage of function and constant names as a user defined parameter name.

Two-dimensional arrays

The following expression works properly in R210 for 2-dimensional integer arrays

```
CM.INTEGER.PV[0][0] := 1
```

Release 300.1 supports this 2-dimensional of array indexing syntax for all types. Note that this feature is not supported in R300.0.

5.19. Custom displays and HMI Web displays

Systems that use customized displays created in Display Builder (.dsp files) and/or HMIWeb Display Builder (.htm files) should follow these important considerations. Not following these recommendations may result in the loss of customized display files.

Experion Station is backward compatible with old displays (for example, a display created with an older release of Display Builder can be displayed in a newer release of Station) provided:

- The displays are custom displays (system display interoperability is not supported)
- The references to server data in the custom displays are limited to point parameters and data in user tables.
- The displays are .dsp files.

Note that custom HMIWeb displays (.htm files) must be migrated using HMIWeb Display Builder or the Bulk Display Migration tool before they can be called up in Station. When an older release display file is loaded in HMIWeb Display Builder, it is migrated to the new display format automatically, and is saved in the new format. Also, HMIWeb displays can be migrated in bulk using the Bulk Display Migration tool.

In Display Builder when you save a display, you can specify in which display release to save the .dsp file. This allows you to save the display in an old format which would allow you to call it up in an older release of Station.

Once a display file has been updated or saved in a newer release Display Builder or HMIWeb, it cannot be displayed in an older release of Station.

Display files, HMIWeb display files and shape files migrated to R300.1

When your system is migrated to Experion R300.1 there are a number of tasks that you can do to ensure that your custom display files are preserved. Some tasks allow you to take advantage of the display enhancements available in R300.1.

- All HMIWeb displays (.htm files) and shape files should be migrated via the Bulk Display Migration Tool (bulkdisplaymigrator.exe)
- Systems that use dynamic trend definition tools, (also known as “add to trend” function), that were provided in previous versions of the HMIWeb SP must apply an R300 Solution Pack update to all existing displays.
- Safeview configuration may need to be revised to accommodate the following enhancements:

  - Use of Windows XP title bars and menu appearance package.
    Note: This can be avoided by changing the desktop settings to the 'classic' appearance package.
  - Changes in System faceplate sizes

- Customized system components need to be manually saved and restored since they are not migrated forward. For example:
  - Point detail displays such as DI, Numeric, flag and fieldbus
  - Faceplates such as DI, Numeric, flag and fieldbus
  - Custom Station menu configurations (*.stb files)
  - *.css files

5.20. User-defined Station files (.stn files)

User-defined Station files (.stn) are not migrated during server migration. The files must be saved before migration and then restored to the node after migration.

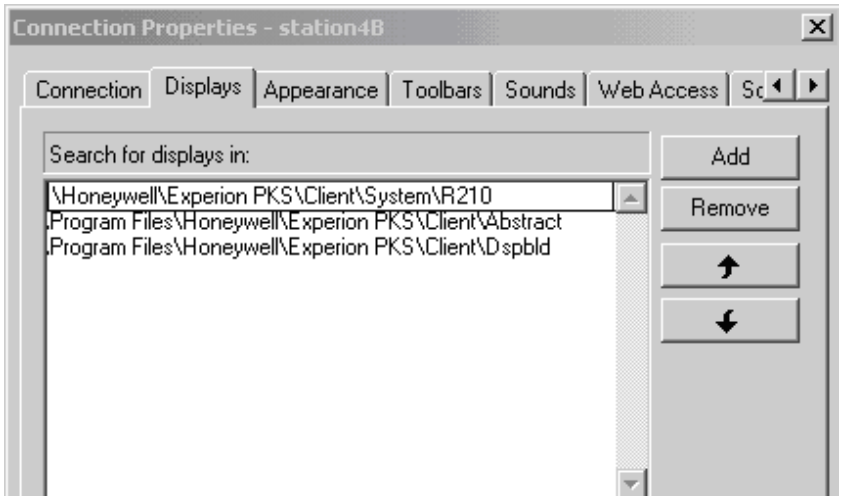
Display path for upgraded station files

User-defined Station files (.stn) are not updated to the new file path when the files are installed in R300.1. The display path in station connection properties dialog for these files must be updated to the new file path so that they can be accessed by R300.1 servers. Standard Default and Factory .stn files are updated to the new file path during migration.

The file path for station files in R300.1 is
C:\Program Files\Honeywell\Experion PKS\Client\System

To update the file path of the user-defined .stn files:

Step	Action
1	Open Station on the client node.
2	Choose **Station > Connection** which opens the **Connect** dialog screen.
3	Right click a Station in the window and select **Properties**. The **Connection Properties** dialog screen opens.

Step	Action
	
4	Select the **Displays** tab.
5	Edit the file path for the Station displays as follows: – Replace the R210 with R300 in the file path for the displays.
6	Select the **Toolbars** tab. – Replace the R210 with R300 in the file path for toolbars.
7	Repeat steps 3 through 6 for all user-defined Stations in the Connection Properties dialog.
8	Close all dialogs when finished.

TableView (for ProcOps and SCM) anomalies in R300.1

Interoperability issue with R201 SCM procedures in R210 and R300 release

When a R210 or R300 TableView or ChartView is used to monitor a 201 SCM, all step status is shown incorrectly as Magenta which indicates the step as incomplete. This indication is false and misleading and could hide a valid error status.

To avoid any false indications, disable TableView and/or ChartView when attempting to monitor a R201 SCM while running in R210 and R300.1.

5.21. Enterprise Model – Shared alarm groups

Please note the following consideration if you have shared alarm groups within your enterprise model, an alarm which is shared by multiple parents and also by the root.

Do not define an alarm group that has multiple parents with one of the parents being the root node (top level is initially called “Alarm Groups”). If an alarm group has multiple parents and one of those parents is the root, the alarm group model that is loaded to a server will only have that alarm group defined with the root node as its parent, the other parents will not have the alarm group included as a child. Also, if the alarm group model is exported and then imported back to the alarm group builder, the multiple parent relationship will be lost, and the alarm group will only appear as a child of the root node.

If you have a situation where this is a desired configuration, the workaround would be to define a "dummy" alarm group as a child of the root node, and then make it one of the parents instead of the root node.

5.22. OPC Integrator

CAUTION	During on-process migration, to prevent data transfer occurring on both Server A and Server B while in dual primary mode, all enabled groups on Server B as well as script engines and scada channels are automatically disabled. Therefore, **when Server A is stopped to be migrated, the OPC Integrator groups, script engines and scada channels on Server B must be manually enabled**.

Experion OPC Integrator runs normally on redundant server pairs. During on-process migration when Server B is stopped and is being migrated, OPC Integrator operates normally on Server A. Once Server B is migrated and is operating with Server A in Dual Primary Mode, all groups as well as script engines and scada channels are loaded to Server B but are disabled. OPC Integrator on Server A continues to operate normally. When Server A is stopped to be migrated, the OPC Integrator groups, script engines and scada channels on Server B must be manually enabled, otherwise data transfers will not automatically continue.

5.23. Local Windows groups and local user accounts

CAUTION	All custom local user groups, custom local user accounts and any user defined security policies (such as access control lists on files and directories) are not saved during an Experion migration.

Custom local user groups and custom local user accounts must be saved or documented in order to restore them after a migration if needed. You must capture the specific configurations and settings for these groups and accounts so that they can be reconstructed for use in the system. Any user specific files/folders and their associated Access Control Lists (ACLs) settings and any user-defined security policies not created by an Experion installation must be saved so that they can loaded onto the migrated system.

Note that Experion standard local groups, user accounts and policies are saved and restored onto the system by Experion Migration.

5.24. Experion Backup and Restore (EBR)

If Experion Backup and Recovery application is installed on the node you are planning to migrate, and you plan to install EBR after the node is migrated:

Before Migration - Save a copy of the Command Files, History and Schedule folders located at C:\Program Files\Symantec\LiveState Recovery\Advanced Server 3.0\Agent or at, C:\Program Files\Symantec\LiveState Recovery\Desktop 3.0\Agent.

After Migration – Re-install EBR onto the migrated node or deploy the EBR agent and then copy the saved files back to their original locations.

5.25. Localized Experion

Before a localized Experion system can be migrated, all system level resources must be reverted back to English. The localized resources can be restored after migration.

5.26. Checkpoint save before Migration

Before starting server migration you must perform a manual checkpoint file save for all nodes associated with the servers to be migrated. See Manual Checkpoint save for the procedure. Performing a checkpoint save for the controllers assures that you can restore a checkpoint file to a controller if it fails during migration.

5.27. Domain Controllers used in Experion

A Domain Controller used in an Experion system operates as an independent node and can operate with either Windows Server 2000 or Windows Server 2003 operating system installed. If you are using Windows Server 2000 as the domain controller's operating system and do not upgrade the controller, you must install the R300.1 Experion Security Policy on the Domain Controller before you start migration.

Uninstall the old release Experion Security Policy and then install the R300.1 Experion Security Policy to the domain controller. The software is located on the Experion Application DVD. Select 'Install Optional Software Packages'

If you are using Windows Server 2000 as the domain controller operating system and choose to upgrade to Windows Server 2003, upgrade the controller after migration of all nodes is completed. Use the Microsoft recommended procedures to do the upgrade (at: http://support.microsoft.com/default.aspx?scid=kb;en-us;325379). After the operating system upgrade is complete, install the R300.1 Experion Security Policy again on the domain controller.

5.28. Windows DNS and WINS settings

The Domain Name System, (DNS) and the Windows Internet Naming System, (WINS) settings are not copied or saved during migration and must be re-enterd manually after migration. Record the DNS and WINS settings and IP addresses before you begin migration.

5.29. Engineering groups names change

There are two groups which are created during system installation that enable access to the process related databases in the SQL Server (such as the ERDB, EMDB, QVCS, and FFParameters).

They are: "Engineering Repository Administrators"

"Engineering Repository Users"

In Experion R300.1 the Domain and Workstation Security Policies have changed the name to these group names

"Engineering Repository Admins" Group to "ER Admins".

"Engineering Repository Users" Group to "ER Users".

5.30. Post-migration tasks

Once on-process migration procedures are completed, there are a number of tasks to perform to restore your system to full performance and to enable the new features available in Experion Release 300.1.

The *Supplementary Installation Task Guide* in Knowledge Builder contains more information and additional post-installation and post-migration tasks.

Some of these tasks are listed here:

If your system has…	Task
Been migrated to R300.1	Set up an NTPServer on R300.1 node. See NTP servers (time source for Series C control hardware) for more information.
	Setup R300.1 BootP Service. See BootP Service for more information.
Ethernet switches and FTEB modules	Determine if the Ethernet switches need to be reconfigured. See Ethernet switch configuration and Using Fault Tolerant Ethernet Bridge modules for more information.
Expressions in control strategies, (CM, SCM)	Edit expressions identified as errors in the Error log files. See Expressions used in control strategies for details.
Custom displays and HMIWeb displays	Use the Bulk Display Migration tool to migrate custom display files (.dsp and .htm files). See Custom displays and HMIWeb displays for details.
User-defined Station files	Reinstall user-defined station files (.stn files) to the Experion client node. Ensure that the display path for the Station files is updated for the current release. See Display path for upgraded stations for details.
Custom local user groups, custom local user accounts and user-defined security policies.	Ensure that Local Windows groups and local user accounts are re-established on the Experion nodes. See Local Windows groups and local user accounts for more information.
Engineering user groups	Ensure Engineering Groups names have been

If your system has…	Task
	re-established on the Domain Controller. See Engineering Groups Names change for more information.
Other Honeywell applications and products installed on the node	Restore Honeywell products and applications that were not migrated forward in Experion migration. Experion Backup and Restore
Third party software installed on the node	Reinstall third-party applications if you want them available on the Experion node.
Windows Domain Controller	If desired, upgrade the domain controller node to Windows 2003 operating system. Load R300.1 Experion Security Policy.
Localized options	Ensure that localized resources are restored to your user settings.
Alarm pager option	Reinstall the modem, and user settings, if necessary. See Migrating other Honeywell products and applications for more information.
SCMs	Disable TableView or ChartView when monitoring SCMs. See TableView (for ProcOps and SCM) anomalies in R300.1 for more information.
Electronic signature option for CMs and SCMs	Update CMs and SCMs to show Electronic Signature dialog box when licensed. See Updating Electronic signatures after migration for more information.

Updating Electronic Signatures after migration

If a server is licensed for electronic signatures, the Electronic Signature dialog box may not appear for users to provide a signature in console station after server and console migration.

To correct this anomaly, perform the following procedure:

Step	Action
1	At the Console Station check the Control Module configured for control confirmation. Determine if the electronic signature details are updated on the Console Station.
2	If not, delete the CM from the Console Station. This is done by creating a pntbld file for the point using the following command: **bckbld -id <**Control Module name**> -out PointToDelete.txt**
3	Now delete the point by running the following command on the Console Station: **pntbld PointToDelete.txt –del**
4	Use the Start-Stop Experion PKS Console Station application to bring the Console Station down to a status of Database Only.
5	Start the Console Station up again to System Running.

5.31. Canceling migration

You can cancel on-process migration and go back and restore the control system to operate with the base release software, depending upon which stage of the migration your system is at.

Server/Client migration

On-process migration redundant servers

You can cancel on-process migration of redundant servers (without a loss of control or view) up until the Section' 'Migrating Server A' in the On-process migration (OPM) checklist. After performing 'Run Compatibility Tests' in the OPM Checklist; run the system for 2-3 days to allow the control system to remain stable. You must be satisfied with the control system performance before you continue migration of Server A.

If you cancel the on-process migration before you begin Server A migration, then you must restore or reinstall the previous version of Experion on server B (and associated clients) to return the system to a redundant server state.

If you restore Server A or server B from a disk image, and Server A and server B are part of a domain, you will need to remove the computer from the Windows domain and then

1. Re-add each to the workgroup.
2. Re-boot each
3. Re-add each to the domain.

If you cancel on-process migration once Server A is shutdown, then you must restore or reinstall the previous version of Experion on Server A and you will lose all data during the period that Server A is down. Once Server A is running, you must restore or reinstall the previous version of Experion on server B to return the system to a redundant server state.

While Server A is being migrated, server B must remain at system running status and as the primary server. If you change the status of server B, you will invalidate the on-progress migration and the base release of Experion must be reinstalled/restored on both Server A and Server B.

Off-process migration

There are no critical points when to cancel off-process migration since the control system is not operating. All migrated nodes can be restored the base release, if necessary. If you

need to restore any server or client node to the base release, you can use a disk image, (saved prior to migration) to restore the node to the base release, before migration. First you must cancel or abort any applications that are running. And then load the disk image to the node.

Controller migration

On-process migration

Generally, once the migration of redundant controllers is started you must allow the migration to complete.

Although when migrating redundant Series C control hardware, the Controller Migration Wizard prompts you if you want to continue migration or cancel migration. If you want to continue and complete migration of the controller, select 'Continue Migration.' If you want to abort the migration, select 'Abort migration.' The controller firmware will remain at the base release.

Once migration is complete, you can restore redundant controllers to the base release firmware, but it must be performed off-process.

Off-process migration

There are no critical points for off-process migration of controllers, except that once a migration is started it should be allowed to complete. If controller migration is interrupted without allowing it to complete, the controller may have to be returned to the factory for reprogramming.

6. On-Process Migration

6.1. Understanding on-process migration

The goal of system on-process migration is to migrate Experion software components while maintaining view and control of the process.

On-process migration is supported only for redundant system components, such as redundant servers, redundant controllers and interface modules that are redundant.

By definition, On-process Migration of an Experion system is the migration of system software to a newer release while maintaining control and view of the process.

Overview of server/client migration

After preliminary tasks have been performed and pre-migration checks have verified that an Experion system (or cluster) is ready for migration, then you may begin a migration. Experion Servers and their associated Stations are the first system components to be migrated. The Migration Application wizard is run on each Server/Station node to migrate it to Experion Release 300.1. Figure 4 outlines the migration tasks for servers and clients.

For example, you migrate Server B first; (the server which is currently running as backup). This is so the new release software can be loaded on the Server and then tested without disturbing Server A (the primary server), which is maintaining control, operation and view of the process. Once Server B is migrated to the new release, both servers (Server A and Server B) are running different Experion releases; Server A is running the base release and Server B is running the new release. The servers are running in a 'dual-primary state' that allows each to operate as a primary server and provide a view of the process.

After migrating Server B, you must migrate at least one Station associated with Server B, so that appropriate compatibility tests can be performed using the new release and verify its performance. You can test and verify proper system operation and view from a Station running on the new release before proceeding further.

During these tests, Honeywell recommends that you leave up to half of the Stations at the base release to ensure adequate operator view and control of the system during the migration. If you find that the new release does not meet the performance requirements, you may cancel the migration and revert back to the base release.

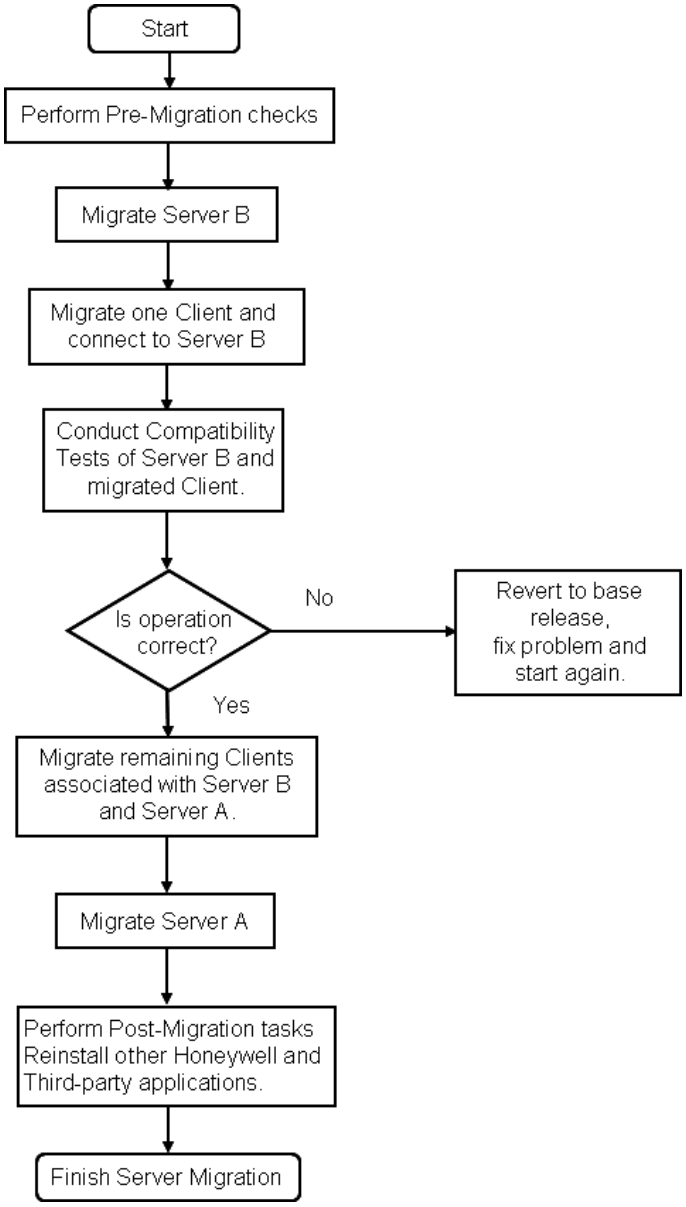


Figure 4 Overview of Server migration

Load and go-back

If results of the compatibility tests on the migrated Server B (and migrated Stations) do not provide satisfactory performance, you can cancel migration and revert to the base release by shutting down Server B and reloading the base release on Server B. Server B then reverts to being the backup server with the original base release.

This may also include removing hardware upgrades (if any were made), reformatting the hard drive, reloading the operating system and support programs, reloading Experion software, and importing the saved database.

Server A has been active during this process and throughout all migration steps to this point. It has been running on the base release and has maintained view of the process as well as full history, alarms and events data.

This load and go-back process is made possible through the dual-primary state of both Server A and Server B. You may choose to abort a migration and "go back" or revert to the base release on Server B at any point up to, but not including, shutting down Server A on the base release.

Migrating Server A

Migrate Server A only when you are satisfied the operation of the migrated Server B and migrated Stations. Once Server A is migrated, the two servers (Server B and Server A) are synchronized and operate as redundant servers running the new release software.

Database migration

All system databases are migrated to the new release as part of server migration—these can include:

- Engineering Repository Database (ERDB),
- Qualification and Version Control System (QVCS),
- Enterprise Model Database (EMDB)
- System Runtime Database (RTDB)
- FFParams database
- .def.xml files (DD files).

Overview of controller migration

The second major activity in an Experion system migration is the migration of process controller components and the associated I/O modules to a newer release firmware.

The Controller Migration Wizard is used to migrate the firmware of existing controller modules and associated I/O components. It allows the migration of redundant controller modules and redundant controller chassis modules (RCPs) while on-process. You can use the controller migration wizard to migrate controller components off-process.

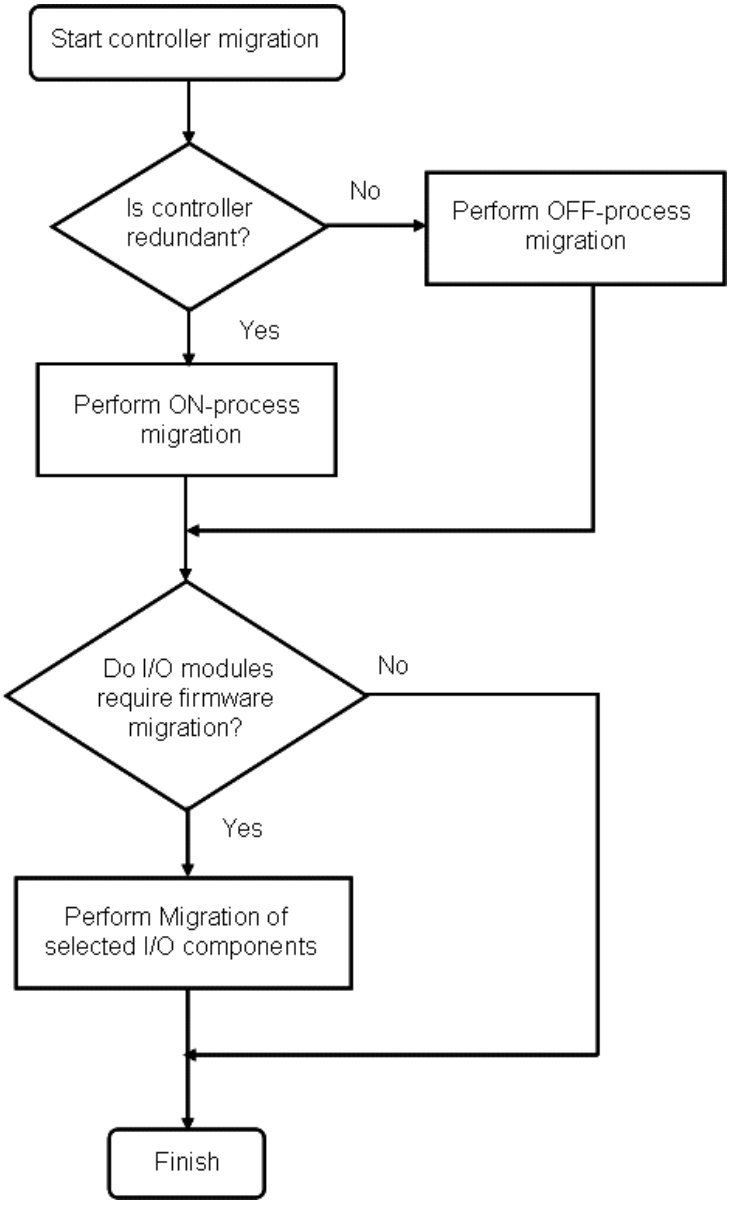


Figure 5 Outline of Controller migration process

6.2. Server/Client on-process migration

This section contains the checklist outlining the on-process migration tasks for Servers and Clients.

ATTENTION

On-process migration is only supported for the following network topologies:

- ControlNet (via PCIC)
- ControlNet (via Ethernet) *
- Fault Tolerant Ethernet (FTE)

* On-process migration is supported only for servers in systems using this network. Redundant controllers are **not** supported on ControlNet via Ethernet.

See Figure 4 for a graphical representation of server on-process migration tasks.

Prerequisites

- You have read the Experion PKS Software Change Notice – This book contains last-minute information that was not able to be included in the standard documents. You must read it to find out whether it contains any migration-related information that is applicable to you.
- You have read the section Planning for On-process Migration in this guide.
- You have performed the Pre-migration checks in the Planning section of this guide.
- Both Server A and server B must have static IP addresses.

Considerations

- You can cancel the on-process migration up to the stage *before* migrating Server A. After you commit to migrating Server A, you should not cancel the on-process migration. If you do cancel on-process migration once you start to migrate Server A, you will lose all data events for the period that Server A is down.
- If you cancel the on-process migration *before* migrating Server A, you must restore or reinstall the previous version of Experion on server B to return the system to a redundant server state.

- It is recommended that you make a disk image of server B when you stop it. Should you want to rollback the on-process migration; a disk image can make the process easier. If you restore server B from a disk image and server B is part of a domain, you will need to remove the computer from the Windows domain and then re-add it and re-establish the trust relationship.

ATTENTION

Engineering changes should **not** be made during migration. Making engineering changes during migration may cause errors or result in an unsuccessful migration. Any engineering changes made during a migration may be lost.

On process migration checklist

Perform all of the tasks in the following checklist to complete an on process migration.

Task	Go to	Done?
Prepare for on-process migration		
Verify the current Windows *mngr* account passwords for all nodes are identical. If you are unable to verify these passwords, • Use standard Windows procedure to change the *Administrator* password. Use the Password Change Utility (see page 139) to change the *mngr* password.		
If upgrading an existing platform, install new hardware components, (memory cards, interface cards, disk drives, etc.) before starting migration. **ATTENTION** When redundant server hardware is upgraded, the new platforms for both Server A and Server B must be identical.		
Obtain latest copy of the Migration Readiness Tool, (MRT)	210	
Perform Pre-Migration Checks	58	

Task	Go to	Done?
Verify server readiness for on process migration	211	
Verify controller readiness for on process migration	213	
If your system contains ACE, run the Migration Readiness Tool on the ACE node to verify interoperability between the ACE and the server nodes.	213	
Record your DNS and WINS IP addresses. From a command screen, enter **ipconfig /all** and either print the screen or record the IP addresses. Record your mapped network drives.		
Acknowledge all process and system alarms. Resolve any that are critical to your process.		
If you have a TPS node that you want to migrate and use within your Experion system, record the TPS node information.	245	
Perform a checkpoint save on Server A for all controller nodes associated with the servers.	218	
Disable ERDB and EMDB replication.	150	
Disable file replication.	154	
Activate on-process migration.	156	

- At this stage of the on-process migration, you cannot make changes to the Engineering Repository or Enterprise Model Database. ERDB and EMDB replication remains disabled until Server A migration is complete.
- You cannot initiate a manual failover or database synchronization while the on-process migration is active.
- You can cancel on-process migration now without the need to restore/reinstall the previous version of Experion on server B.

Task	Go to	Done?
Migrate Server B		
ATTENTION Windows 2003 Server operating system supports Experion R300.1 for Servers. If the Server to be migrated is not operating with Windows 2003 Server, it must be installed as part of the Server migration task. Once you start migrating Server B, the Server A is running as a single, primary server. You can only view the control process status from Stations connected to Server A		
Close any Windows applications prior to starting migration.		
Disable any virus protection software on Server B. Stop all related anti-virus services.		
Pick one of the actions below. Select 1 or 2.		
1) If your operating system is not Windows 2003 Server, you will need to perform migration with an operating system installation,	162	
2) If you want to perform migration with a platform hardware change, • If you received the following error during migration, go to Configuring FTE Service properties on page 225. 	191	

Task	Go to	Done?
Re-install anti-virus software if you have installed or re-installed the operating system. (Actions 1 or 2 above.)		
Re-install any third-party applications and software if you installed or re-installed the operating system. (Actions 1 or 2 above.)		
If you haven't already done so, configure FTE properties	225	
Add shortcuts.	205	
Install latest patches or updates from SSOL website.	SSOL	
Defragment the hard disk.	206	
Review topics in section 2.1 'Completing an Experion server installation' in the *Supplementary Installation Tasks Guide* to determine if other tasks are required for your system.	Supplementary Installation Tasks Guide	
Review the Post-migration tasks table and perform any tasks that are required for your system.	83	

Task	Go to	Done?
If the installation of any software on Server B cannot be completed successfully, do *not* proceed any further with the on-process migration. Call your Honeywell Technical Assistance Center (TAC). If you cancel the on-process migration now you must restore or reinstall the previous version of Experion on server B to return the system to a redundant server state. If you restore server B from a disk image and server B is part of a domain, you will need to remove the computer from the Windows domain and then re-add it re-establish the trust relationship.		
Migrate Server B database		
If your PC was a member of a Domain, ensure that you have added the PC back to that Domain before you continue with the migration of the database. • Ensure that your DNS address is properly set. You should have recorded this information during the Prepare for the On Process Migration step. • Run LinkDomainGroups.vbs in C:\Program Files\Honeywell\wkstasecurity\. • Check the Firewall at Start->Settings->Control Panel. For the R300.1 release, ensure the Firewall is turned off. – Select Windows Firewall – Select the Exceptions tab and verify SQL Server is checked.		
Check the contents of the Server B Log file. Select **Start->Honeywell Experion PKS->Server->Diagnostic Tools->Experion PKS Server Log** Check for the following message: dual_linkd.exe:dual_linkd.c,v:946: Server in normal (non) OPMstate (0) but peer server msg is in OPM state (1) Close the file. If this message is found in the Server Log file on Server B, do not proceed any further with the on-process migration. Call your Honeywell Technical Assistance Center (TAC).		

Task	Go to	Done?
If you have an Integrated Experion-TPS node Server (ESVT), • Install your TPS software now, before you migrate the Server B database and, • Restart Server B to ensure all of the services have properly started.	246	
Migrate the Server B database	149	
When Server B is running as dual primary, the database migration is complete.		

Task	Go to	Done?
A synchronization lost error is expected and does not require action. If Server B remains as backup server or is stopped, You must do the following: 1. Unload the database on server B 2. Return server B to system running. 3. Check that the **Migrate Database** button on the On Process Migration display on Server A is enabled. 4. Call TAC. Otherwise, • Server B in dual primary. • At this stage of the on-process migration, the Experion system operates with dual primary servers. • There may be a small loss of data during the period when the synchronization is complete and server B starts to collect data as a primary server. There may be a ten second loss of history. • While there are two dual primary servers, continuous synchronization between the two servers is disabled. • If you cancel the on-process migration now you must restore or reinstall the previous version of Experion on server B to return the system to a redundant server state. If you restore server B from a disk image and server B is part of a domain, you will need to remove the computer from the Windows domain and then re-add it re-establish the trust relationship. • You *must* now migrate at least one client computer to the current software release. Do *not* restart or shutdown Server A until you have completed at least one client computer migration.	146 148	

Task	Go to	Done?
Migrate Flex Station/s and connect to server B		
Close any Windows applications prior to starting migration.		
Disable any virus protection software. Stop all related anti-virus services.		
Pick one of the actions below. Select 1, 2, 3, or 4. Select only one.		
1) If your operating system is not Windows XP Professional, you will need to perform migration with an operating system installation,	162	
2) If you want to perform migration without an operating system installation, you already have Windows XP Professional,	174	
3) If you want to perform migration with an operating system installation, you already have Windows XP Professional but you want to re-install the Windows XP Professional operating system,	179	
4) If you want to perform migration with a platform hardware change, • If you received the following error during migration, go to Configuring FTE Service properties on page 225. 	191	

Task	Go to	Done?
Re-install anti-virus software if you have installed or re-installed the operating system. (Actions 1, 3 or 4 above.)		
Re-install any third-party applications and software if you installed or re-installed the operating system. (Actions 1, 3 or 4 above.)		
If you haven't already done so, configure FTE properties	225	
Install latest patches or updates from SSOL website.	SSOL	
Review topics in section 2.5 'Completing a Console Extension Station or Flex Station installation' in the *Supplementary Installation Tasks Guide* to determine if other tasks are required for your system.	Supplementary Installation Tasks Guide	
If the migrate Flex Station task cannot be completed successfully, do *not* proceed any further with the on-process migration. Call your Honeywell Technical Assistance Center (TAC).		

Task	Go to	Done?
If your PC was a member of a Domain, ensure that you have added the PC back to that Domain before you continue with the migration. • Ensure that your DNS address is properly set. You should have recorded this information during the Prepare for the On Process Migration step. • Run LinkDomainGroups.vbs in C:\Program Files\Honeywell\wkstasecurity\. • Check the Firewall at Start->Settings->Control Panel. For the R300.1 release, ensure the Firewall is turned off. – Select Windows Firewall – Select the Exceptions tab and verify SQL Server is checked.		
Migrate Console Station/s		
This section describes how to migrate Console Stations connected to the base release of Experion on Server A, to connect to the current release of Experion on server B. After you migrate server B, and before you migrate Server A, you must migrate at least one Console Station, if Console Stations are part of your system. When migrating Server A, any Console Stations connected to it operate in degraded mode. **ATTENTION** Windows XP Professional operating system supports Experion R300.1 for Console Station, Flex Station and other client nodes. If the Station to be migrated is not operating with Windows XP Professional, the operating system must be installed as part of the Station migration task. Migrate the number of Console Stations as determined by your plan.		
Close any Windows applications prior to starting migration.		
Disable any virus protection software. Stop all related anti-virus services.		
Pick one of the actions below. Select 1 or 2.		

Task	Go to	Done?
1) If your operating system is not Windows XP Professional, you will need to perform migration with an operating system installation,	162	
2) If you want to perform migration with a platform hardware change, • If you received the following error during migration, go to Configuring FTE Service properties on page 225. 	191	
Re-install anti-virus software if you have installed or re-installed the operating system. (Actions 1 or 2 above.)		
Re-install any third-party applications and software if you installed or re-installed the operating system. (Actions 1or 2 above.)		
If you haven't already done so, configure FTE properties	225	
Install latest patches or updates from SSOL website.	SSOL	
Review topics in section 2.4 'Completing a Console Station installation' in the *Supplementary Installation Tasks Guide* to determine if other tasks are required for your system.	Supplementary Installation Tasks Guide	

Task	Go to	Done?
ATTENTION • For Console Stations that are migrated to R300.1: With the servers in Dual Primary mode, you must delete the connection on Server A (running at base release) for the Console Station that has been migrated. Once this connection is removed, the migrated Console Station can connect to server B (running at R300.1). If the migrate Console Station task cannot be completed successfully, do *not* proceed any further with the on-process migration. Call your Honeywell Technical Assistance Center (TAC).		
Delete the connection to the migrated Console station on Server A.	223	
If you have a TPS node, for example an Integrated Experion-TPS Node that will be a station node (ES-T. etc), then you must re-install and configure your TPS software.	246	
If your PC was a member of a Domain, ensure that you have added the PC back to that Domain before you continue with the migration. • Ensure that your DNS address is properly set. You should have recorded this information during the Prepare for the On Process Migration step. • Run LinkDomainGroups.vbs in C:\Program Files\Honeywell\wkstasecurity\. • Check the Firewall at Start->Settings->Control Panel. For the R300.1 release, ensure the Firewall is turned off. – Select Windows Firewall – Select the Exceptions tab and verify SQL Server is checked		

Task	Go to	Done?
Perform migration and compatibility tests		
Perform the migration and compatibility tests	158	
• If any of the migration and compatibility tests cannot be completed successfully, do not proceed any further with the on-process migration. Call your Honeywell Technical Assistance Center (TAC). • If you are satisfied with the testing of server B, you need to decide if you are committed to completing the on-process migration. • If you cancel the on-process migration now you must restore or reinstall the previous version of Experion on server B to return the system to a redundant server state. If you restore server B from a disk image and server B is part of a domain, you will need to remove the computer from the Windows domain and then re-add it re-establish the trust relationship.		
Migrate the remaining Flex Stations		
Before migrating the remaining Flex Stations and Console Stations, ensure that you have moved all of your points, including all SCADA points, to Server B. Make sure that you have visibility to all of your points on Server B before removing the remaining stations from Server A.		
Close any Windows applications prior to starting migration.		
Disable any virus protection software. Stop all related anti-virus services.		
Pick one of the actions below. Select 1, 2, 3, or 4. Select only one.		
1) If your operating system is not Windows XP Professional, you will need to perform migration with an operating system installation,	162	
2) If you want to perform migration without an operating system installation, you already have Windows XP Professional,	174	

Task	Go to	Done?
3) If you want to perform migration with an operating system installation, you already have Windows XP Professional but you want to re-install the Windows XP Professional operating system,	179	
4) If you want to perform migration with a platform hardware change, • If you received the following error during migration, go to Configuring FTE Service properties on page 225. 	191	
Re-install anti-virus software if you have installed or re-installed the operating system. (Actions 1, 3 or 4 above.)		
Re-install any third-party applications and software if you installed or re-installed the operating system. (Actions 1, 3 or 4 above.)		
If you haven't already done so, configure FTE properties	225	
Install latest patches or updates from SSOL website.	SSOL	
Review topics in section 2.5 'Completing a Console Extension Station or Flex Station installation' in the *Supplementary Installation Tasks Guide* to determine if other tasks are required for your system.	Supplementary Installation Tasks Guide	
If the migrate Flex Station task cannot be completed successfully, do *not* proceed any further with the on-process migration. Call your Honeywell Technical Assistance Center (TAC).		

Task	Go to	Done?
If your PCs were members of a Domain, ensure that you have added the PCs back to that Domain before you continue with the migration. • Ensure that your DNS address is properly set. You should have recorded this information during the Prepare for the On Process Migration step. • Run LinkDomainGroups.vbs in C:\Program Files\Honeywell\wkstasecurity\. • Check the Firewall at Start->Settings->Control Panel. For the R300.1 release, ensure the Firewall is turned off. – Select Windows Firewall – Select the Exceptions tab and verify SQL Server is checked.		
Migrate the remaining Console Stations		
After you migrate server B, and before you migrate Server A, you must migrate at least one Console Station, if Console Stations are part of your system. When migrating Server A, any Console Stations connected to it operate in degraded mode. **ATTENTION** Windows XP Professional operating system supports Experion R300.1 for Console Station, Flex Station and other client nodes. If the Station to be migrated is not operating with Windows XP Professional, the operating system must be installed as part of the Station migration task.		
Close any Windows applications prior to starting migration.		
Disable any virus protection software. Stop all related anti-virus services.		
Pick one of the actions below. Select 1, 2, 3, or 4. Select only one.		
1) If your operating system is not Windows XP Professional, you will need to perform migration with an operating system installation,	162	

Task	Go to	Done?
2) If you want to perform migration without an operating system installation, you already have Windows XP Professional,	174	
3) If you want to perform migration with an operating system installation, you already have Windows XP Professional but you want to re-install the Windows XP Professional operating system,	179	
4) If you want to perform migration with a platform hardware change, • If you received the following error during migration, go to Configuring FTE Service properties on page 225. 	191	
Re-install anti-virus software if you have installed or re-installed the operating system. (Actions 1, 3 or 4 above.)		
Re-install any third-party applications and software if you installed or re-installed the operating system. (Actions 1, 3 or 4 above.)		
If you haven't already done so, configure FTE properties	225	
Install latest patches or updates from SSOL website.	SSOL	
Review topics in section 2.4 'Completing a Console Station installation' in the *Supplementary Installation Tasks Guide* to determine if other tasks are required for your system.	Supplementary Installation Tasks Guide	

Task	Go to	Done?
ATTENTION • For Console Stations that are migrated to R300.1: With the servers in Dual Primary mode, you must delete the connection on Server A (running at base release) for the Console Station that has been migrated. Once this connection is removed, the migrated Console Station can connect to server B (running at R300.1). If the migrate Console Station task cannot be completed successfully, do *not* proceed any further with the on-process migration. Call your Honeywell Technical Assistance Center (TAC).		
Delete the connection to the migrated station	223	
If you have a TPS node, for example an Integrated Experion-TPS Node that will be a station node (ES-T. etc), then you must re-install and configure your TPS software.	246	
If your PCs were members of a Domain, ensure that you have added the PCs back to that Domain before you continue with the migration. • Ensure that your DNS address is properly set. You should have recorded this information during the Prepare for the On Process Migration step. • Run LinkDomainGroups.vbs in C:\Program Files\Honeywell\wkstasecurity\. • Check the Firewall at Start->Settings->Control Panel. For the R300.1 release, ensure the Firewall is turned off. – Select Windows Firewall – Select the Exceptions tab and verify SQL Server is checked.		

Task	Go to	Done?
Migrate Server A		
• It is recommended that you make a disk image of server A when you stop it. Should you want to rollback the on-process migration; a disk image can make the process easier. If you restore server A from a disk image and server A is part of a domain, you will need to remove the computer from the Windows domain and then re-add it and re-establish the trust relationship. • If you cancel on-process migration once Server A is down, you must restore or reinstall the previous version of Experion on Server A and you will lose all data during the period that Server A is down. Once Server A is running, you must restore or reinstall the previous version of Experion on server B to return the system to a redundant server state. • While Server A is being migrated, server B must remain at system running status and as the primary server. If you change the status of server B, you will invalidate the on-progress migration and the pre-migration version of Experion must be reinstalled/restored on both Server A and Server B. • If the redundant OPM server pair is part of a Distributed System Architecture (DSA), other servers connected to Server A must be manually made to connect to server before Server A is stopped and migrated. If this step is not performed, data from the redundant OPM server pair will not be accessible to the remaining DSA servers until the on-process migration has been completed. **ATTENTION** Windows 2003 Server operating system supports Experion R300.1 for Servers. If the Server to be migrated is not operating with Windows 2003 Server, it must be installed as part of the Server migration task.		
Close any Windows applications on Server A prior to starting migration.		
Disable any virus protection software on Server A. Stop all related anti-virus services.		

Task	Go to	Done?
Pick one of the actions below. Select 1, 2, 3, or 4. Select only one.		
1) If your operating system is not Windows 2003 Server, you will need to perform migration with an operating system installation,	162	
2) If you want to perform migration without an operating system installation, you already have Windows Server 2003,	174	
3) If you want to perform migration with an operating system installation, you already have Windows Server 2003 but you want to re-install the Windows 2003 Server operating system,	179	
4) If you want to perform migration with a platform hardware change, • If you received the following error during migration, go to Configuring FTE Service properties on page 225. 	191	
Re-install anti-virus software if you have installed or re-installed the operating system. (Actions 1, 3 or 4 above.)		
Re-install any third-party applications and software if you installed or re-installed the operating system. (Actions 1, 3 or 4 above.)		
Add shortcuts.	205	

Task	Go to	Done?
If you haven't already done so, configure FTE properties	225	
Install latest patches or updates from SSOL website.	SSOL	
Defragment the hard disk.	206	
Review topics in section 2.1 'Completing a Experion server installation' in the *Supplementary Installation Tasks Guide* to determine if other tasks are required for your system.	Supplementary Installation Tasks Guide	
Review the Post-migration tasks table and perform any tasks that are required for your system.	83	
If you have a TPS node; for example, an Integrated Experion-TPS node that will be a server node (ESVT. ACE-T. etc), then you must • Re-install and configure your TPS software. • Restart Server A to ensure all of the services have properly started.	246	
If the installation of any software on Server A cannot be completed successfully, do *not* proceed any further with the on-process migration. Call your Honeywell Technical Assistance Center (TAC). If you cancel on-process migration once Server A is down, you must restore or reinstall the previous version of Experion on Server A and you will lose all data during the period that Server A is down. Once Server A is running, you must restore or reinstall the previous version of Experion on server B to return the system to a redundant server state. If you restore Server A or server B from a disk image and Server A and server B are part of a domain, you will need to remove the computer from the Windows domain and then: • Re-add each to the workgroup. • Re-boot each • Re-add each to the domain.		
Complete Server/Client migration		

Task	Go to	Done?
On Server A, change the Experion PKS server status to system running. It should now show as backup.	148	
If your PC was a member of a Domain, ensure that you have added the PC back to that Domain. • Ensure that your DNS address is properly set. You should have recorded this information during the Prepare for the On Process Migration step. • Run LinkDomainGroups.vbs in C:\Program Files\Honeywell\wkstasecurity\. • Check the Firewall at Start->Settings->Control Panel. For the R300.1 release, ensure the Firewall is turned off. – Select Windows Firewall – Select the Exceptions tab and verify SQL Server is checked.		
Complete the Server/Client migration.	208	
If Server A does not synchronize or remains stopped, you must do the following: • Unload the database on Server (see page 146) • Return Server A to system running (see page 148) • Check that the Synchronize button on the On Process Migration display on server B is enabled. • Repeat the steps in this task to complete the on-process migration. If the synchronization of Server A still cannot be completed successfully, do *not* proceed any further with on-process migration. Call Honeywell Technical Assistance Center (TAC). On-process migration is complete when Server A is running and synchronized.		
Enable File Replication.	154	
Enable ERDB and EMDB replication.	152	

Task	Go to	Done?
Rebuild Checkpoint files on all controller associated with the servers.	216	
Open Enterprise Model Builder and perform Load Entire Model for both Assets and Alarm Groups.	220	
Migrate controllers		
Perform an on-process migration of all components in the selected redundant chassis pair.	251	

You have completed all tasks.

7. Off-process migration

Click on the task that you want to perform.

Topic	Page
Off-process Server/Client Migration checklist (For Experion R201, R210, 300.0 to R300.1)	117
eServer migration	128
ACE Server migration	132
SIM-C200 Server migration	132

7.1. Off-process migration

Prerequisites

- You have read the Experion PKS Software Change Notice – This book contains last-minute information that was not able to be included in the standard documents. You must read it to find out whether it contains any migration-related information that is applicable to you.

Considerations

- It is recommended that you make a disk image of server B when you stop it. Should you want to rollback the migration; a disk image can make the process easier. If you restore server B from a disk image and server B is part of a domain, you will need to remove the computer from the Windows domain and then re-add it and re-establish the trust relationship.
- When migrating an Experion cluster from R300.0 to R300.1 all nodes in the cluster (servers and console stations) should be migrated to R300.1 at the same time, that is, before the system is restarted and nodes start communicating again.

Off process migration checklist

Perform all of the tasks in the following checklist to complete a migration off process.

Task	Go to	Done?
Prepare for the migration		
Verify the current Windows *mngr* and local *Administrator* account passwords for all nodes are identical. If you are unable to verify these passwords, • Use standard Windows procedure to change the *Administrator* password. Use the Password Change Utility (see page 139) to change the *mngr* password.		
Obtain latest copy of the Migration Readiness Tool	210	
If you are performing an R300.0 to R300.1 Off Process migration, do the following. • Verify server readiness for migration • Verify controller readiness for migration	 211 213	
Record your DNS and WINS IP addresses. From a command screen, enter **ipconfig /all** and either print the screen or record the IP addresses. Record your mapped network drives.		
If you have TPS equipment that you want to migrate and use within your Experion system,	245	
Disable ERDB and EMDB (for R300.0 systems) replication.	150	
Disable file replication.	154	

Task	Go to	Done?
Migrate Server B		
ATTENTION Windows 2003 Server operating system supports Experion R300.1 for Servers. If the Server to be migrated is not operating with Windows 2003 Server, the operating system must be installed as part of the Server migration task. You may also elect to re-install your Windows 2003 Server operating system.		
Close any Windows applications prior to starting migration.		
Disable any virus protection software on Server B. Stop all related anti-virus services.		
Pick one of the actions below. Select 1, 2, 3, or 4. Select only one.		
1) If your operating system is not Windows 2003 Server, you will need to perform migration with an operating system installation,	162	
2) If you want to perform migration without an operating system installation, you already have Windows Server 2003,	174	
3) If you want to perform migration with an operating system installation, you already have Windows Server 2003 but you want to re-install the Windows 2003 Server operating system,	179	

Task	Go to	Done?
4) If you want to perform migration with a platform hardware change, • If you received the following error during migration, go to Configuring FTE Service properties on page 225. 	191	
Re-install anti-virus software if you have installed or re-installed the operating system. (Actions 1, 3 or 4 above.)		
Re-install any third-party applications and software if you installed or re-installed the operating system. (Actions 1, 3 or 4 above.)		
Add shortcuts.	205	
Install latest patches or updates from SSOL website.	SSOL	
Defragment the hard disk.	206	
Review topics in section 2.1 'Completing an Experion server installation' in the *Supplementary Installation Tasks Guide* to determine if other tasks are required for your system.	Supplementary Installation Tasks Guide	
Review the Post-migration tasks table and perform any tasks that are required for your system..	83	

Task	Go to	Done?
If you have a TPS node; for example, an Integrated Experion-TPS node that will be a server node (ESVT. ACE-T. etc), then you must re-install and configure your TPS software	246	
If your PC was a member of a Domain, ensure that you have added the PC back to that Domain before you continue with the migration. • Ensure that your DNS address is properly set. You should have recorded this information during the Prepare for the Migration step. • Run LinkDomainGroups.vbs in C:\Program Files\Honeywell\wkstasecurity\. • Check the Firewall at Start->Settings->Control Panel. For the R300.1 release, ensure the Firewall is turned off. – Select Windows Firewall – Select the Exceptions tab and verify SQL Server is checked.		
If the installation of any software on Server B cannot be completed successfully, do *not* proceed any further with the migration. Call your Honeywell Technical Assistance Center (TAC).		
Migrate Flex Station/s		
ATTENTION Windows XP Professional operating system supports Experion R300.1 for Console Station, Flex Station and other client nodes. If the Station to be migrated is not operating with Windows XP Professional, the operating system must be installed as part of the Station migration task. Migrate the number of Flex Stations as determined by your plan.		
Close any Windows applications prior to starting migration.		
Disable any virus protection software. Stop all related anti-virus services.		

Task	Go to	Done?
Pick one of the actions below. Select 1, 2, 3, or 4. Select only one.		
1) If your operating system is not Windows XP Professional, you will need to perform migration with an operating system installation,	162	
2) If you want to perform migration without an operating system installation, you already have Windows XP Professional,	174	
3) If you want to perform migration with an operating system installation, you already have Windows XP Professional but you want to re-install the Windows XP Professional operating system,	179	
4) If you want to perform migration with a platform hardware change, • If you received the following error during migration, go to Configuring FTE Service properties on page 225. 	191	
Re-install anti-virus software if you have installed or re-installed the operating system. (Actions 1, 3 or 4 above.)		
Re-install any third-party applications and software if you installed or re-installed the operating system. (Actions 1, 3 or 4 above.)		
Install latest patches or updates from SSOL website.	SSOL	

Task	Go to	Done?
Review topics in section 2.5 'Completing a Console Extension Station or Flex Station installation' in the *Supplementary Installation Tasks Guide* to determine if other tasks are required for your system.	Supplementary Installation Tasks Guide	
If the migrate Station task cannot be completed successfully, do *not* proceed any further with the migration. Call your Honeywell Technical Assistance Center (TAC).		
Migrate Console Station/s		
This section describes how to migrate Console Stations connected to the base release of Experion on server A, to connect to the current release of Experion on server B. After you migrate server B, and before you migrate server A, you must migrate at least one Console Station, if Console Stations are part of your system. When migrating server A, any Console Stations connected to it operate in degraded mode. **ATTENTION** Windows XP Professional operating system supports Experion R300.1 for Console Station, Flex Station and other client nodes. If the Station to be migrated is not operating with Windows XP Professional, the operating system must be installed as part of the Station migration task. Migrate the number of Console Stations as determined by your plan.		
Close any Windows applications prior to starting migration.		
Disable any virus protection software. Stop all related anti-virus services.		
Pick one of the actions below. Select 1, 2, 3, or 4. Select only one.		
1) If your operating system is not Windows XP Professional, you will need to perform migration with an operating system installation,	162	

Task	Go to	Done?
2) If you want to perform migration without an operating system installation, you already have Windows XP Professional,	174	
3) If you want to perform migration with an operating system installation, you already have Windows XP Professional but you want to re-install the Windows XP Professional operating system,	179	
4) If you want to perform migration with a platform hardware change, • If you received the following error during migration, go to Configuring FTE Service properties on page 225. 	191	
Re-install anti-virus software if you have installed or re-installed the operating system. (Actions 1, 3 or 4 above.)		
Re-install any third-party applications and software if you installed or re-installed the operating system. (Actions 1, 3 or 4 above.)		
Install latest patches or updates from SSOL website.	SSOL	
Review topics in section 2.4 ‘Completing a Console Station installation’ in the *Supplementary Installation Tasks Guide* to determine if other tasks are required for your system.	Supplementary Installation Tasks Guide	
If you have a TPS node, for example an Integrated Experion-TPS Node that will be a station node (ES-T. etc), then you must re-install and configure your TPS software.	246	

Task	Go to	Done?
If the migrate Station task cannot be completed successfully, do *not* proceed any further with the migration. Call your Honeywell Technical Assistance Center (TAC).		
Migrate Server A		
ATTENTION Windows 2003 Server operating system supports Experion R300.1 for Servers. If the Server to be migrated is not operating with Windows 2003 Server, it must be installed as part of the Server migration task.		
Close any Windows applications prior to starting migration.		
Disable any virus protection software. Stop all related anti-virus services.		
Pick one of the actions below. Select 1, 2, 3, or 4. Select only one.		
1) If your operating system is not Windows 2003 Server, you will need to perform migration with an operating system installation,	162	
2) If you want to perform migration without an operating system installation, you already have Windows Server 2003,	174	
3) If you want to perform migration with an operating system installation, you already have Windows Server 2003 but you want to re-install the Windows 2003 Server operating system,	179	

Task	Go to	Done?
4) If you want to perform migration with a platform hardware change, • If you received the following error during migration, go to Configuring FTE Service properties on page 225. 	191	
Re-install anti-virus software if you have installed or re-installed the operating system. (Actions 1, 3 or 4 above.)		
Re-install any third-party applications and software if you installed or re-installed the operating system. (Actions 1, 3 or 4 above.)		
Add shortcuts.	205	
Install latest patches or updates from SSOL website.	SSOL	
Defragment the hard disk.	206	
Review topics in section 2.1 ‘Completing a Experion server installation’ in the *Supplementary Installation Tasks Guide* to determine if other tasks are required for your system.	Supplementary Installation Tasks Guide	
Review the Post-migration tasks table and perform any tasks that are required for your system.	83	
Enable File Replication.	154	

Task	Go to	Done?
Enable ERDB and EMDB file replication	152	
Open Enterprise Model Builder and perform Load Entire Model for both Assets and Alarm Groups.	220	
If you have a TPS node; for example, an Integrated Experion-TPS node that will be a server node (ESVT. ACE-T. etc), then you must re-install and configure your TPS software.	246	
If your PC was a member of a Domain, ensure that you have added the PC back to that Domain before you continue with the migration. • Ensure that your DNS address is properly set. You should have recorded this information during the Prepare for the Migration step. • Run LinkDomainGroups.vbs in C:\Program Files\Honeywell\wkstasecurity\. • Check the Firewall at Start->Settings->Control Panel. For the R300.1 release, ensure the Firewall is turned off. – Select Windows Firewall – Select the Exceptions tab and verify SQL Server is checked.		
If the installation of any software on Server A cannot be completed successfully, do *not* proceed any further with the migration. Call your Honeywell Technical Assistance Center (TAC). If you restore server A or server B from a disk image and server A and server B are part of a domain, you will need to remove the computer from the Windows domain and then re-add it and re-establish the trust relationship.		
Migrate controllers		
Perform an off-process migration of control hardware components.	249	

You have completed all tasks.

7.2. Migrate eServer

This section describes how to migrate an eServer to Experion R300.1

ATTENTION

Windows 2003 Server operating system supports Experion R300.1 for Servers. If the Server to be migrated is not operating with Windows 2003 Server, the operating system must be installed as part of the Server migration task.

Prerequisites

- Experion PKS R300.1 media.
- Experion PKS R300.1 license.
- The server meets the hardware requirements (see 'PC Platform Performance Requirements' section in the Experion R300.1 SCN for more information).

Considerations

- All tasks must be performed with the server off-process.

Tasks

Complete the tasks in the following order.

Task	Go to	Done?
Verify the current Windows *mngr* and local *Administrator* account passwords for all nodes are identical. If you are unable to verify these passwords, • Use standard Windows procedure to change the *Administrator* password. Use the Password Change Utility (see page 139) to change the *mngr* password.		

Task	Go to	Done?
Record the passwords for Standard Access Admin and Standard Access User. During installation you will be prompted to enter these passwords.		
Record your DNS and WINS IP addresses. From a command screen, enter **ipconfig /all** and either print the screen or record the IP addresses. Record your mapped network drives.		
Backup any files of software applications that will not be migrated.		
Disable any virus protection software. Stop all related anti-virus services.		
Pick one of the actions below. Select 1, 2, 3, or 4. Select only one.		
1) If your operating system is not Windows 2003 Server, you will need to perform migration with an operating system installation,	162	
2) If you want to perform migration without an operating system installation, you already have Windows 2003 Server,	174	
3) If you want to perform migration with an operating system installation, you already have Windows 2003 Server but you want to re-install the Windows 2003 Server operating system,	179	

Task	Go to	Done?
4) If you want to perform migration with a platform hardware change, • If you received the following error during migration, go to Configuring FTE Service properties on page 225. 	191	
Re-install anti-virus software if you have installed or re-installed the operating system. (Actions 1, 3 or 4 above.)		
Re-install any third-party applications and software if you installed or re-installed the operating system. (Actions 1, 3 or 4 above.)		
Defragment the hard drive.	206	

Task	Go to	Done?
If your PC was a member of a Domain, ensure that you have added the PC back to that Domain before you continue with the migration of the database. • Ensure that your DNS address is properly set. You should have recorded this information during the Prepare for the On Process Migration step. • Run LinkDomainGroups.vbs in C:\Program Files\Honeywell\wkstasecurity\. • Check the Firewall at Start->Settings->Control Panel. For the R300.1 release, ensure the Firewall is turned off. – Select Windows Firewall – Select the Exceptions tab and verify SQL Server is checked.		
See section 2.3 'Completing an ACE or SIM-C200 node installation' in the *Supplementary Installation Tasks Guide* and review the topics to determine if other tasks are required for your system.	Supplementary Installation Tasks Guide	

You have completed all tasks.

7.3. Migrate ACE or SIM-C200 nodes

This section describes how to migrate an ACE or SIM-C200 node to Experion R300.1

ATTENTION

Windows 2003 Server operating system supports Experion R300.1 for ACE and SIM-C200 nodes. If the node to be migrated is not operating with Windows 2003 Server, the operating system must be installed as part of the migration process.

Prerequisites

- Experion PKS R300.1 media.
- Experion PKS R300.1 license.
- The server meets the hardware requirements (see 'PC Platform Performance Requirements' section in the Experion R300.1 SCN for more information).

Considerations

- All tasks must be performed with the node off-process.
- When migrating an ACE node from R300.0 to R300.1, perform a 'Server/Station migration with an Operating System re-installation.'

To migrate and ACE or SIM-C200 node off-process:

Task	Go to	Done?
Verify the current Windows *mngr* and local *Administrator* account passwords for all nodes are identical. If you are unable to verify these passwords, • Use standard Windows procedure to change the *Administrator* password. Use the Password Change Utility (see page 139) to change the *mngr* password.		

Task	Go to	Done?
Record your DNS and WINS IP addresses. From a command screen, enter **ipconfig /all** and either print the screen or record the IP addresses. Record your mapped network drives.		
If you have a TPS node that you want to migrate and use within your Experion system, record the TPS node information.	245	
Close any Windows applications prior to starting migration.		
Disable any virus protection software.		
Pick one of the actions below. Select 1, 2, 3, or 4. Select only one.		
1) If your operating system is not Windows 2003 Server, you will need to perform migration with an operating system installation,	162	
2) If you want to perform migration without an operating system installation, you already have Windows 2003 Server,	174	
3) If you want to perform migration with an operating system installation, you already have Windows 2003 Server but you want to re-install the Windows 2003 Server operating system, **ATTENTION** Select this option when migrating an ACE node from R300.0 to R300.1.	179	

Task	Go to	Done?
4) If you want to perform migration with a platform hardware change, • If you received the following error during migration, go to Configuring FTE Service properties on page 225. 	191	
Re-install anti-virus software if you have installed or re-installed the operating system. (Actions 1, 3 or 4 above.)		
Re-install any third-party applications and software if you installed or re-installed the operating system. (Actions 1, 3 or 4 above.)		
If you have a TPS node; for example, an Integrated Experion-TPS node that will be a server node (ESVT. ACE-T. etc), then you must • Re-install and configure your TPS software. • Restart node to ensure all of the services have properly started.	246	
Check that all printers and OPC connections are working. See section 8 ‘Setting up a third-party OPC client or server’ in the *Supplementary Installation Tasks Guide* to reestablish the OPC configuration and connections, if necessary.	Supplementary Installation Tasks Guide	
See section 2.3 ‘Completing an ACE or SIM-C200 node installation’ in the *Supplementary Installation Tasks Guide* and review the topics to determine if other tasks are required for your system.	Supplementary Installation Tasks Guide	

Task	Go to	Done?
If your PC was a member of a Domain, ensure that you have added the PC back to that Domain before you continue with the migration of the database. • Ensure that your DNS address is properly set. You should have recorded this information during step. • Run LinkDomainGroups.vbs in C:\Program Files\Honeywell\wkstasecurity\.		

You have completed all tasks.

8. Common Software Tasks

This section contains the step procedures for executing your migration plan.

ATTENTION

You should only complete the tasks in this section when instructed to by a checklist. To complete these tasks out of sequence may result in the failure of your Experion migration.

Topic	Page
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Checking synchronization status	141
Edit FteMacAddr.txt file during migration of Experion node	142
To prevent the possible blue screen condition during migration	143
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Enable ERDB and/or EMDB replication	151
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EXPPlus – Client/Server initialization	230

8.1. Changing the Experion PKS Windows account passwords

This section describes how to change Experion PKS Windows account passwords across the Experion PKS system using the Password utility.

Considerations

- Passwords must be eight to 14 characters in length and must contain at least one numeric character and at least one alpha character.
- The Password utility, PWDUtil.exe, can be found in the following locations:
  - In the `Utilities\Password Utility` folder on the Experion PKS R300.1 Applications DVD.
  - In the `C:\Program Files\Honeywell\Experion PKS\Utilities\PwdUtil` folder.

To change the Experion PKS Windows account passwords:

Step	Action
1	Double-click the `PWDUtil.exe` file.
2	Select mngr.
3	Type the new password and then click **OK**.
4	Click **Done**.
5	Click **OK**. If the Password utility warns you that Windows accounts exist that no longer are required, for example, the Windows ps_user account, you should delete these accounts unless another application, other than Experion, uses these accounts.
6	Restart the computer.
7	Click “Yes” on the message zone.

You have completed this task. Return to the checklist that led to this task.

8.2. Checking synchronization status

This section describes how to check the synchronization status before starting the on-process migration.

To check the synchronization status:

Step	Action
1	Log on to Station running on Server A.
2	Change to the mngr security level.
3	Choose **View** > **System Status** > **Server Redundancy** to call up the Server Redundancy display.
4	Check that the backup server (server B) is running and that the servers are synchronized.
5	If server B is *not* running, start server B to system running status (see Page 148).
6	If server B is running, however, the servers are *not* synchronized, click **Synchronize**.

You have completed this task. Return to the checklist that led to this task.

8.3. Edit FteMacAddr.txt file during migration of Experion nodes

You should perform this procedure to avoid the possibility of a blue screen condition during migration of an Experion node.

REFERENCE - INTERNAL

If you encounter a Blue Screen condition, see Blue screen recovery during FTE_Driver installation for a procedure to recover from the condition.

Delete Text from FteMacAddr.txt File:

Step	Action
1	While performing a node migration with an operating system change - Open the migration EMSN share file at: <EMSN Share>**\Honeywell Experion PKS\Migrate**<ComputerName>**\CCMigrPlugin\FteMacAddr.txt file**
2	Delete the **2 lines** in the file, save and exit. Do not delete the file.

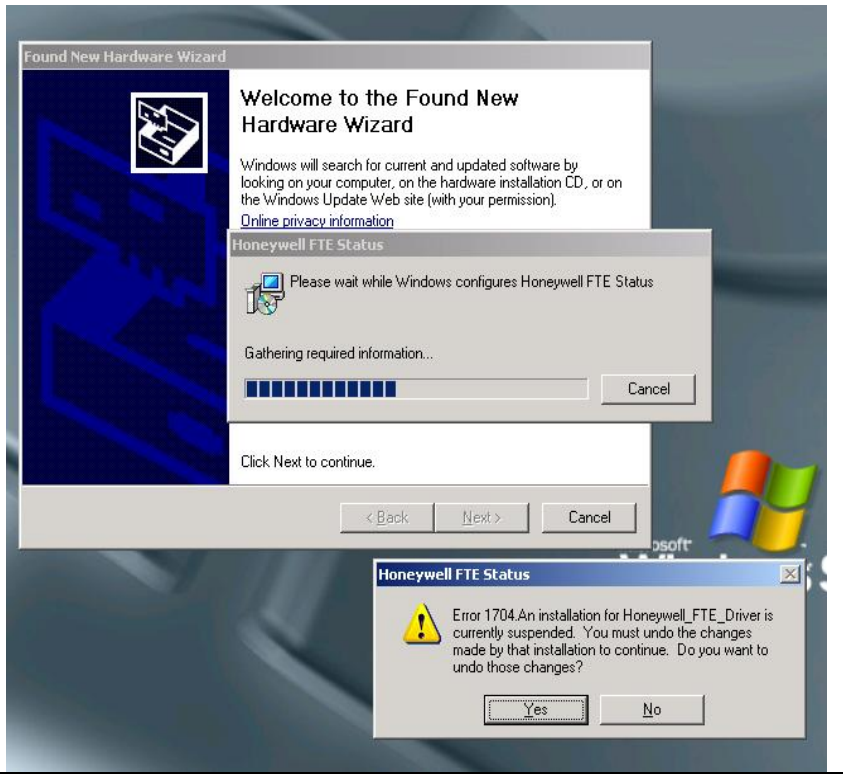
You have completed this task. Return to the checklist that led to this task.

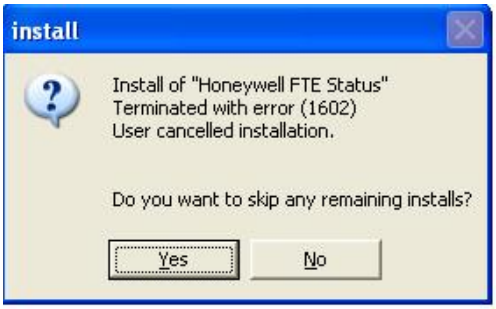
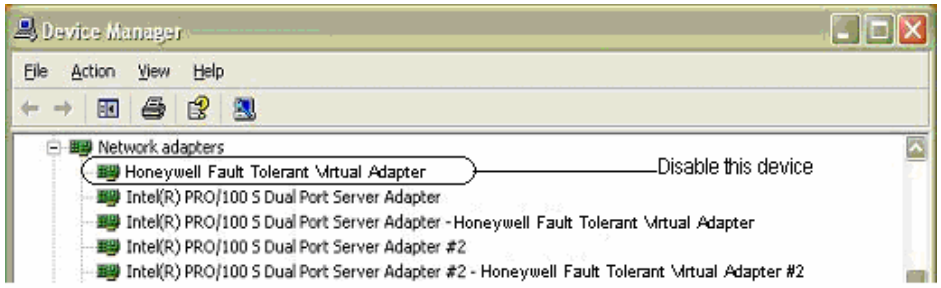
8.4. To prevent the possible blue screen condition during migration

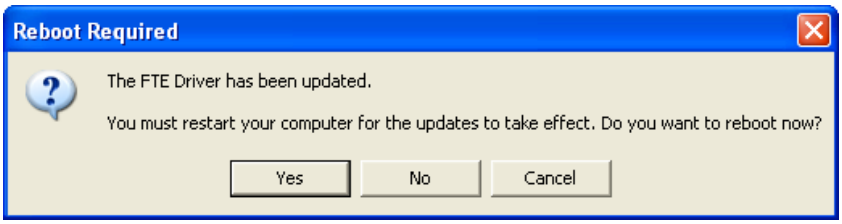
This procedure edits the FteMacAddr.txt file to prevent a problem that will cause a blue screen and a halt to migration. The steps below show how prevent the crash of the computer by responding correctly to the events that will cause it.

To prevent the possible blue screen during migration of Experion nodes:

Step	Action
1	If the **Found New Hardware** dialog appears during the installation of FTE Status, while migrating the Experion Node, follow the steps below to avoid the computer from performing a Blue Screen (memory dump). This problem will only appear in rare cases, if the text was not deleted from the FteMacAddr.txt file prior to starting the installation of the Operating System.



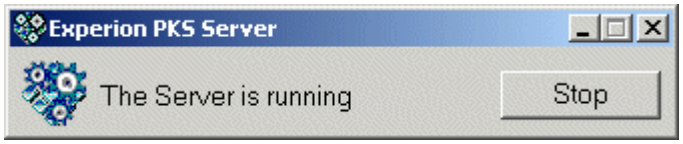
Step	Action
2	For the Honeywell FTE Status dialog Select **Yes**.
3	After this you should see an Install dialog, select **Yes**, to skip the remaining installation which should be the FTE_Driver. Leaving only the Found new hardware dialog.
	
4	Start Device Manager: From Task Bar **Start >Run…** Type: **devmgmt.msc** Select **OK.**
5	From Device Manager Window: Select **View > Show hidden devices**. Expand **Network adapters** tree and select the standalone "**Honeywell Fault Tolerant Virtual Adapter**" sometimes there is a number at the end like #2 as in the figure below, right mouse click, and Select **Disable.**
	
6	Honeywell Fault Tolerant Ethernet Virtual Adapter (#2), Select **Yes** for the confirmation dialog window.
7	Go back to **Found New Hardware** Wizard and Select **Next**, and continue to answer the remaining prompts.

Step	Action
8	**Message**: "For Windows ***** ATTENTION! ***** Experion PKS installation is about to shutdown and re-start the system …" Select **OK**.
9	The computer should reboot, log back in as Administrator.
10	Select **No** to Reboot Required Prompt. 
	Migration will continue.
	You have completed this task. Return to the checklist that led to this task.

8.5. Stopping an Experion PKS server

To stop the Experion PKS server:

Step	Action
1	Choose **Start** > **Programs** > **Honeywell Experion PKS** > **Server** > **Start-Stop Experion PKS Server**. The **Experion PKS Server** dialog box is displayed.

Mode	Dialog
Simple	
Full Mode	

2	If the **Experion PKS Server** dialog box is displayed in simple mode, click the icon to the left of the title bar, and choose **Advanced** > **Full Mode**.
3	There are three stop modes available in Full mode; **Database Unloaded**, **Database & Daemons**, and **Database Only**. Click the stop mode specified in the task or step that led you to this task.
4	If prompted, click **Yes** to confirm the action. Wait for the server to change its state. It may take several minutes for the Experion PKS server to stop.

CAUTION During on-process migration, to prevent data transfer occurring on both Server A and Server B while in dual primary mode, all enabled groups on Server B as well as script engines and scada channels are automatically disabled. Therefore, **when Server A is stopped to be migrated, the OPC Integrator groups, script engines and scada channels on Server B must be manually enabled**.

You have completed this task. Return to the checklist that led to this task.

8.6. Starting an Experion PKS server

This section describes how to start an Experion PKS server.

To start the Experion PKS server:

Step	Action
1	Choose **Start** > **Programs** > **Honeywell Experion PKS** > **Server** > **Start-Stop Experion PKS Server**. The **Experion PKS Server** dialog box is displayed.
2	If the **Experion PKS Server** dialog box is displayed in simple mode, click the icon to the left of the title bar, and choose **Advanced** > **Full Mode**.
3	To start the Experion PKS server, click **System Running**.
4	If prompted, click **Yes** to confirm the action. Wait for the server to change its state. It may take several minutes for the Experion PKS server to start.

You have completed this task. Return to the checklist that led to this task.

8.7. Migrate Server B database

This section describes how to migrate the existing data on Server A to server B. When the server B database migration is complete, server B is promoted to a primary server, with both Server A and server B running as primary servers (dual-primary mode).

ATTENTION

Do not perform this procedure until the Migrate Server B task is completed.

Step	Action
1	Choose **Start** > **Programs** > **Honeywell Experion PKS** > **Server** > **Start-Stop Experion PKS Server**. The **Experion PKS Server** dialog box is displayed.
2	If the **Experion PKS Server** dialog box is displayed in simple mode, click the icon to the left of the title bar, and choose **Advanced** > **Full Mode**.
3	To start the Experion PKS server, click **System Running**.
4	If prompted, click **Yes** to confirm the action. Wait for the server to change its state. It may take several minutes for the Experion PKS server to start.
5	Log on to Station running on Server A.
6	Change to the mngr security level.
7	Choose **Configure** > **System Hardware** > **On Process Migration** to call up the On-Process Migration Display.
8	Click **Migrate Database**.
9	In the Message Zone, click **Yes** to start the database migration to server B.

STOP

You have completed this task. Return to the checklist that led to this task.

8.8. Disable ERDB and/or EMDB replication

This section describes how to disable Engineering Repository DataBase (ERDB) replication and the Enterprise Model DataBase (EMDB) replication.

Considerations

- **You only need to complete these steps on *server B*.**

To disable Experion ERDB and/or EMDB replication:

Step	Action
1	Click **Start > Programs > Honeywell Experion > Configuration Studio**. The connect dialog appears.
2	Select a listed system and click **Connect**.
3	Log on to the primary server with engineer (Engr) security permissions.
4	For ERDB replication status, do the following: • From the Configuration Explorer tab, click **Control Strategy** in the tree view. • From the **Process Control Strategies** grouping, click **Administer the control strategy database**. • Expand the **DbAdmin** item. • Expand the **Server Node** item. • Click the **ERDB Admin Tasks** item. • Go to Step 6
5	For EMDB replication status, do the following: • From the Configuration Explorer tab, click the top level system name in the tree view. • From the **System Level Tasks** grouping, click **Administer the system database**. • Expand the **DbAdmin** item.. • Expand the **Server Node** item. • Click the **EMDB Admin Tasks** item.

Step	Action
6	Click **Disable Replication**.
7	Click **Yes** to disable database replication.
8	Click **OK** to acknowledge the disable replication succeeded message dialog box.
9	Close the DB Admin application.

You have completed this task. Return to the checklist that led to this task.

8.9. Enable ERDB and/or EMDB replication

This section describes how to enable Engineering Repository DataBase (ERDB) replication and the Enterprise Model DataBase (EMDB) replication.

Considerations

- You only need to complete these steps on *server B*.

To enable Experion ERDB and/or EMDB replication:

Step	Action
1	Click **Start > Programs > Honeywell Experion PKS> Configuration Studio**. The connect dialog appears.
2	Select a listed system and click **Connect**.
3	Log on to the primary server with engineer (Engr) security permissions.
4	If you want to enable ERDB replication, do the following: • From the Configuration Explorer tab, click **Control Strategy** in the tree view. • From the **Process Control Strategies** grouping, click **Administer the control strategy database**. • Expand the **DbAdmin** item. • Log on with a user having manager access level. • Expand the **Experion PKS Node** item. • Click the **ERDB Admin Tasks** item.
5	If you want to enable EMDB replication, do the following: • From the Configuration Explorer tab, click the top level system name in the tree view. • From the **System Level Tasks** grouping, click **Administer the system database**. • Expand the **DbAdmin** item. • Log on with a user having manager access level. • Expand the **Experion PKS Node** item.

Step	Action
	• Click the **EMDB Admin Tasks** item.
6	Perform steps 7 through 13 to enable replication on ERDB and EMDB.
7	Click **Recover Secondary DB**.
8	Click **Yes** to continue.
9	Click **OK** to acknowledge the successful completion message dialog box.
10	Click **Enable Replication**.
11	Click **Yes** to continue.
12	Click **OK** to acknowledge the successful completion message dialog box.
13	Close the DB Admin application.

You have completed this task. Return to the checklist that led to this task.

8.10. Disable/Enable file replication

This section tells you how to disable and enable file replication for servers/clients which are to be migrated. Before migration, you must disable the file replication for the node which is to be migrated. After migration, you must restore the file replication settings so that file replication is enabled on the node.

To disable file replication before migration:

Step	Action
1	In Station go to **Configure** and select **Configuration Tools.**
2	Under the **Tools** heading, select **File Replication.**
3	Click the replication name of the node in which you want to disable.
4	Uncheck the '**Replicate files from this path**' on the file replication page.
5	Click **Save** to save the changes.
6	Close the window.

To enable file replication after migration:

Step	Action
1	In Station go to **Configure** and select **Configuration Tools.**
2	On the **System Configuration Menu** display, click **File Replication**
3	Click the replication name of the node in which you want to disable.
4	Check the '**Replicate files from this path**' on the file replication page.
5	Click **Save** to save the changes.
6	Close the window.

For more information see the topic 'Configuring File Replication' in the *Server and Client Configuration Guide* in Knowledge Builder.

You have completed this task. Return to the checklist that led to this task.

8.11. Activate on-process migration

This section describes how to set the servers to on-process migration mode, so that the Experion servers can communicate during the on-process migration.

CAUTION	Once on-process migration is started, the Checkpoint rebuild function is not available for controllers associated with the server. In the event of a non-redundant controller failure, no Checkpoint Rebuild function will be available. Checkpoint Rebuild function is available only after Server A migration completes

To activate on-process migration:

Step	Action
1	Log on to Station connected to Server A.
2	Change to the mngr security level.
3	Choose **Configure** > **System Hardware** > **On Process Migration** to call up the On-Process Migration display.
4	Check the following: • On Process Migration is not active. • Server B is running and synchronized.
5	Click **Start Migration** to activate the on-process migration.
6	In the Message Zone, click **Yes** to start the on-process migration.
7	Check that On Process Migration is activated.

Results

- If the activation of on-process migration cannot be completed successfully, do not proceed any further with the on-process migration, then call your Honeywell Technical Assistance Center (TAC).

ATTENTION

If active lock errors occur, clear the locks and re-run the MRT.

You have completed this task. Return to the checklist that led to this task.

8.12. Perform migration and compatibility tests

Considerations

- SCADA controllers may only support one connection, which remains with Server A. Therefore, these controllers will not report values, changes, or alarms to server B, unless you disable the connection from Server A and enable the connection from Server B.
- Operations performed on Server A and Server B, such as changing operators, acknowledging alarms, and so on, will not be seen nor recorded on Server A and Server B respectively.
- Script engines are disabled on server B. Running the same scripts concurrently on Server A and server B may result in unpredictable behavior. You can enable the script engine on server B.
- If the redundant server pair is part of a Distributed System Architecture (DSA), server B can only subscribe to data within the DSA. Other servers within the DSA remain connected to Server A.
- If migrating from Experion release 201, CDA hardware items will continue to appear on the Alarm Summary display within the asset that has the same name as the area that the hardware item was assigned to in the previous Experion release. CDA hardware items will not appear in the System Status display until you download the hardware items to the Experion server. The completing on-process migration task will instruct you when to complete this step.

Summary of migration and compatibility tests:

Step	Action
1	On Server A and server B: • Start Station. • Ensure that the Station running on server B connects to server B. The server name is displayed on the Station's Status Line. You can change the server connection by choosing **Station** > **Connect**, and then clicking server B in the **Server** list. • Call up displays, trends, and so on. • Compare the displays on the Station connected to Server A with the Station connected to server B.
2	Control selected addresses on each controller and confirm correct operation.
3	If the redundant server pair is part of a Distributed System Architecture (DSA), confirm that data is being correctly received by Server A and server B.
4	Enable any SCADA channels that support multiple connections, such as OPC channels, and test for correct operation.
5	SCADA devices that support only one connection can be tested on server B by disabling the connection on Server A and enabling the connection on server B.
6	Test the operation of Console Stations connected to server B.
7	If the redundant OPM server pair is part of a Distributed System Architecture (DSA), force any DSA servers connected to Server A to connect to Server B and confirm that DSA data is being received from Server B. To do this, on each primary DSA server connected to the redundant OPM server pair, call up the DSA status page for the redundant OPM server pair and select the **Test On process Migration (Connect to Server B)** check box.
	You have completed this task. Return to the checklist that led to this task.

8.13. Recovering from a hardware failure during a migration

If your PC hangs or fails during a migration, you will need to follow the steps in the procedure below to recover from the failure and continue with your migration.

The intent of this procedure is not to detail all of the possible hardware failures but rather to detail the steps that must be taken after the hardware failure has been identified and corrected.

Step	Action
1	Correct the failed hardware, for example replace hard drive, etc.
2	Copy the contents of the **EPC_MigrationOptions** folder from the EMSN to the root of a floppy disk. NOTE: The files must be on the root of the disk.
3	Put the floppy disk into the floppy drive of the failed PC and verify that the EXPPlus media is in the DVD drive.
4	Re-boot the PC.
5	After selecting **Yes** at the “Validation of Configuration Files” screen, note a CD_WINPE.bat command window in the background.
6	Make sure this window has focus by clicking on the window title bar.
7	Watch the script carefully on this window as it is executing. When you see the script, “Copying WINPE Bootable Image”, click **Ctrl-C.** NOTE: This script will remain on the screen for around 30 seconds. You must select Ctrl-C while this script is on the screen.
8	At the next prompt, type **Y** and hit the **Enter** key.

9	Enter the following sequence of DOS commands.
	`C:`
	`MD EPC_MigrationOptions`
	`CD EPC_MigrationOptions`
	`Copy A:\ *.*`

10	Remove only the floppy disk from the drive.

Step	Action
11	Re-boot your PC from the CD ROM drive where the EXPPlus media is located.

You have completed this task. Return to the checklist that led to this task.

8.14. Server/Station migration with Operating System Installation

This section describes how to migrate an Experion Server or Station running Experion R201, or R210 software to Experion R300.1. This section describes Experion migration with the installation of a compatible operating system.

Prerequisites

- You have read the Experion PKS Software Change Notice – This book contains last-minute information that was not able to be included in the standard documents. You must read it to find out whether it contains any migration-related information that is applicable to you.
- You have the required Experion PKS R300.1 Application DVD and installation media. See Software media required.
- You have the required software media for upgrading the operating system for server or Station. See Software media required.
- The server or Station meets the hardware requirements to support Experion R300.1 operation. (see 'PC Platform Performance Requirements' section in the *Experion R300.1 SCN* for more information).

Considerations

ATTENTION

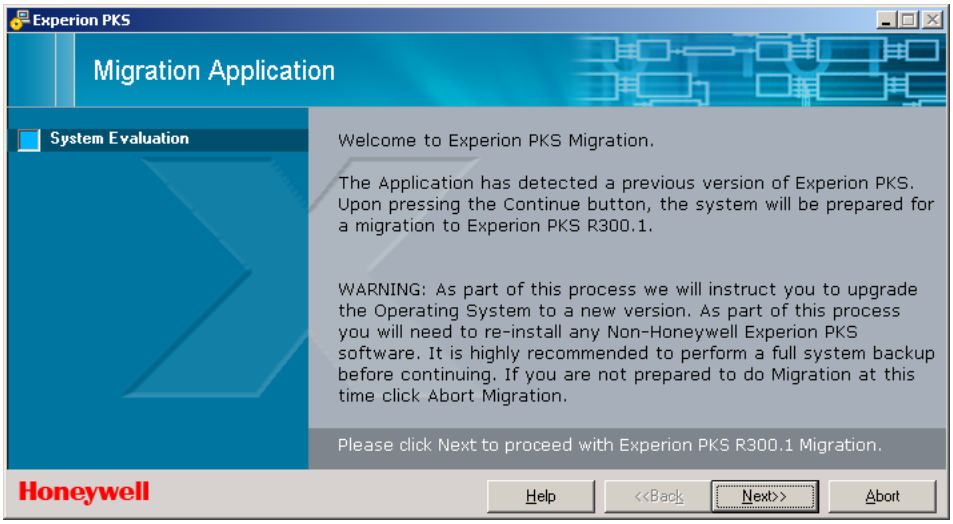
Some Honeywell and third-party applications and programs that are **not** integrated with the Experion PKS Application DVD will **not** be migrated forward. You must follow the instructions provided with the Migration application during the migration process and perform migration of the applications manually. See the Review software requirements section in this guide for specific information regarding the handling of these applications.

ATTENTION

When prompted, be sure to enter the same mngr password that was used at the beginning of the migration checklist, (Prepare for the on-process migration on page 95).

Perform the following steps to migrate a server or Station to Experion R300.1.

Step	Action
1	Insert Experion PKS R300.1 Application media and the Auto run dialog should appear.
2	Select Install/Migrate Experion PKS to begin migration.
3	If the opening screen does not appear: In Windows Explorer, browse to the drive double click on **Setup.exe** to start the Migration Application. **Result**: The "Welcome…" dialog will be displayed as shown below:

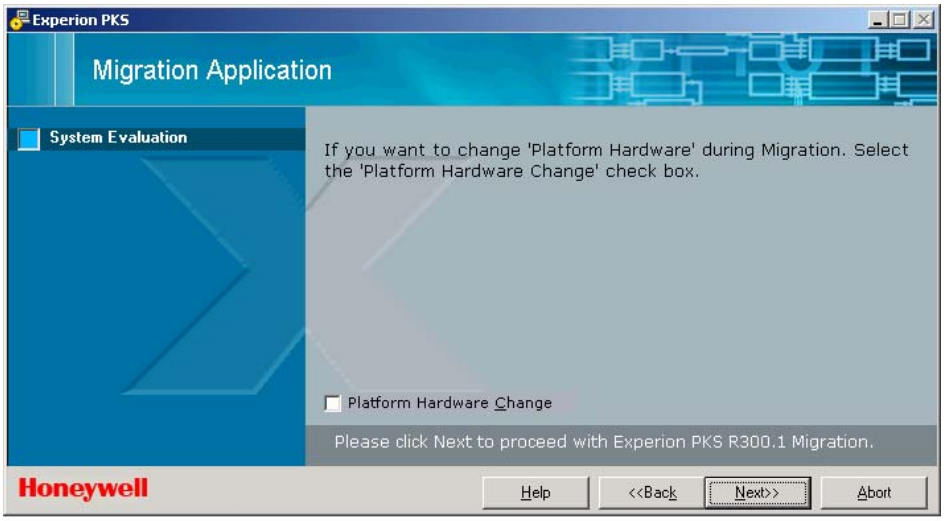


Note: Major tasks that are performed by the Migration Application are listed at the left in the dialog. The block next to each task indicates the status of the task, where:

- Blue – indicates the current task.
- Green – indicates the task is completed.
- Gray – indicates the task has not been performed.

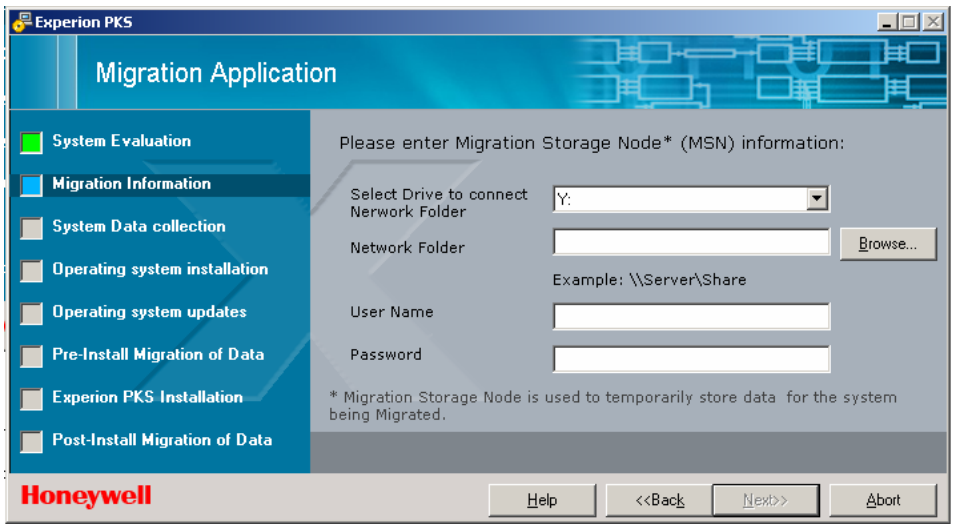
4	Click **Next** to go to the next dialog.

Step	Action



5	Do not check any boxes in the dialog, click **Next**
6	Click **Next** and a prompt for connection information to a Migration Storage Node appears.

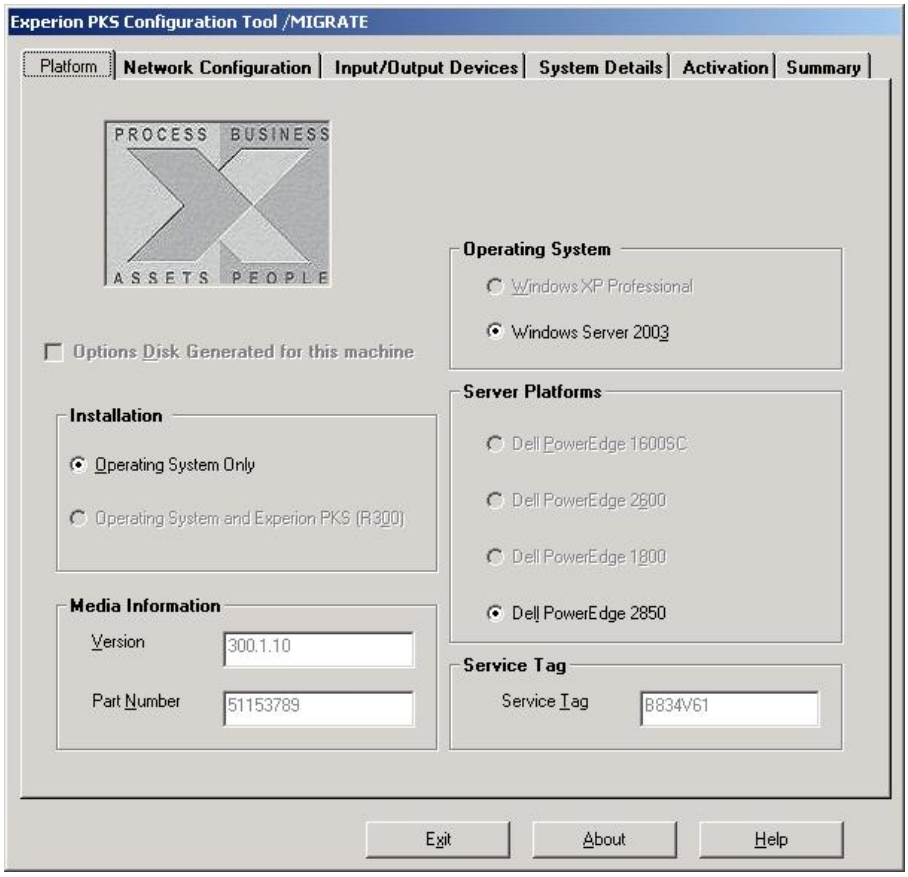
Step	Action



7	Create a shared folder on another node as location for back-up data, the Experion Migration Storage Node (EMSN). Or choose an existing folder using the 'Browse' button.
8	Enter the full path in the **Network Folder** text box. For example, ***\\IP Address of a Flex Station***\EMSN.
9	Enter a user-defined **User Name** to connect to the shared folder.
10	Enter a user-defined **Password** to connect to the shared folder.
11	Select a Drive letter which is unused in the **Select Drive to connect Network Folder** combo box. This creates a mapped drive to the EMSN where the back-up data is stored for the system under migration. Click **Next**.
	Result: Migration Application validates the EMSN information and does space check on the selected EMSN. Available space information is shown in the next dialog. Note: If an error message appears, "*Migration storage node does not have enough space to perform backup…*," you must choose another node. Go back to Step 7.

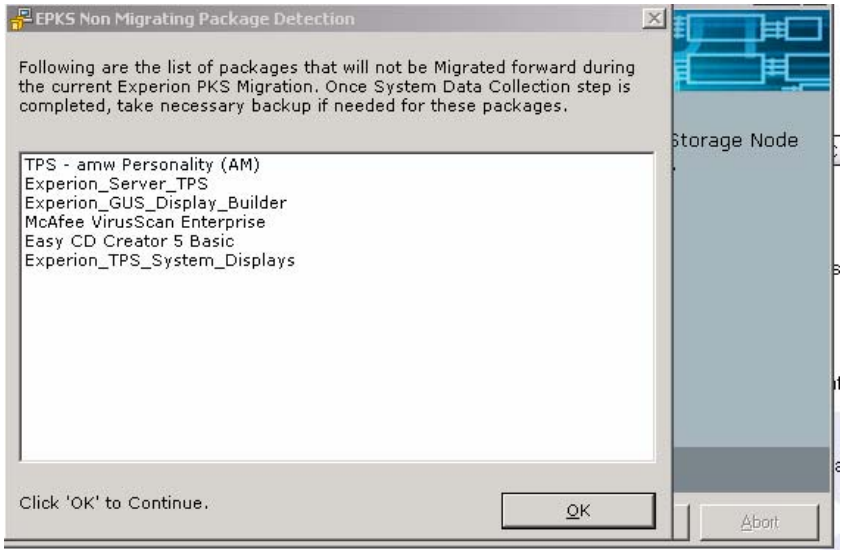
Step	Action
12	Click **Next** to start System Data collection (data backup) to the designated Migration Storage Node.
13	**Message**: Experion PKS Server needs to be brought to Databases Unloaded. (This message applies only to Server and Console migration.) Click **OK** to continue.
	Note: If a failure occurs during System Data collection, the failure is identified as either a critical failure or an optional failure. See Fixing common problems in the troubleshooting section for more information on error messages.
14	Once system data is collected, and if the system is a supported platform, the Experion PKS Configuration Tool (EPC Tool) utility is launched automatically and the dialog shown below appears.

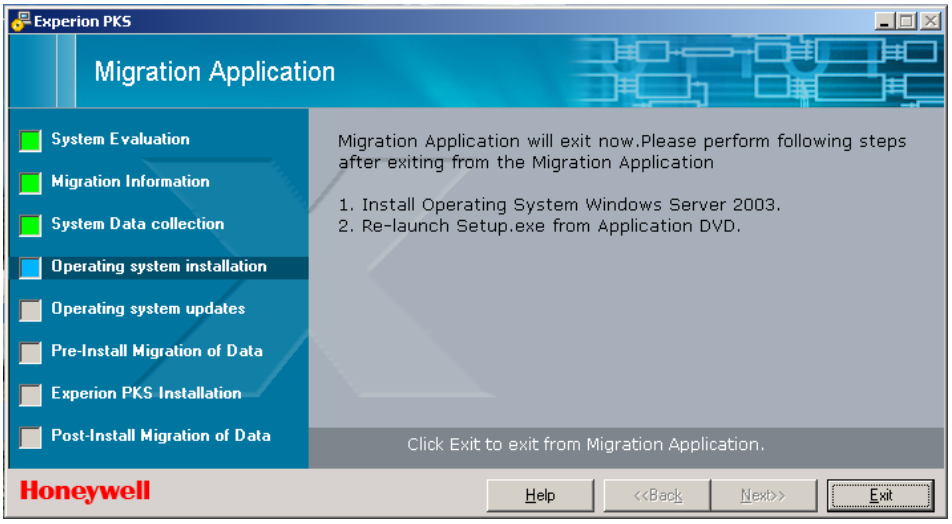
Step	Action



The EPC Tool collects information from the system (PC) and populates the fields shown on the Experion PKS Configuration Tool dialog tabs.

Review the information on all of the tabs in the dialog. You may need to enter additional information. For example: the company name, time zone and the Microsoft OS License.

Step	Action
15	On the Summary tab click **Generate Configuration File** to save the configuration information and exit the utility. **Message**: Configuration Files Generated in C:\EPC_MigrationOptions Click **OK.**
	A dialog will appear that informs you that certain applications will not be migrated. 
16	Click **OK**.
17	Copy the folder C:\EPC_MigrationOptions to the EMSN root.
18	The next dialog indicates that the Migration Application will exit. The dialog will instruct you on the following steps: Install a new operating system. – If you are migrating a server, install Windows Server 2003 OS – If you are migrating a Station or client, install Windows XP Professional OS

Step	Action
	
	Perform the next step otherwise a blue screen condition may result and migration will stop.
19	After exiting the Migration Application, go to • Delete text from FteMacAddr.txt file. Procedure on page 142 • EXPPlus - Client/Server initialization on page 230. • If you are installing the operating system on a computer that was not bought from Honeywell, you need to manually install it. Go to the topic '**5.2 Manual Experion operating system installation**' in the *Experion Getting Started Guide* and follow the procedure which outlines the tasks.

Continue migration

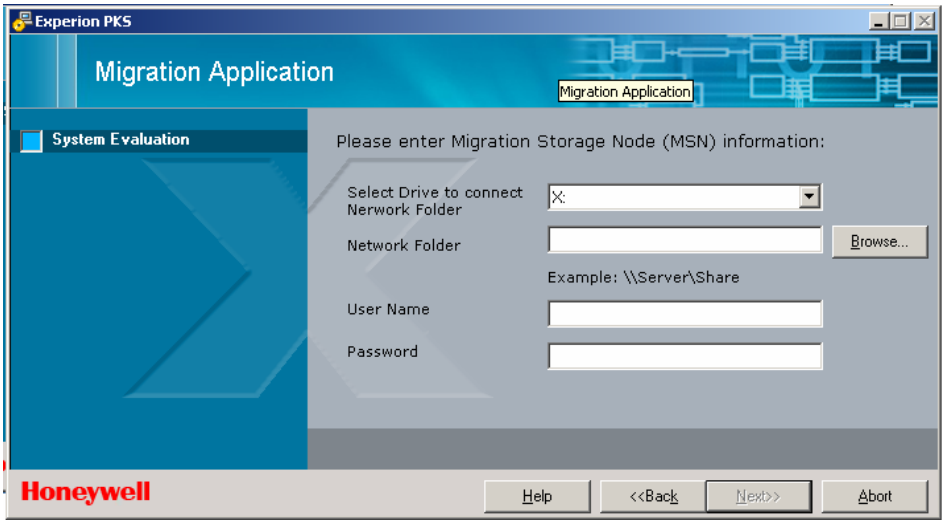
After completing the operating system installation, perform the following steps to continue Experion R300.1 migration.

ATTENTION

When prompted, be sure to enter the same mngr password that was used at the beginning of the migration checklist, (Prepare for the on-process migration on page 95).

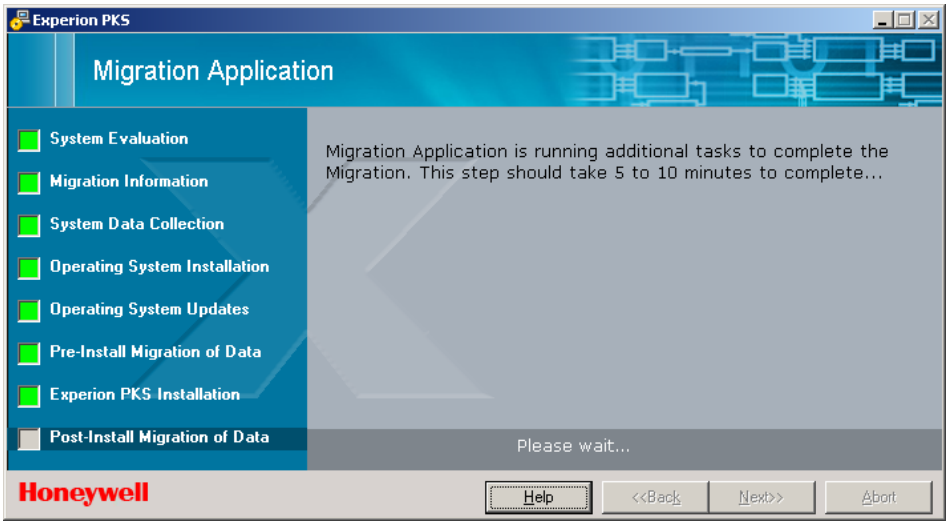
Step	Action
1	Prior to installing Experion software, remap the network drives recorded during the Prepare for On-process migration.
2	Insert Experion PKS R300.1 Application media and Click on **Setup.exe** to restart the Migration Application.
3	If EPCTool was run in the previous procedure and EXPPlus DVD was used to install the operating system then go to step 8, otherwise go to Step 3.
4	Read the message in the dialog and select **Continue Migration**. Click **Next**.
5	The next dialog asks you if you stored information on the floppy disk in the previous procedure, (first phase of Migration). If you used a floppy to store the information, then • insert the disk • check the box '**Get information from floppy**.' • Click **Next** and go to step 7. Otherwise, continue with Step 5.

Step	Action
6	The dialog prompts you to enter the location of the Migration Storage Node where the information is stored. Enter the required information in the fields.



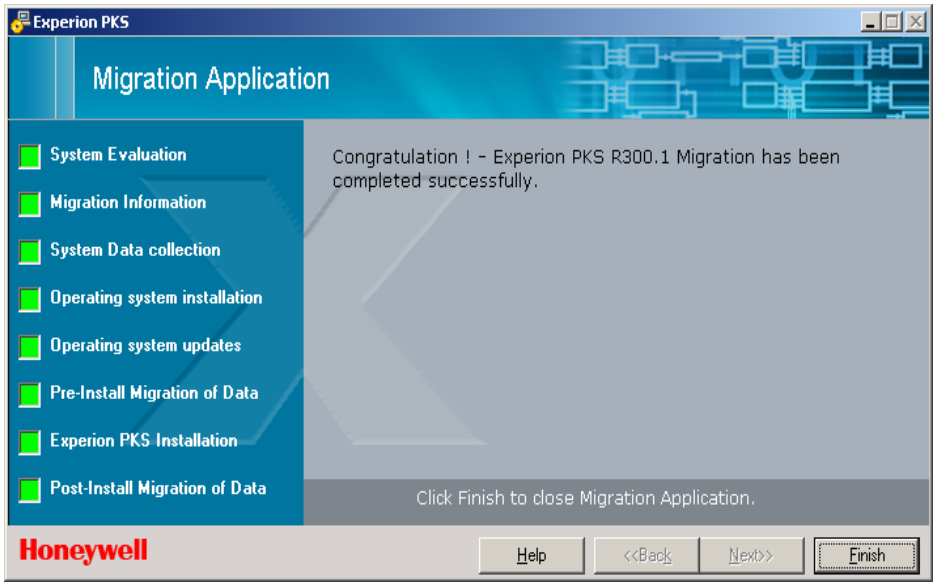
7	Click **Next**.
8	The information will be read from the floppy disk or the EMSN.
	Once the system information is retrieved, the Migration Application will then install operating system updates automatically (Platform Updates). Screens describe the operations during this step. When the updates have been completed, the Migration Application will begin to retrieve data from the EMSN. (Pre-Install Migration of Data)
	Note: If a failure occurs during Pre-Install Migration of Data, the failure is identified as either a critical failure or an optional failure. See Fixing common problems in the troubleshooting section for more information on error messages.
9	When the Pre-Install Migration of Data step is completed, the Migration Application automatically launches Experion PKS R300.1 Installation.
10	During Experion R300.1 installation, a number of options appear in the dialogs. Some options will be available for selection, and others will be grayed out (not available) depending upon the product selection. You may

Step	Action
	select any available options that you want to install. If you are not sure of the selections available to you, do not continue and call your Honeywell TAC.
11	When prompted remove the Experion PKS Application Software Media, • Insert Support Software Media and click **Yes**. • Select appropriate update if multiple updates are listed and click **Next**. • Verify your selection and Click **Install**. • Click **Setup** to extract the zip file. • Click **OK** if the Welcome screen is still open. • Click **OK** on an Installation Complete prompt. • Click **Finish**.
12	The following dialog appears:



	The Post-Install Migration of Data step occurs automatically.
	Note: If a failure occurs during Post-Install Migration of Data, the failure is identified as either a critical failure or an optional failure. See Fixing common problems in the troubleshooting section for more information on error

Step	Action
	messages.
	Upon completion of Post-install Migration of Data, a dialog states that Experion PKS R300.1 Migration has been completed successfully.



13	Click **Finish** to exit the migration application.

You have completed this task. Return to the checklist that led to this task.

8.15. Server/Station migration without Operating System Installation

This section describes how to migrate an Experion Server or Station running Experion R300.0 software to Experion R300.1. This section describes Experion migration with Experion software migration only.

Prerequisites

- You have read the Experion PKS Software Change Notice – This book contains last-minute information that was not able to be included in the standard documents. You must read it to find out whether it contains any migration-related information that is applicable to you.
- You have the required Experion PKS R300.1 Application DVD and installation media. See Software media required.
- You have the required software media for upgrading the operating system for server or Station. See Software media required.
- The server or Station meets the hardware requirements to support Experion R300.1 operation. (see 'PC Platform Performance Requirements' section in the *Experion R300.1 SCN* for more information).

Considerations

ATTENTION

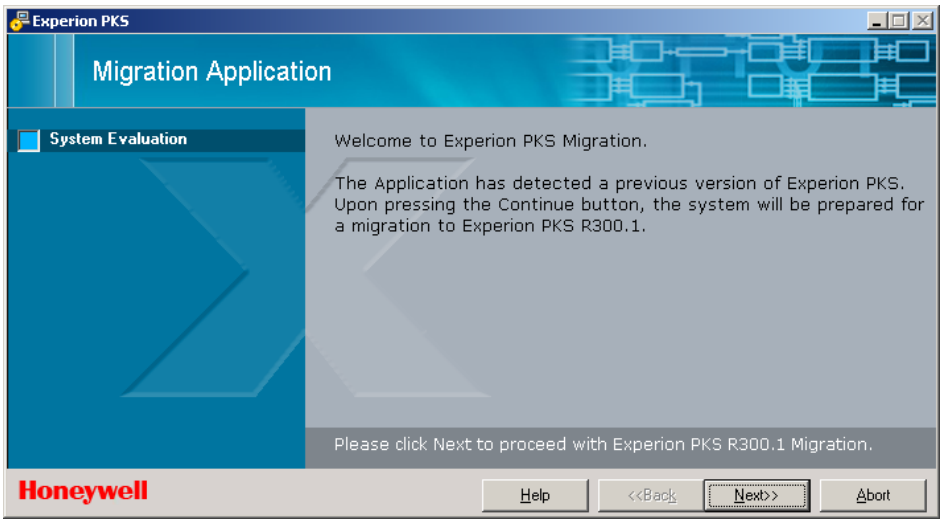
Some Honeywell and third-party applications and programs that are **not** integrated with the Experion PKS Application DVD will **not** be migrated forward. You must follow the instructions provided with the Migration application during the migration process and perform migration of the applications manually. See the Review software requirements section in this guide for specific information regarding the handling of these applications.

ATTENTION

When prompted, be sure to enter the same mngr password that was used at the beginning of the migration checklist, (Prepare for the on-process migration on page 95).

Perform the following steps to migrate a Server or Station to Experion R300.1 when no operating system installation is necessary.

Step	Action
1	Insert Experion PKS R300.1 Application media and the Auto run dialog should appear.
2	Select Install/Migrate Experion PKS to begin migration.
3	If the opening screen does not appear: In Windows Explorer, browse to the drive double click on **Setup.exe** to start the Migration Application. **Result**: The "Welcome…" dialog will be displayed as shown below:



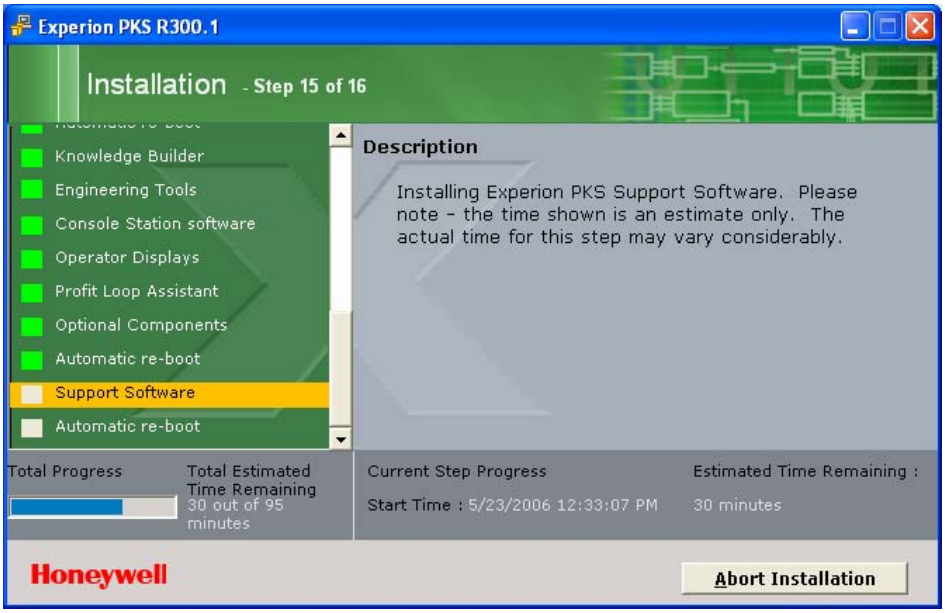
Note: The major tasks that are performed by the Migration Application are listed at the left in the dialog. The block next to each task indicates the status of the task, where:

- Blue – indicates the current task.
- Green – indicates the task is completed.
- Gray – indicates the task has not been performed.

Step	Action
4	Click **Next**. A dialog asks if you want to perform a hardware upgrade and/or an operating system installation.

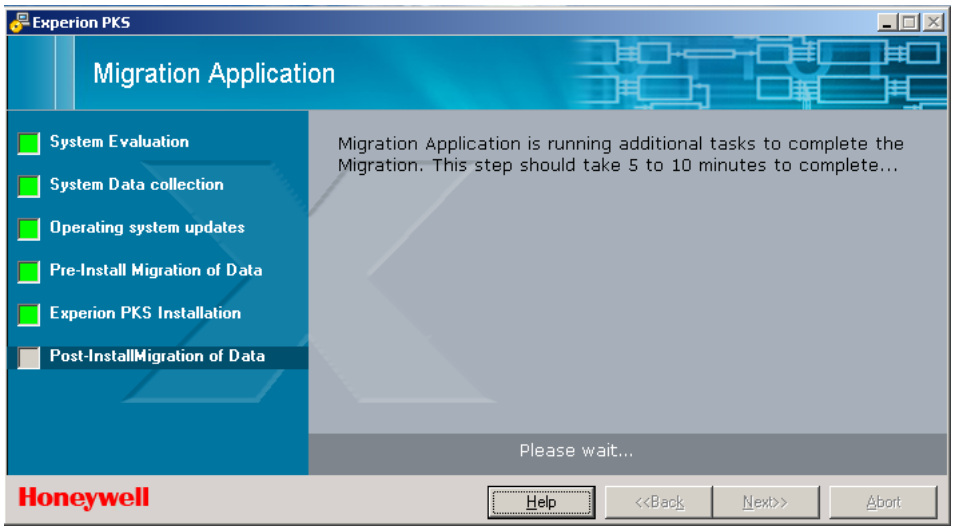
5	Do not check any boxes in the dialog, click **Next**.
6	The Migration Application performs the following steps automatically: • System Data collection • Operating system updates (Platform Updates) • Pre-Install Migration of Data
	Once data migration is completed, the Migration Application launches Experion PKS R300.1 installation.
	Perform the next step otherwise a blue screen condition may result and migration will stop.
7	Delete text from FteMacAddr.txt file. Procedure on page 142.

Step	Action
8	Follow the instructions and prompts to install the Experion software. The following screen will appear to show you the installation progress. For more information on the Experion software installation process, see the *Experion Software Installation User's Guide* (SIUG).



9	When prompted remove the Experion PKS Application Software Media, • Insert Support Software Media and click **Yes**. • Select appropriate update if multiple updates are listed and click **Next**. • Verify your selection and Click **Install**. • Click **Setup** to extract the zip file. • Click **OK** if the Welcome screen is still open. • Click **OK** on an Installation Complete prompt. • Click **Finish**.
10	Click **Continue**.
11	Click **Finish**.

Step	Action
12	The following dialog appears:



	The Post-Install Migration of Data step occurs automatically.
	Note: If a failure occurs during Post-Install Migration of Data, the failure is identified as either a critical failure or an optional failure. See Fixing common problems in the troubleshooting section for more information on error messages.
	Upon completion of Post-install Migration of Data, the dialog states that Experion PKS R300.1 Migration has been completed successfully.
13	Click **OK**.
14	Click **Finish** to exit the migration application.

You have completed this task. Return to the checklist that led to this task.

8.16. Server/Station migration with Operating System re-Installation

This section describes how to migrate an Experion Server or Station running Experion R300.0 software to Experion R300.1. This section describes Experion migration with a Windows 2003 Server re-installation and an Experion software migration.

Prerequisites

- You have read the Experion PKS Software Change Notice – This book contains last-minute information that was not able to be included in the standard documents. You must read it to find out whether it contains any migration-related information that is applicable to you.
- You have the required Experion PKS R300.1 Application DVD and installation media. See Software media required.
- You have the required software media for upgrading the operating system for server or Station. See Software media required.
- The server or Station meets the hardware requirements to support Experion R300.1 operation. (see 'PC Platform Performance Requirements' section in the *Experion R300.1 SCN* for more information).

Considerations

ATTENTION

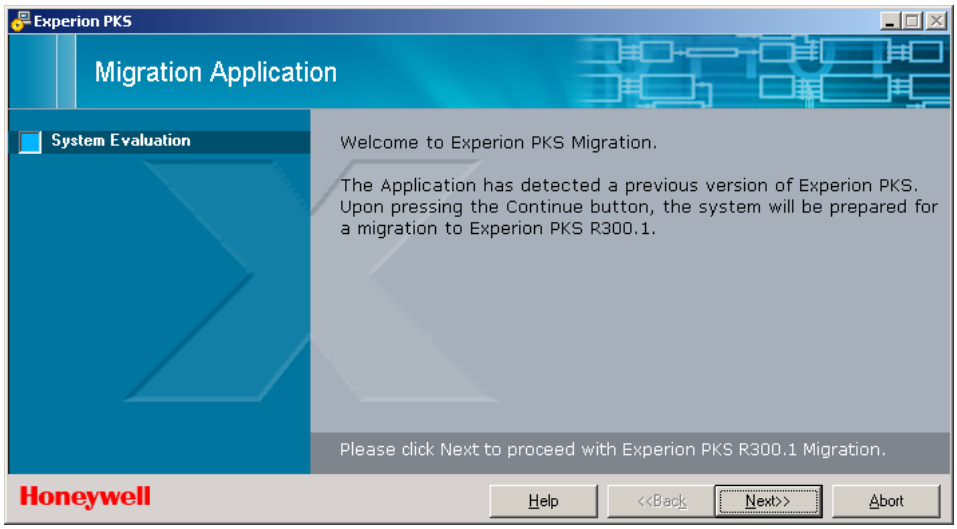
Some Honeywell and third-party applications and programs that are **not** integrated with the Experion PKS Application DVD will **not** be migrated forward. You must follow the instructions provided with the Migration application during the migration process and perform migration of the applications manually. See the Review software requirements section in this guide for specific information regarding the handling of these applications.

ATTENTION

When prompted, be sure to enter the same mngr password that was used at the beginning of the migration checklist, (Prepare for the on-process migration on page 95).

Perform the following steps to migrate a Server or Station to Experion R300.1 when a re-install of the operating system is desired.

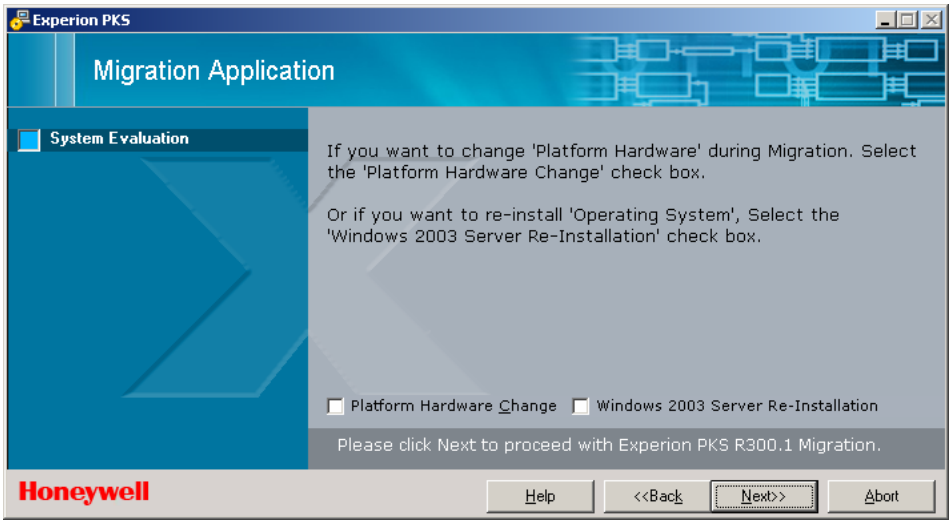
Step	Action
1	Insert Experion PKS R300.1 Application media and the Auto run dialog should appear.
2	Select Install/Migrate Experion PKS to begin migration.
3	If the opening screen does not appear: In Windows Explorer, browse to the drive double click on **Setup.exe** to start the Migration Application. **Result**: The "Welcome…" dialog will be displayed as shown below:



Note: The major tasks that are performed by the Migration Application are listed at the left in the dialog. The block next to each task indicates the status of the task, where:

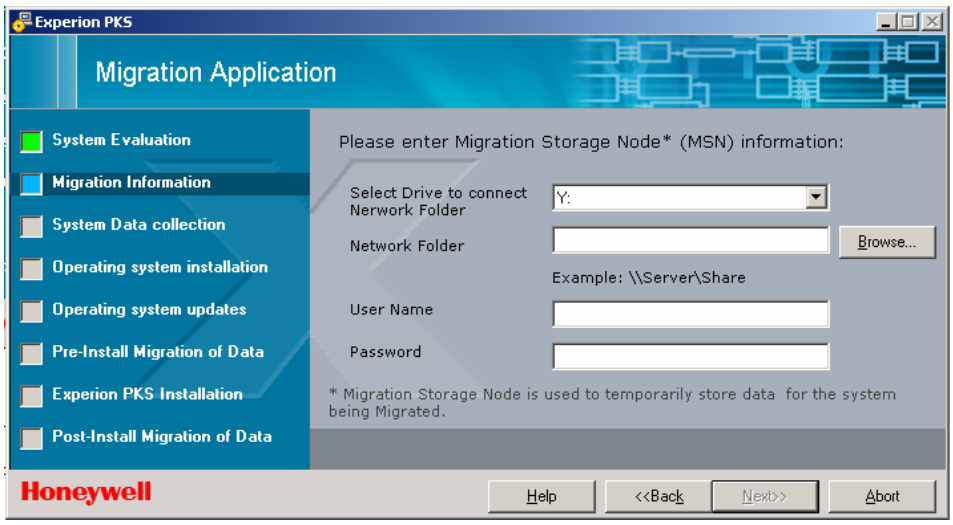
- Blue – indicates the current task.
- Green – indicates the task is completed.
- Gray – indicates the task has not been performed.

Step	Action
4	Click **Next**. A dialog asks if you want to perform a hardware upgrade and/or an operating system installation.



5	Check the “Windows 2003 Server Re-Installation” box.
6	Click **Next** and a prompt for connection information to the Experion Migration Storage Node appears.

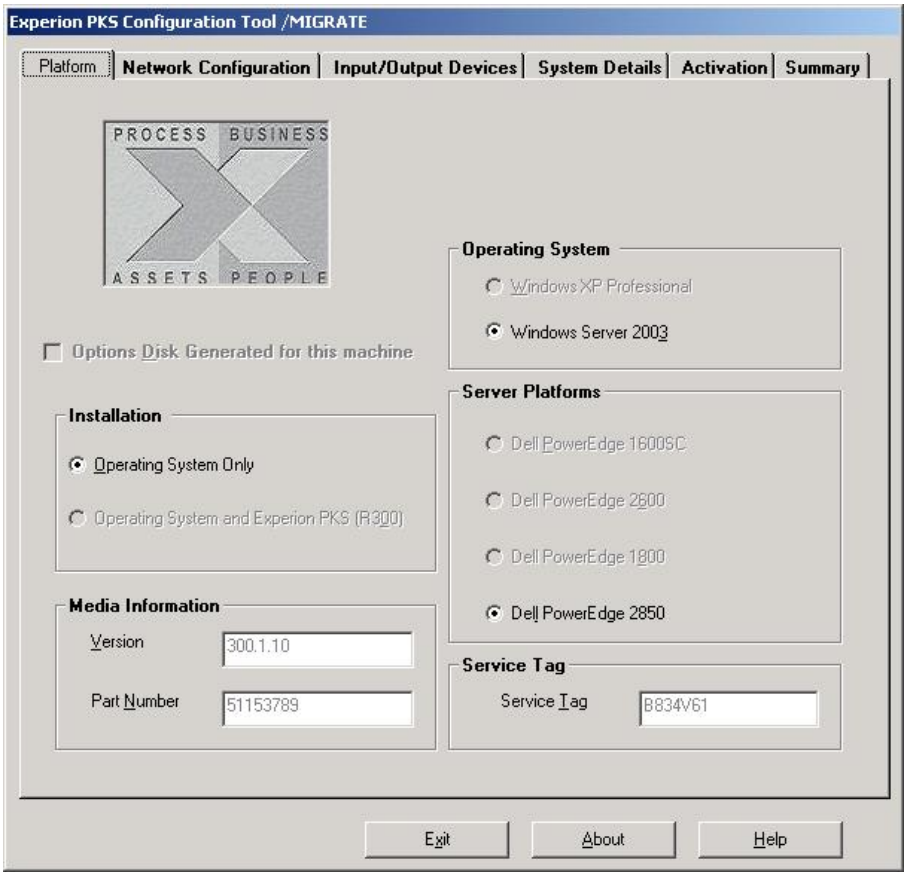
Step	Action



7	Create a shared folder on another node as location for back-up data, the Experion Migration Storage Node (EMSN). Or choose an existing folder using the 'Browse' button.
8	Enter the full path in the **Network Folder** text box. For example, \\pt_nrsrv1\R210_Migration.
9	Enter a user-defined **User Name** to connect to the shared folder.
10	Enter a user-defined **Password** to connect to the shared folder.
11	Select a Drive letter which is unused in the **Select Drive to connect Network Folder** combo box. This creates a mapped drive to the EMSN where the back-up data is stored for the system under migration.
12	**Result**: Migration Application validates the EMSN information and does space check on the selected EMSN. Available space information is shown in the next dialog. Note: If an error message appears, "*Migration storage node does not have enough space to perform backup…*," you must choose another node. Go back to Step 7.
13	Click **Next** to start System Data collection (data backup) to the designated Migration Storage Node.

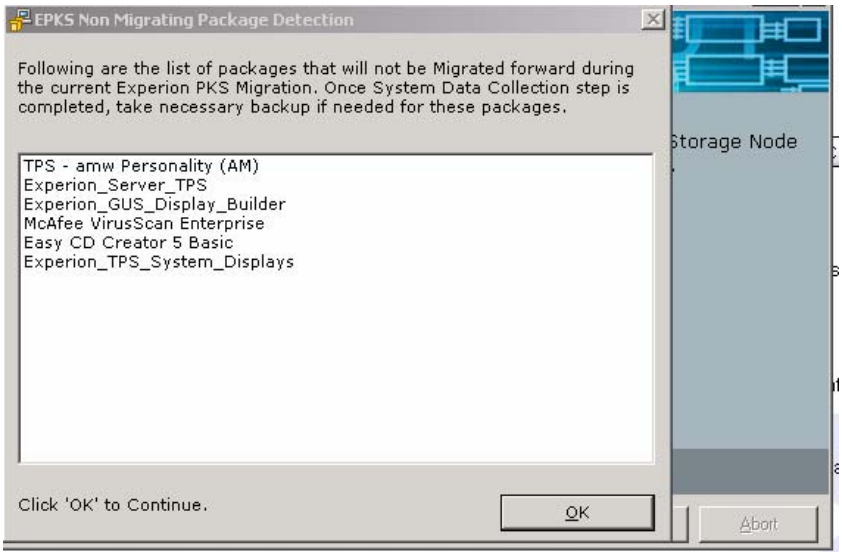
Step	Action
14	**Message**: Experion PKS Server needs to be brought to Databases Unloaded. (This message applies only to Server and Console migration.) Click **OK** to continue.
	Note: If a failure occurs during System Data collection, the failure is identified as either a critical failure or an optional failure. See Fixing common problems in the troubleshooting section for more information on error messages.
	Once system data is collected, • If the system is a supported platform, the Experion PKS Configuration Tool (EPC Tool) utility is launched automatically and the dialog shown below appears.

Step	Action



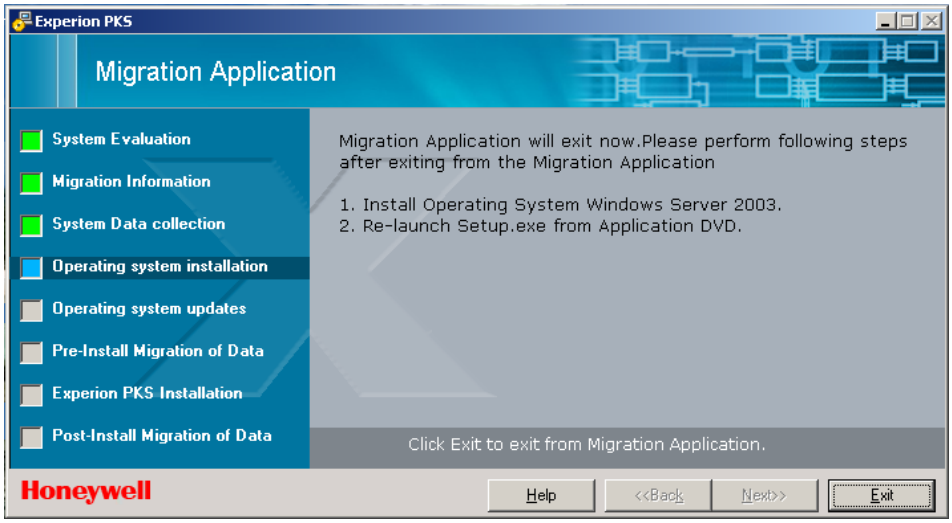
	The EPC Tool collects information from the system (PC) and populates the fields shown on the Experion PKS Configuration Tool dialog tabs.
15	Review the information on all of the tabs in the dialog. You may need to enter additional information. For example: the company name, time zone and the Microsoft OS License.
16	On the Summary tab click **Generate Configuration File** to save the configuration information and exit the utility. **Message**: Configuration Files Generated in C:\EPC_MigrationOptions

Step	Action
17	Click **OK**.
	A dialog will appear that informs you that certain applications will not be migrated.



18	Click **OK**.
19	Copy the folder C:\EPC_MigrationOptions to the EMSN root.
20	The next dialog indicates that the Migration Application will exit. The dialog will instruct you on the following steps: 1. Perform a platform hardware upgrade, if selected. 2. Install a new operating system. – If you are migrating a server, install Windows Server 2003 OS – If you are migrating a Station or client, install Windows XP Professional OS

Step	Action



	Perform the next step otherwise a blue screen condition may result and migration will stop.
21	After exiting the Migration Application, go to • Delete text from FteMacAddr.txt file. Procedure on page 142. • EXPPlus - Client/Server initialization on page 230. • If you are installing the operating system on a computer that was not bought from Honeywell, you need to manually install it. Go to the topic '**5.2 Manual Experion operating system installation**' in the *Experion Getting Started Guide* and follow the procedure which outlines the tasks.
22	The Migration Application performs the following steps automatically: • System Data collection • Operating system updates (Platform Updates) • Pre-Install Migration of Data
	Once data migration is completed, the Migration Application launches Experion PKS R300.1 installation.
23	Follow the instructions and prompts to install the Experion software.

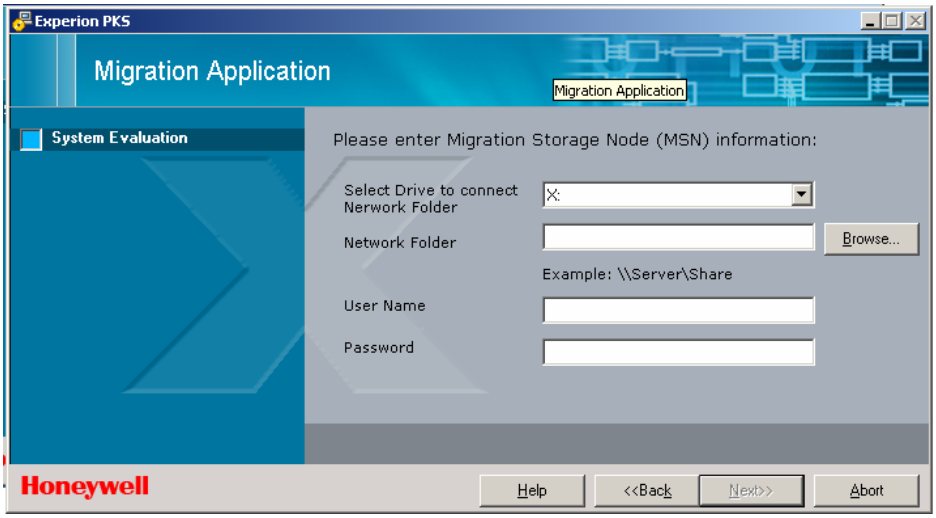
Continue migration

After completing the operating system installation, perform the following steps to continue Experion R300.1 migration.

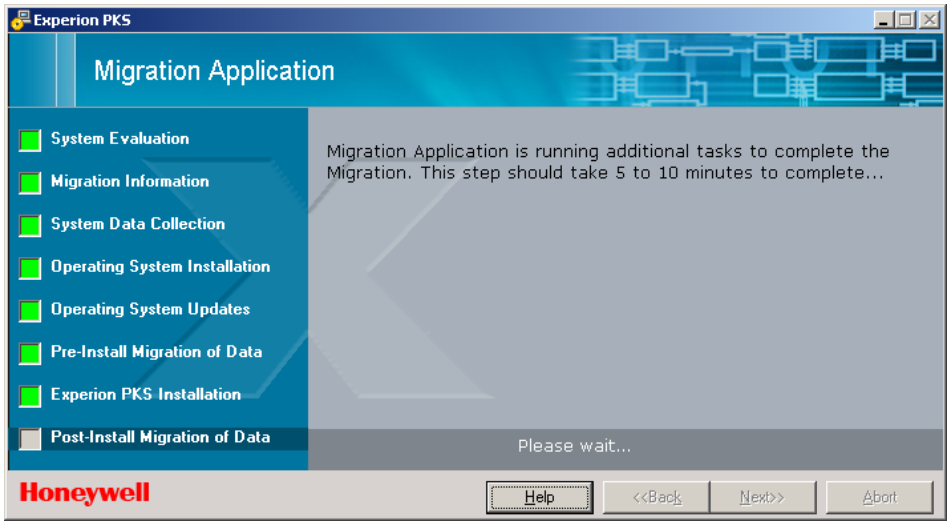
ATTENTION

When prompted, be sure to enter the same mngr password that was used at the beginning of the migration checklist, (Prepare for the on-process migration on page 95).

Step	Action
1	Prior to installing Experion software, remap the network drives recorded during the Prepare for On-process migration.
2	Insert Experion PKS R300.1 Application media and Click on **Setup.exe** to restart the Migration Application.
3	If EPCTool was run in the previous procedure and EXPPlus DVD was used to install the operating system then go to step 8, otherwise continue with Step 4.
4	Read the message in the dialog and select **Continue Migration**. Click **Next**.
5	The next dialog asks you if you stored information on the floppy disk in the previous procedure, (first phase of Migration). If you used a floppy to store the information, then • insert the disk • check the box '**Get information from floppy**.' • Click **Next** and go to step 8. Otherwise, continue with Step 6.
6	The dialog prompts you to enter the location of the Migration Storage Node where the information is stored. Enter the required information in the fields.

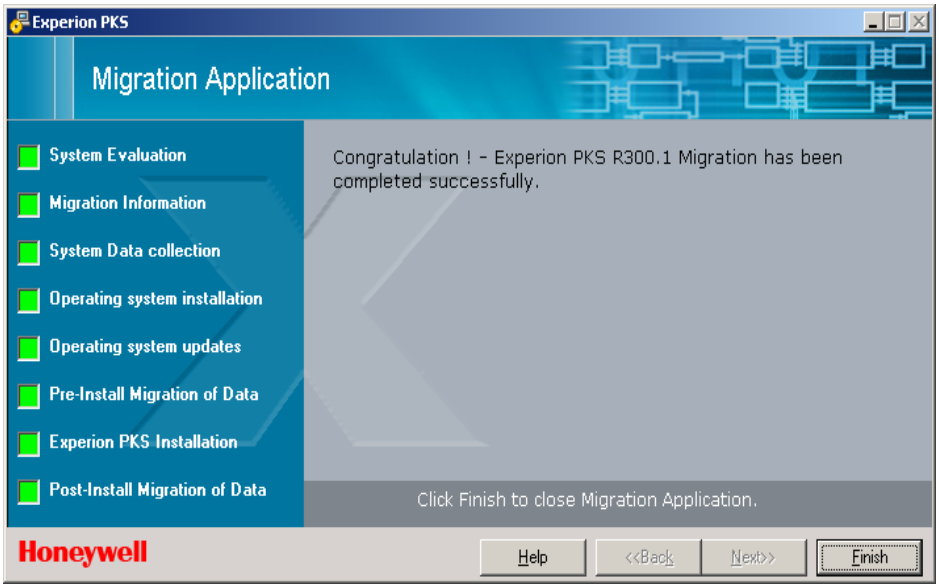
Step	Action
	
7	Click **Next**.
8	The information will be read from the floppy disk or the EMSN.
	Once the system information is retrieved, the Migration Application will then install Operating system updates automatically (Platform Updates). Screens describe the operations during this step.
	When the updates have been completed, the Migration Application will begin to retrieve data from the EMSN. (Pre-Install Migration of Data)
	Note: If a failure occurs during Pre-Install Migration of Data, the failure is identified as either a critical failure or an optional failure. See Fixing common problems in the troubleshooting section for more information on error messages.
9	When the Pre-Install Migration of Data step is completed, the Migration Application automatically launches **Experion PKS R300.1 Installation**.
10	During Experion R300.1 installation, a number of options appear in the dialogs. Some options will be available for selection, and others will be grayed out (not available) depending upon the product selection. You may select any available options that you want to install. If you are not sure of the selections available to you, do not continue and call your Honeywell TAC.

Step	Action
11	When prompted remove the Experion PKS Application Software Media, • Insert Support Software Media and click **Yes**. • Select appropriate update if multiple updates are listed and click **Next**. • Verify your selection and Click **Install**. • Click **Setup** to extract the zip file. • Click **OK** if the Welcome screen is still open. • Click **OK** on an Installation Complete prompt. • Click **Finish**.
12	The following dialog appears:



	The Post-Install Migration of Data step occurs automatically.
	Note: If a failure occurs during Post-Install Migration of Data, the failure is identified as either a critical failure or an optional failure. See Fixing common problems in the troubleshooting section for more information on error messages.
	Upon completion of Post-install Migration of Data, a dialog states that Experion PKS R300.1 Migration has been completed successfully.

Step	Action



14 Click **Finish** to exit the migration application.

STOP

You have completed this task. Return to the checklist that led to this task.

8.17. Server/Station migration with a Platform Hardware change

This section describes how to migrate an Experion Server or Station running Experion R201, or R210 software to Experion R300.1. This section describes Experion migration with a change of hardware, for example, a new computer or new network interface hardware.

This procedure assumes you will be changing your hardware and installing a new operating system.

A number of general rules must be followed when replacing an existing platform with a new platform. These are listed in the Prerequisites.

Prerequisites

- The new hardware platform should be of equivalent performance or better than the existing platform, and meet the Hardware Requirements for servers or Stations. For example, memory capacity, number of CPUs, and disk performance must equal or exceed the performance of the existing platform.
- The number of network interface ports in the new platform must equal the number installed in the existing platform.
- The new platform must contain the same FTE configuration (qualified NICs) as the existing platform. Equivalent NIC hardware upgrade is supported. For example, a NIC with a Intel Pro/100 S dual Port can be upgraded to a NIC with an Intel Pro/1000 M Dual Port.
- Do not change the IP addresses. The IP Address configuration must remain the same when upgrading to a new hardware platform.
- Do not change the computer name. The computer name must remain the same when upgrading to a new hardware platform.
- All third-party interface cards must be transferred from the existing platform to the new platform. For example, RS-Linx, PCIC cards and Modbus cards, etc. In the case where the interface card does not fit into the new platform card slot, an equivalent interface card that is compatible in the new platform card slot must be used.
- You have read the Experion PKS Software Change Notice – This book contains last-minute information that was not able to be included in the standard documents. You

must read it to find out whether it contains any migration-related information that is applicable to you.

- You have the required Experion PKS R300.1 Application DVD and installation media. See Software media required.
- You have the required software media for upgrading the operating system for server or Station. See Software media required.
- The server or Station meets the hardware requirements to support Experion R300.1 operation. (see 'PC Platform Performance Requirements' section in the *Experion R300.1 SCN* for more information).

Considerations

ATTENTION

When using the Initialization CD to install the operating system to your new hardware, **do not** select the option to install operating system and Experion software.

Select the option to install operating system only.

ATTENTION

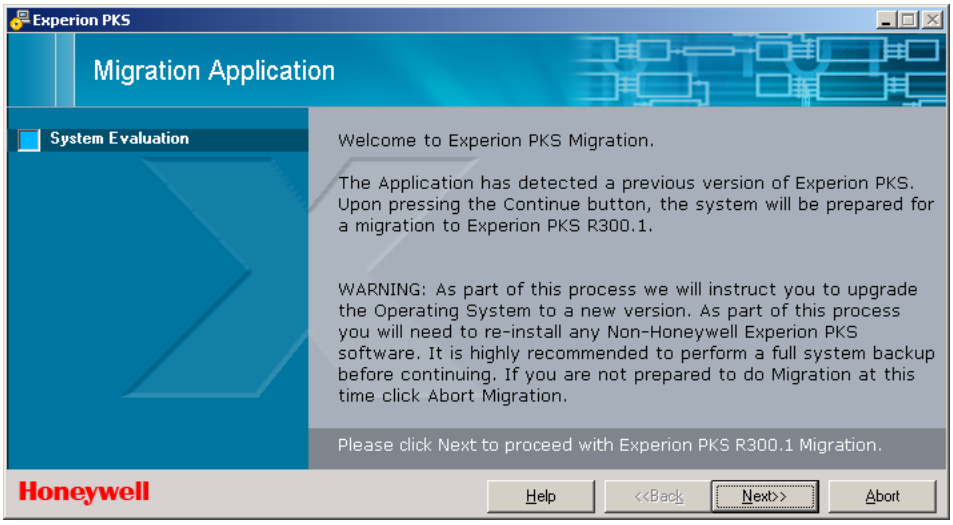
Some Honeywell and third-party applications and programs that are **not** integrated with the Experion PKS Application DVD will **not** be migrated forward. You must follow the instructions provided with the Migration application during the migration process and perform migration of the applications manually. See the Review software requirements section in this guide for specific information regarding the handling of these applications.

ATTENTION

When prompted, be sure to enter the same mngr password that was used at the beginning of the migration checklist, (Prepare for the on-process migration on page 95).

Perform the following steps to migrate a Server or Station to Experion R300.1 when you have changed your hardware.

Step	Action
1	Insert Experion PKS R300.1 Application media into your old Server/Station node and the Auto run dialog should appear.
2	Select **Install/Migrate Experion PKS** to begin migration.
3	If the opening screen does not appear: In Windows Explorer, browse to the drive double click on **Setup.exe** to start the Migration Application. **Result**: The "Welcome…" dialog will be displayed as shown below:

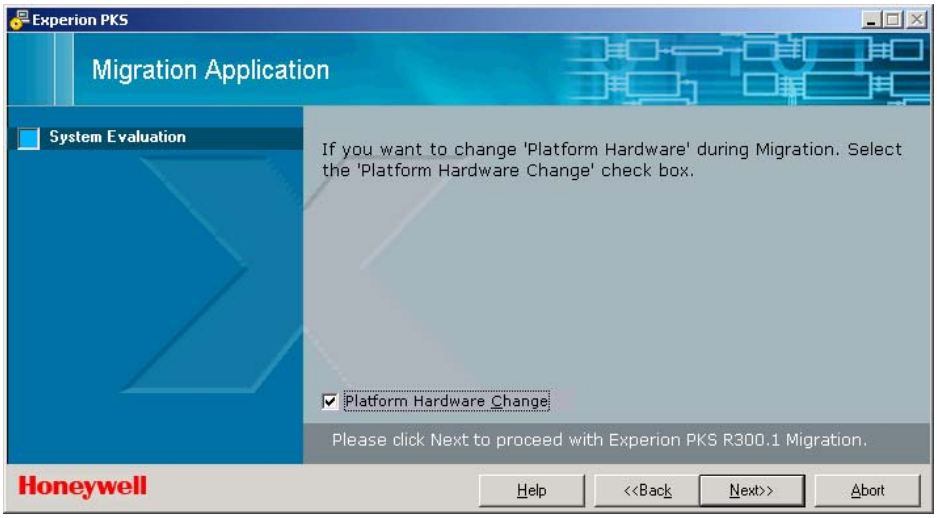


Note: Major tasks that are performed by the Migration Application are listed at the left in the dialog. The block next to each task indicates the status of the task, where:

- Blue – indicates the current task.
- Green – indicates the task is completed.
- Gray – indicates the task has not been performed.

4	Click **Next**.

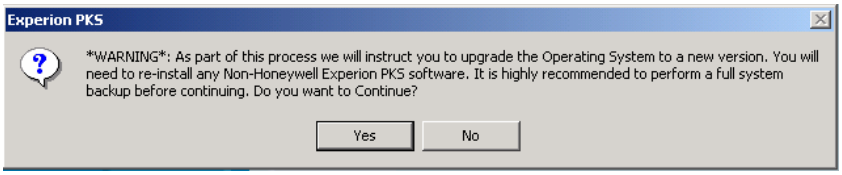
Step	Action



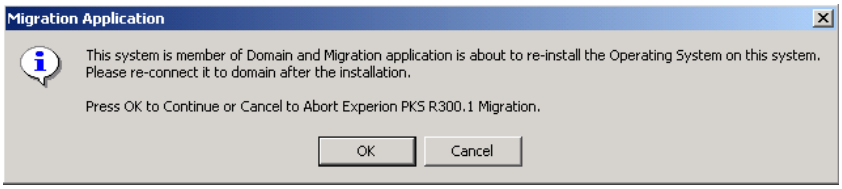
A dialog asks if you want to perform a hardware upgrade.

5 Check the box 'Platform Hardware Change'.

6 Click **Next** and a warning about re-installing software after an operating system installation will appear.

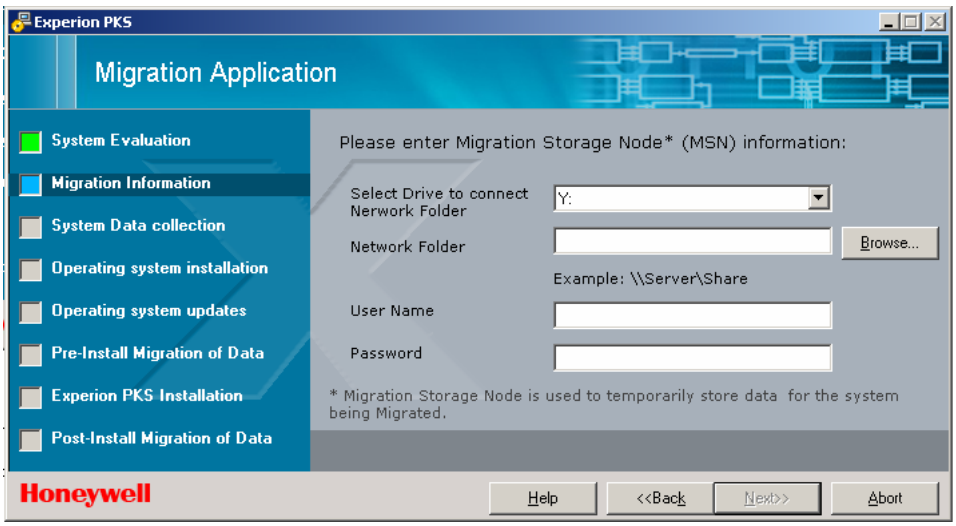


7 If you want to continue, click **Yes** and a Domain dialog will appear.

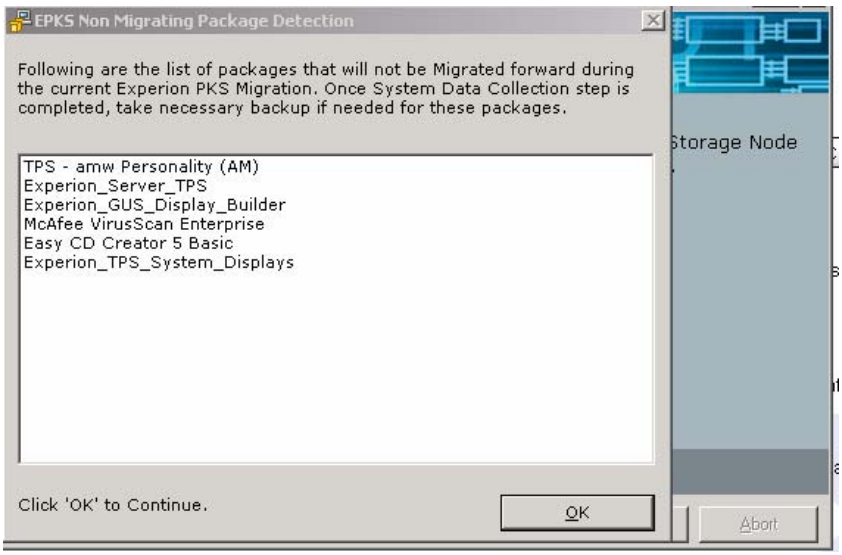


8 Click **OK** and a prompt for connection information to a Migration Storage Node appears.

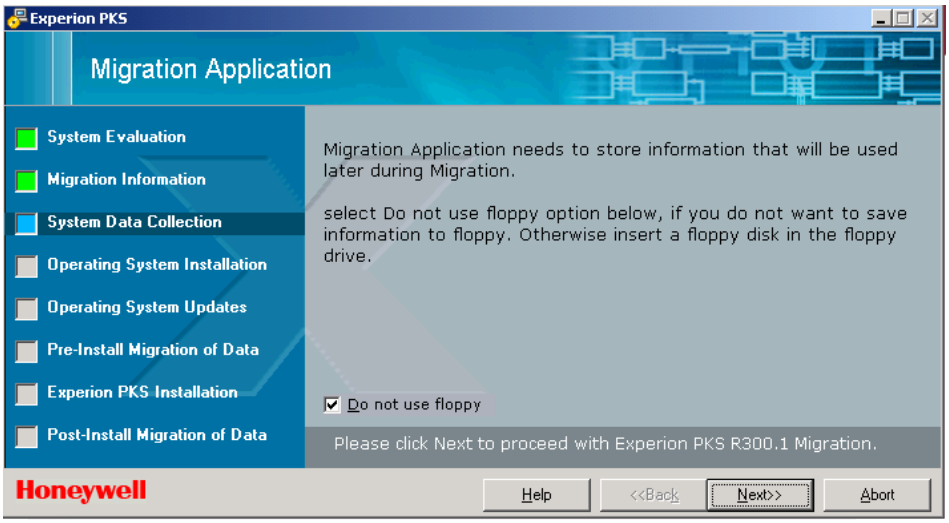
Step	Action



9	Create a shared folder on another node as location for back-up data, the Experion Migration Storage Node (EMSN). Or choose an existing folder using the 'Browse' button.
10	Enter the full path in the **Network Folder** text box. For example, \\pt_nrsrv1\R210_Migration or use an IP address instead of the node name, for example: *IP Address*\EMSN.
11	Enter a user-defined **User Name** to connect to the shared folder.
12	Enter a user-defined **Password** to connect to the shared folder.
13	Select a Drive letter which is unused in the **Select Drive to connect Network Folder** combo box. This creates a mapped drive to the EMSN where the back-up data is stored for the system under migration. Click **Next**.

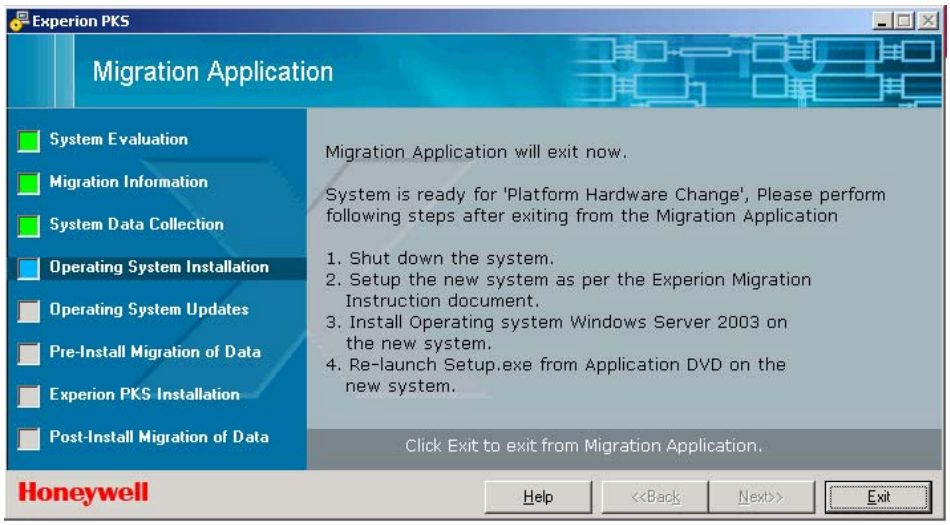
Step	Action
	Result: Migration Application validates the EMSN information and does space check on the selected EMSN. Available space information is shown in the next dialog. Note: If an error message appears, "*Migration storage node does not have enough space to perform backup…*," you must choose another node. Go back to Step 7.
14	Click **Next** to start System Data collection (data backup) to the designated Migration Storage Node.
15	**Message**: Experion PKS Server needs to be brought to Databases Unloaded. (This message applies only to Server and Console migration.) Click **OK** to continue.
16	Note: If a failure occurs during System Data collection, the failure is identified as either a critical failure or an optional failure. See Fixing common problems in the troubleshooting section for more information on error messages.
	A dialog will appear that informs you that certain applications will not be migrated. 
17	Click **OK**.

Step	Action
	The next dialog will ask you where to store information for migration.



18	Check the box 'Do not use floppy' and click **Next**.

Step	Action
19	The next dialog indicates that the Migration Application will exit. The dialog will instruct you on the following steps: 1. Perform a platform hardware upgrade. 2. Install a new operating system. – If you are migrating a server, install Windows Server 2003 OS – If you are migrating a Station or client, install Windows XP Professional OS



20	Click **Exit** and close all applications.
	Perform the next step otherwise a blue screen condition may result and migration will stop.
21	Delete text from FteMacAddr.txt file. Procedure on page 142.

Step	Action
22	After exiting the Migration Application, do the following: 1) Remove the Application DVD from the drive. 2) Shutdown the computer (platform) and disconnect it from the network. If upgrading to a newer computer platform, remove the hardware interface cards from the old platform and install in the new platform. These may include Network Interface Cards, RS-Linx PCIC cards, Modbus cards, etc. Note: If the interface cards do not fit in the new platform card slots, use equivalent interface cards that meet the dimensions of the new platform card slots. Go to: • EXPPlus - Client/Server initialization on page 230. • If you are installing the operating system on a computer that was not bought from Honeywell, you need to manually install it. Go to the topic '**5.2 Manual Experion operating system installation**' in the *Experion Getting Started Guide* and follow the procedure which outlines the tasks. **ATTENTION** It is advisable to also install virus protection software before connecting to your network.

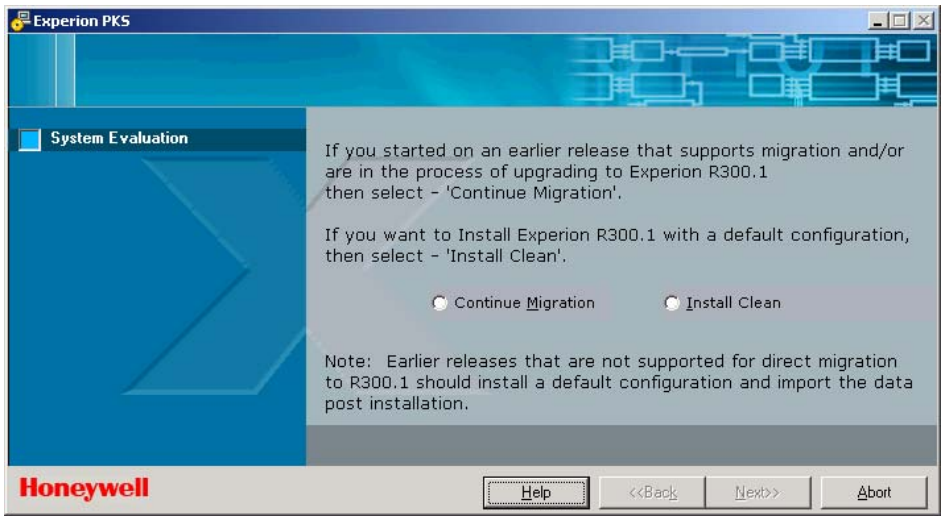
Continue migration

After completing the operating system installation, perform the following steps to continue Experion R300.1 migration.

ATTENTION

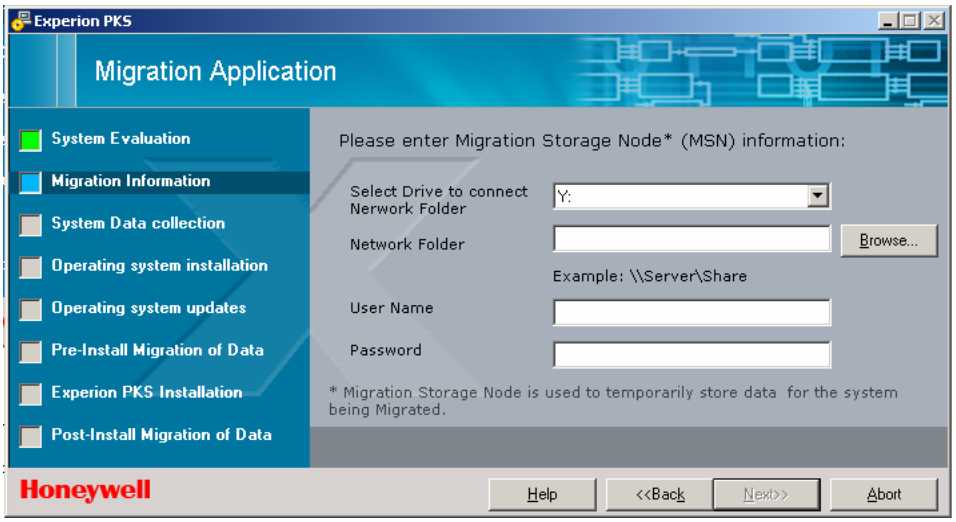
When prompted, be sure to enter the same mngr password that was used at the beginning of the migration checklist, (Prepare for the on-process migration on page 95).

Step	Action
1	Prior to installing Experion software, remap the network drives recorded during the Prepare for On-process migration.
2	Insert Experion PKS R300.1 Application media and Click on **Setup.exe** to restart the Migration Application.
3	Select Install/Migrate Experion PKS to continue migration.
4	Read the message in the dialog and select **Continue Migration**.



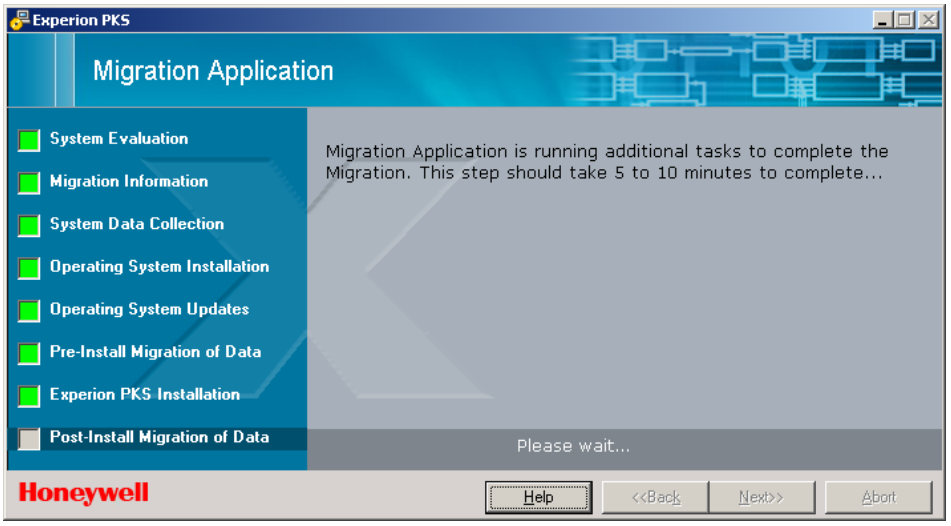
5	Click **Next**.
6	The next dialog asks you if you stored information on the floppy disk in the previous procedure, (first phase of Migration).

Step	Action
	• If you used a floppy to store the information, then insert the floppy and check the box '**Get information from floppy**', click **Next**, and go to Step 9. • If you did not use a floppy but used a Experion Migration Storage Node (EMSN) instead, click **Next**.
7	The dialog prompts you to enter the location of the Migration Storage Node where the information is stored. Enter the required information in the fields.

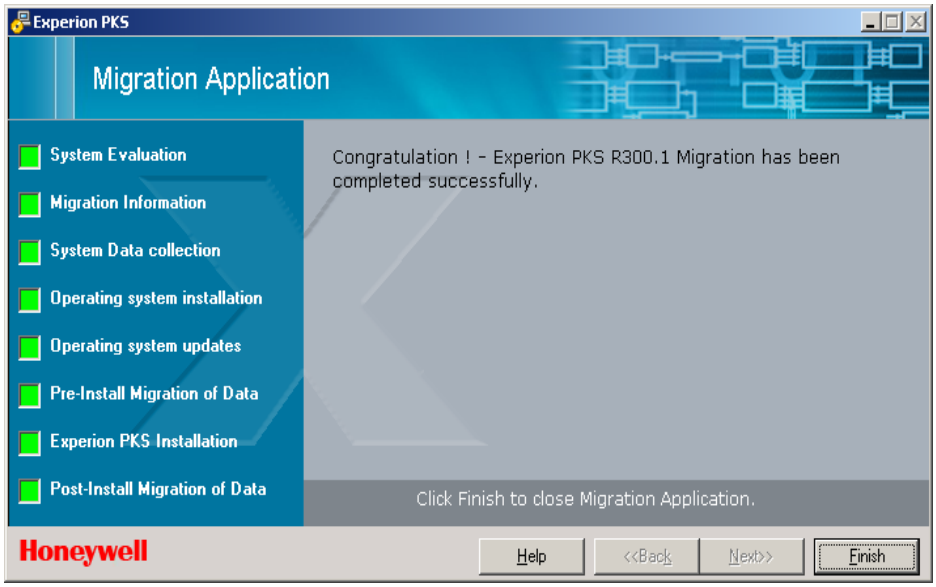


8	Click **Next**.
9	The information will be read from the floppy disk or the EMSN.
	Once the system information is retrieved, the Migration Application will then install Operating system updates automatically (Platform Updates). Screens describe the operations during this step. When the updates have been completed, the Migration Application will begin to retrieve data from the EMSN. (Pre-Install Migration of Data)
	Note: If a failure occurs during Pre-Install Migration of Data, the failure is identified as either a critical failure or an optional failure. See Fixing common problems in the troubleshooting section for more information on error messages.

Step	Action
	When the Pre-Install Migration of Data step is completed, the Migration Application automatically launches Experion PKS R300.1 Installation.
10	During Experion R300.1 installation, a number of options appear in the dialogs. Some options will be available for selection, and others will be grayed out (not available) depending upon the product selection. You may select any available options that you want to install. **TIP** See the Experion SIUG or installation Help for further assistance during an Experion software installation. If you are not sure of the selections available to you, do not continue and call your Honeywell TAC.
11	When prompted remove the Experion PKS Application Software Media, • Insert Support Software Media and click **Yes**. • Select appropriate update if multiple updates are listed and click **Next**. • Verify your selection and Click **Install**. • Click **Setup** to extract the zip file. • Click **OK** if the Welcome screen is still open. • Click **OK** on an Installation Complete prompt. • Click **Finish**.
	The following dialog appears:

Step	Action
	
	The Post-Install Migration of Data step occurs automatically.
	Note: If a failure occurs during Post-Install Migration of Data, the failure is identified as either a critical failure or an optional failure. See Fixing common problems in the troubleshooting section for more information on error messages.
	Upon completion of Post-install Migration of Data, a dialog states that Experion PKS R300.1 Migration has been completed successfully.

Step	Action



12	Click **Finish** to exit the migration application.

You have completed this task. Return to the checklist that led to this task.

8.18. Adding shortcuts manually

This section describes how to manually add shortcuts that may have not been able to be installed during the Experion server installation.

To add the shortcuts manually:

Step	Action
1	Using Windows Explorer, browse to `C:\Program Files\Honeywell\Experion PKS\client\qckbld`.
2	Right-click the `qckbld.exe` file and choose **Copy**.
3	Browse to `C:\Documents and Settings\All Users\Start Menu\Programs\Honeywell Experion PKS\Server`.
4	Choose **Edit** > **Paste Shortcut**.
5	Right-click on the new shortcut and choose **Rename**.
6	Type **`Quick Builder`** and then press ENTER.
7	Browse to `C:\Program Files\Honeywell\Experion PKS\client\qckbld\AddIns`.
8	Right-click the `QBUMBStandalone.exe` file and choose **Copy**.
9	Browse to `C:\Documents and Settings\All Users\Start Menu\Programs\Honeywell Experion PKS\Server`.
10	Choose **Edit** > **Paste Shortcut**.
11	Right-click on the new shortcut and choose **Rename**.
12	Type **`Control Products Wizard`** and then press ENTER.

You have completed this task. Return to the checklist that led to this task.

8.19. Defragmenting the hard disk

"Fragmentation" means that, when a file or piece of data is written to the hard disk, it is not written contiguously. Consequently, the computer must perform multiple read and lookups every time that file/data is accessed.

The process of defragmentation optimizes the file system so that each file is written contiguously on the disk. In addition, certain files, such as the operating system or frequently accessed files, are moved to the first sectors on the hard disk, so that they can be found and accessed faster.

Prerequisites

- Your computer must be "off control" before defragmenting the hard disk because the performance of the computer is severely degraded during the defragmentation process.
- Check that no other applications (Experion Server, SQL Server, etc.) are running because the procedure involves restarting the computer.

Considerations

- It is recommended that you add this task to your system's maintenance schedule, so that it is performed during control shutdowns.
- You can upgrade the default fragmentation utility included with Windows to the full version. Executive Software's Diskeeper includes a scheduler, and can defragment folders and pagefiles when a computer restarts. Defragmentation tasks affect the control system if they are set to run automatically with the scheduler. Care must be taken when scheduling defragmentation tasks.

To defragment the hard disk:

Step	Action
1	On the Windows Desktop, double-click the **My Computer** icon.
2	Right-click the hard disk to defragment and choose **Properties**.
3	Click the **Tools** tab.
4	Click **Defragment now** in the Defragmentation group to display the Disk Defragmentor dialog box.
5	Click the volume name to defragment, which is usually C:, and then click **Analyze**. This analyzes the fragmentation level of the drive. Large areas of red indicate that the hard disk is fragmented. Large areas of blue indicate that the computer is mostly contiguous.
6	Click **Defragment** on the Analysis Complete dialog box to start defragmenting the hard disk, even if this dialog box recommends that no defragmentation is required. Depending on the level of fragmentation and usage, the task may take some time to complete.
7	When the defragmentation is complete, choose **File** > **Exit** to close the Disk Defragmentor application.
8	Close the **My Computer** window.
	You have completed this task. Return to the checklist that led to this task.

8.20. Completing on-process migration

This section describes how to complete the on-process migration.

To complete the on-process migration:

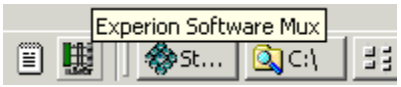
Step	Action
1	Log on to Station running on server B.
2	Change to the mngr security level.
3	Choose **Configure** > **System Hardware** > **On Process Migration** to call up the On-Process Migration display.
4	Click **Synchronize**.
5	In the Message Zone, click **Yes** to synchronize Server A with the database on server B.

You have completed this task. Return to the checklist that led to this task.

8.21. Stopping the HART multiplexer

Considerations

The system tray is the area on the Windows operating system task bar displaying the time. To left side of the time, there are one or more icons displayed.



To stop the HART Multiplexer:

Step	Action
1	Right-click on the Experion Software Mux icon in the system tray.
2	Choose **Software Multiplexer Service - Stop**.
3	Right-click on the Experion Software Mux icon in the system tray.
4	Choose **Software Multiplexer Service - Exit**.

You have completed this task. Return to the checklist that led to this task.

8.22. Obtain latest Migration Readiness Tool

To obtain the latest version of the Migration Readiness Tool data files and install it on the Server and console stations:

Step	Action
1	Go to the SSOL web site at http\\ **www.honeywell.com\ps**
2	Download the “MRT Data Files.zip”
3	Extract contents of the MRT Data Files.zip to a temporary folder on Server A.
4	Close the Migration Readiness Tool, if it is open.
5	Double click on the file **copy_mrt_datafiles.bat**
6	Repeat steps 2 through 5 to install the MRT on Server B and all console stations where the MRT will be run.

You have completed this task. Return to the checklist that led to this task.

8.23. Verifying server readiness for on-process migration

This section describes how to verify that a server is ready for migration using the Migration Readiness Tool (MRT).

Note that this procedure can be used to check for server readiness when you are planning to perform migration either on-process or off-process.

ATTENTION

The Migration Readiness Tool can be run from servers or console stations.

Do not run the MRT simultaneously on Server A, server B or console stations as it may result in an incomplete report. Run only one instance of the MRT at a time.

To verify server readiness for on-process migration:

Step	Action
1	Ensure that Server A is primary and that both servers are synchronized.
2	On R201 and R210 Servers: • Choose **Start > Programs > Honeywell Experion PKS > Engineering Tools > Migration Readiness Tool.** • Log on to the primary server, Server A with local Administrator security permissions. On R300.0 Servers: • Select **Configuration Studio** and connect to Server A. Choose **On-Process Migration** in the tree under the server. • Choose **Migration Readiness Tool** from the task list.

Step	Action
3	Choose **Readiness Check > Server Migration** The Server Migration screen appears and displays the following information: • Server name • Current system release running on the server(s) • Redundant or non-redundant configuration • Network topology, (CNET, Ethernet, FTE)
4	Select appropriate Target Release. A check list will appear to indicate what checks will be made to verify server migration readiness. See Figure 8. All checks that will be performed are marked with a check (√).
5	You can choose to continue by selecting **Generate Report**, or **Cancel** to return to the main screen.
6	Once all necessary checks have been completed, the report is displayed showing the result (Pass/Fail Status) of each check and any Details. Make sure that all checks are passed. If the report displays failure see Report information and Figure 10. If you cannot resolve any failed checks, contact you local Honeywell Technical Assistance Center (TAC); do *not* start OPM.
7	Save a copy of the report for future reference. See Save a Report.

A description of the checks performed during the Server Migration Readiness Checks are provided in the section' MRT Description.'

You have completed this task. Return to the checklist that led to this task.

8.24. Verifying controller readiness for on-process migration

This section describes how to verify that a controller is ready for migration using the Migration Readiness Tool.

Note that this procedure can be used to check for controller readiness when you are planning to perform migration either on-process or off-process.

ATTENTION

The Migration Readiness Tool can be run from servers or console stations.

Do not run the MRT simultaneously on Server A, server B and console stations as it may result in an incomplete report. Run only one instance of the MRT at a time.

Considerations

As stated in the instructions you should run a controller readiness test before you perform a controller migration. The report may not provide complete results, but it will help to identify the unsupported modules, Legacy CNI modules and any other hardware items, which should be identified and updated before performing any migration.

To verify controller readiness for on-process migration:

Step	Action
1	On R201and R210 Servers: • On Server B, choose **Start > Programs > Honeywell Experion PKS > Engineering Tools > Migration Readiness Tool.** • Log on to the server with Administrator security permissions. On R300.0 Servers: • Select **Configuration Studio** and connect to Server B. Choose **On-Process Migration** in the tree under the server. • Choose **Migration Readiness Tool** from the task list.
2	Choose **Readiness Check > Controller Migration** The Controller Migration screen appears.

Step	Action
3	Select the controller from the list of all configured modules in the **Select Controller** combo box. Depending on your system configuration, the following module types might be listed: • CPM – C200 controller • FIM • IOLIM • ACE, SIM-C200 and SIMIOLIM If there is a CPM, FIM, or IOLIM in a single chassis, you only need to select one module and run MRT.
4	Select appropriate Target Release. A check list will appear to indicate what checks will be made to verify controller migration readiness. See Figure 9. All checks that will be performed are marked with a check (√) Note: A different check list will appear depending upon whether you selected controller modules or an ACE, SIM-C200, or SIMIOLIM, from the Select Controller box. See Controller Migration Readiness Checks. You can choose to continue by selecting **Generate Report**, or **Cancel** to return to the main screen.
5	Once all necessary checks have been completed, the report is displayed showing the result (Pass/Fail status) of each check and any Details. Make sure that all checks are passed. If the report displays failure, see Report information and Figure 10 on page 299. If you cannot resolve any failed checks, contact you local Honeywell Technical Assistance Center (TAC); do *not* start OPM.

Step	Action
6	Save a copy of the report for future reference. See Save a Report.
7	Close application.

Descriptions of the checks performed during the Controller Migration Readiness Checks are provided in the section ‘MRT Description’ on page 293.

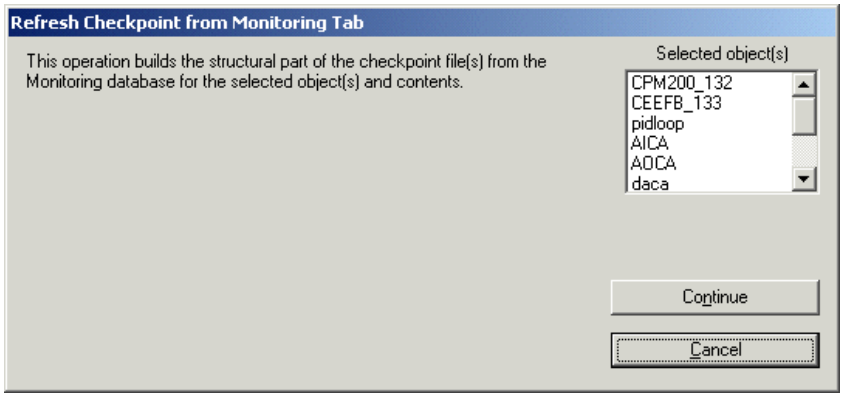
You have completed this task. Return to the checklist that led to this task.

8.25. Rebuild Checkpoint files

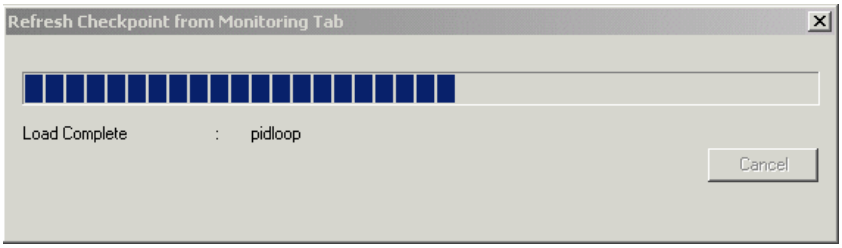
During on-process migration you must manually rebuild all checkpoint files on the new release primary and then perform manual saves to get each node's latest.checkpoint to a complete entirety state.

To initiate checkpoint rebuild:

Step	Action
1	In Configuration Studio, select a Server and **Control Strategy** in the tree view. Select **Configure Process Control Strategies** from the task list to launch Control Builder.
2	Log on to Control Builder with Engineer (Engr) security permissions.
3	In the **Monitoring** tab, select the node whose checkpoint file needs CCD rebuilt.
4	On the **Controller** menu, click **Checkpoint** > **Rebuild selected objects(s) and contents checkpoint from monitoring tab**.



5	On the **Refresh Checkpoint from Monitoring Tab** dialog, confirm that the correct node and all its contents are listed in the Selected object(s) box. If node is **not** correct, click the **Cancel** button and repeat Steps 1 and 2 for the correct node. Otherwise, go to the next Step.
6	Click the **Continue** button to initiate the rebuild function. A **Refresh** progress

Step	Action
	dialog appears for monitoring the status of the operation. If you want to abort the operation without saving any changes to checkpoint file, click the **Cancel** button. 
7	Wait for the rebuild operation to complete before continuing with other functions. If severe load errors appear in the dialog box, this implies that those tagged blocks are not in the rebuilt checkpoint base, because those blocks could not have been loaded to the controller. The rebuilt checkpoint file is to contain only those blocks that were loaded to the controller as reflected by the present Monitoring view.
8	This completes the procedure.
	You have completed this task. Go to the next section and perform Manual Checkpoint save.

8.26. Checkpoint save

This section describes the manual checkpoint file save procedure.

To initiate a manual checkpoint save:

Step	Action
1	On the **Controller** menu, click **Checkpoint** > **Save Checkpoint Manually**.
2	On **By Node** tab, select nodes in **Available** box that you want to checkpoint. You can use common Window's shortcut keys to make multiple selections.
3	Click the >> **Add** button to add node selections to the **To be Saved** box.
4	In **File Name** field, be sure directory path and checkpoint file name are correct. Use the **Browse** button to select another directory, if applicable. If you have selected two or more nodes, the default checkpoint file name will be a series of file names for the selected nodes, and this field will be grayed out. For example, if you selected nodes ACE_138 and CPM_132 to be saved, on July 28, 2004 at 8:26:54 PM, the default file names would be: *C:\Documents and Settings\All Users\Application Data\Honeywell\Experion\CheckPoint\ACE_138/Manual/ACE_138_JUL2820 04_8_26AM.cp* *And* *C:\Documents and Settings\All Users\Application Data\Honeywell\Experion\CheckPoint\CPM_132/Manual/CPM_132_JUL2820 04_8_26AM.cp*
5	In **Comments** field, type in comment that applies for all checkpoint files, if desired.
6	• Click the **Save** button. • Prompt tells you to see the Save Status display to monitor the operation.
7	Wait for the copy/save operation to complete.
8	If applicable, click the **By Task** tab, select desired scheduled task in the **Manual Tasks** box, and repeat Steps 4 to 7 to initiate checkpoint save for a scheduled task with **Manual Startup Type**.

Step	Action
9	Click the close button to close the dialog
10	This completes the procedure.

You have completed this task. Return to the checklist that led to this task.

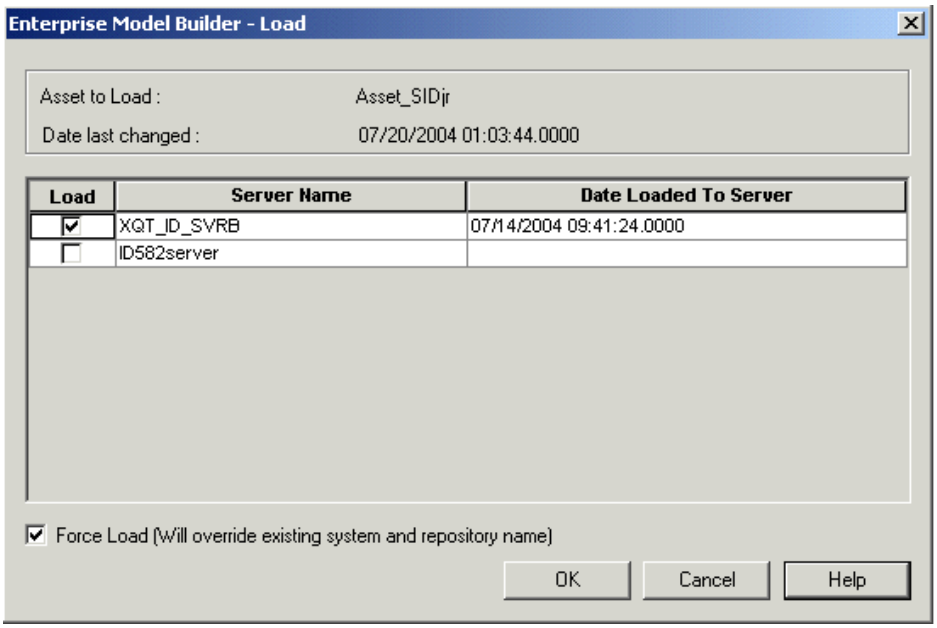
8.27. Load Enterprise Model

This section provides the procedure to load the assets and alarm groups in the enterprise model to servers.

To load the asset model or alarm groups to servers:

Step	Action
1	In the Configuration Explorer tab select the top level asset in the System tree. Select the System Task **Configure Assets for this system** to open Assets window, Or **Configure Alarm Groups for this system** to open Alarm Groups window.
	The Enterprise Model Builder – Asset or Alarm Groups window appears as a separate window. The left side of the window shows a tree view of the model structure.
2	Select the menu and choose **Tools** > **Load Entire Model…** or Click on the Load icon on the tool bar. Also, you can select any asset or alarm group in the tree and right click. Choose **Load Entire Model…**
	The following Load dialog appears:

Step	Action



3	Select the servers that you want to download with the asset model or alarm group by adding a check mark in the **Load** Column next to the Server Name.
4	Uncheck any servers that you do not want to load at this time. Note: If no servers are selected for load, then the '**OK**' button is disabled.
5	Choose whether or not to **Force Load** the servers. This check box allows the load to proceed even if the system name or repository name has been changed.
6	Click the '**OK**' button to begin the asset model load operation concurrently on all selected servers.
	The Loading Asset (or Alarm Group) dialog appears showing the name of all servers selected for load; the load status and a detail description for each server also are shown. If the load operation is successful without detection of any errors or warnings, a Load Status of "**Complete**" appears. See the *Enterprise Model Builder User's Guide* in Knowledge Builder for

Step	Action
	more information.
7	Repeat procedure to load Enterprise Model alarm groups to servers.

You have completed this task. Return to the checklist that led to this task.

8.28. Delete a Console Station connection

Step	Action
1	On Server A, navigate to the Console Station Summary display.
2	Select the migrated Console Station name and then on the Detail display delete the connection.

You have completed this task. Return to the checklist that led to this task.

8.29. Searching for unsupported modules

This section describes how to search for unsupported modules.

To search for unsupported modules:

Step	Action
1	Choose **Start** > **Run**.

2	For ControlNet Supervisory Networks, in the **Open** box, type:
	`ntools -c -u –pg`
	For Ethernet Supervisory Networks, in the **Open** box, type:
	`ntools -e -u -pg`

4	Click **OK** to launch the Network Tools application.
5	Click the Resume button on the toolbar to initiate a network scan.
6	In the Desktop tree, click the required supervisory communication interface.
7	Wait for the chassis details to display in the Detail pane.

Results

- The Controller Migration wizard does not support modules that have a firmware version displayed in red or yellow.
- A red firmware version indicates a recognized module type with an unknown firmware version. You must perform an off-process correction to the firmware version using the Network Tools application.
- A yellow firmware version indicates the module type is not recognized. You must perform an off-process replacement with an equivalent supported module type.

You have completed this task. Return to the checklist that led to this task.

8.30. Configuring FTE Service properties

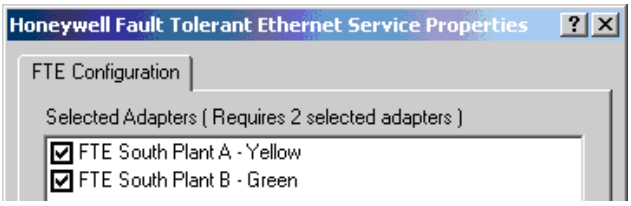
This section describes the conditions under which you will need to update the MAC addresses of your NIC cards. Use this procedure to configure the FTE service settings from the FTE configuration dialog box. See Table 7 FTE service settings on page 228 for descriptions of the settings.

ATTENTION

The Network administrator should establish and record these settings to ensure each FTE Node in the network is configured properly.

To configure FTE service settings:

Step	Action
1	If the **FTE Configuration** dialog box is not open, right-click either one of local area connections being used for FTE, and then click **Properties** from the Network Connections dialog.
2	Select **Honeywell Fault Tolerant Ethernet Service** then click **Properties**.
3	From the **FTE Configuration** tab, select both of the adapters that are being used for FTE.



ATTENTION

Other network adapters that have not been disabled will appear in the FTE Configuration window. Verify that you have selected **ONLY** those adapters that are being configured for FTE.

Step	Action
4	Enter a **Device Index** value that is greater than 0 and equal to or less than the **Max FTE Nodes** setting.
	CAUTION • The Device Index is the FTE Node number. • All FTE Nodes within the same community must have a unique Device Index.
	Naming restrictions • The computer name must be **15 characters**, or less, in length and cannot contain spaces or other non-standard characters. • The last letter for **Redundant Servers** must end in the letter **A** or **B,** with the same **BASE** Name. For example, **HSERVA** and **HSERVB**. • All other nodes including non-redundant Servers **must not** end with the letters A or B. • FTE names must include the words "**Yellow**" or "**Green**" as appropriate.
5	If necessary, modify the Interval and Disjoin Multiplier values. Honeywell recommends using the default settings.
6	Enter a **Max FTE Nodes** value of 511 or less. **Note:** The value of 511 is the limit imposed by the software. Be aware, however, that your particular FTE network may have system limitations for the maximum number of FTE nodes based on the node types within the network. See Using Fault Tolerant Ethernet Bridge modules in this document and "Planning a Honeywell FTE Network" in the *FTE Overview and Implementation Guide* in Knowledge Builder for more information.

Step	Action
	ATTENTION The values for the following configuration settings must be the same for each FTE Node within a community. • Multicast Address • UDP Source Port • UDP Destination Port
7	Enter an appropriate **Multicast Address** according to your site requirements. Honeywell recommends a non-routable multicast address such as that assigned by Foundation Fieldbus IANA: **224.0.0.105**.
	REFERENCE For additional information on the use of multicast addresses and other FTE network architecture recommendations, see “Planning a Honeywell FTE Network” in the *FTE Overview and Implementation Guide* in Knowledge Builder.
8	For these remaining fields on the **FTE Configuration** dialog box, Honeywell strongly recommends using the defaults: • **UDP Source Port:** must be the same as the other nodes in the FTE community. • **UDP Destination port:** Must be the same as the other nodes in the FTE community. • **Max Routing Hops (TTL)**
9	Click **OK** to close the **FTE Configuration** dialog box.
10	Click **OK** to close the **FTE Properties** dialog box.

FTE configuration options

Table 7 describes the settings in the FTE Configuration dialog box.

Table 7 FTE service settings

Setting	Description and setting limitations
Device Index No default	Identifies the FTE Node. Each node within an FTE community must have a unique Device Index lower than the than the Max FTE Nodes value.
Interval (ms) Default: 1000 microseconds (1 second)	Determines how often the FTE node sends out a pair of diagnostic messages (heartbeat pulses) on its two channels. Too low value increases network traffic. Too high increases the amount of time before a failure is detected
Disjoin Multiplier Default: 3	This value multiplied by the Interval determines the amount of time the node's diagnostic messages are allowed to not be heard by the peer nodes before a failure detection message is sent out indicating the node has departed from the network. Too low value signals false departures when traffic is heavy. Too high value increases the amount of time before a failure is detected.
Max FTE Nodes Default: 511	Maximum number of FTE Nodes within a community. Device Index must be set lower than this value.
Multicast Address Default: 224.0.0.105	Identifies the multicast group for that FTE node. All FTE Nodes within one FTE community must have the same multicast address.
UDP Source Port Default: 47837	User Datagram Protocol source port address. All FTE Nodes within one FTE Community must have the same UDP Source Port.

UDP Destination Port Default: 51966	User Datagram Protocol destination port address. All FTE Nodes within one FTE Community must have the same UDP Destination Port.
Max Routing Hops (TTL) Default: 2	Maximum number of routers crossed for each message. Adjust this value according to the size of the FTE Network.

You have completed this task. Return to the checklist that led to this task.

8.31. EXPPlus - Client/Server initialization

Considerations

Before proceeding to install EXPPlus, refer to the following steps for hardware and peripherals setup.

Step	Action
1	Insert the EXPPlus media into the appropriate drive of the target platform. Autorun launches the On-Media web home page. (It may be necessary to perform this on a system that already has a running Windows Operating System to view the information about the installation.)
2	**For PowerEdge Servers with RAID Controllers**: Click on **Tools** Link on the left hand side, then on **RAID Configuration** link at top of the **Tools** page. Review the information on the page, and if necessary perform the steps on the target platform to initialize the RAID configuration before starting the installation.
3	**For Workstations**: Click on the **Multi-Monitor setup instructions** link (in the left side) and connect the Monitors as described.
4	**For Workstations**: Click on the **Keyboard/Touchscreen setup instructions** link (in the left side) and connect the Keyboards and/or Touchscreens as described.
5	Restart the target node. Upon BIOS initialization, press F2 key to enter the BIOS Configuration/Setup page.

Step	Action
6	**For Dell Platforms** • Highlight **Boot Sequence** and press **Enter**, verify or change if necessary the Boot Sequence order as specified below. – IDE CD – ROM Device – Hard Drive C: – Diskette Drive A: **For ION** • Select **Boot** on the menu bar • Verify and/or change the following as indicated – Intel® Rapid BIOS Boot (Disabled) – Highlight Boot Device Priority and press Enter • Verify and/or change the Boot order as indicated – 1ST Boot Device (DVD Drive) – 2nd Boot Device (Hard Drive)

Step	Action
7	As per the node type, follow the appropriate steps described below.

ATTENTION
Not applicable for Dell Precision Workstation 340

For Server Platforms, enable Logical Processors.

- For PowerEdge Servers:
  - Highlight **CPU Information** and press **Enter**.
  - Highlight **Logical Processor**, set it to **Enabled**, and press **Enter**.

For Workstation Platforms, enable Hyper Threading.

- For Dell Precision Workstation 360
  - Highlight **CPU Information** and press **Enter**.
  - Highlight **Hyper-Threading**, set it to **Enabled**, and press **Enter**.

- For Dell Precision Workstation 370 & 470
  - Expand Performance.
  - Highlight **Hyper-Threading** and press **Enter**.
  - Highlight **on** and press **Enter**.

- For ION
  - Select **Main** on the menu bar
  - Highlight **Hyper-Threading**, set it to **Enabled,** and press **Enter.**

Step	Action
8	If the target platform is using FTE via add-on Dual Port NIC, disable the on-board NIC card in BIOS as per the steps described below. **ATTENTION** Not applicable for Dell PowerEdge 2850 server. • For PowerEdge Servers: – Highlight **Integrated Devices** and press **Enter** – Highlight **Embedded xxxx NIC**, set it to **Disabled** and press **Enter** • For Dell Precision Workstation 360 & 340 – Highlight **Integrated Devices (LegacySelect Options)** and press **Enter** – Highlight **Network Interface controller**, set it to **Off**, and press **Enter** • For Dell Precision Workstation 370 & 470 – Expand **Onboard devices** – Highlight **Integrated NIC** and press **Enter** – Highlight **Off** and press **Enter**
9	For Workstations supporting three or four displays, it may be necessary to change the BIOS for the primary Video Controller from PEG to PCI. • For Dell Precision Workstation 370 – Expand **Video** – Highlight **Primary Video** and press **Enter** – Highlight **PCI** and press **Enter** **TIP** For Dell Precision Workstation 470, leave the defaults as is, for example “PEG”.

Step	Action
10	**For Dell Platforms** Press "**ESC**", Select "**Save Changes and Exit**" and click **Enter**. **For ION** – Select **Exit** on the menu bar – Highlight **Exit Saving Changes**, and press **Enter** – Highlight **OK**, and press **Enter**

Starting the EXPPlus installation

Step	Action
1	Insert EXPPlus media into the CD/DVD-ROM drive and if necessary the Options Floppy Disk.
2	Restart the computer. Wait for the message 'Press any key to boot from CD.' , then press any key to boot from EXPPlus DVD. **ATTENTION** You will need to keep watching for the message **"Press any key to boot from CD**" 'after booting from the DVD since the message appears for only 5 seconds. **WARNING** If the installation hangs or fails due to a hardware failure such as a failed hard drive, CD ROM drive, memory, etc, you will have to follow the procedure Recovering from a hardware failure during a migration on page 160 in order to recover your initialization files and continue with your migration.
3	For Windows 2003 Server installation, review the on screen warning for RAID. EXPPlus will automatically install RAID firmware, but it does not automatically configure RAID. If you have not yet defined your RAID settings, press "**Esc**" to cancel EXPPlus. Reboot the PC, configure RAID and repeat Step 1. Otherwise **press any other key to continue**. **ATTENTION** If you are not performing a platform hardware upgrade, then go to Step 12.
4	(For re-installation) If floppy disk has valid configuration files. Go to **Step 12**.

Step	Action
5	On the screen **ERROR- Validating Configuration files**, • If configuration files do not exist, Select **Generate Configuration files** button to create the new configuration files. • If configuration files that exist in floppy disk are not valid, select **Modify Configuration files** button (If enabled) to modify the existing configuration files or select **Generate Configuration files** button to create new configuration files. Experion PKS Configuration Tool (EPCTool) is displayed after any of the above steps are performed.
6	On the **Platform** tab under **Installation**, select **Operating System Only**. All remaining information on this page is view only.

Step	Action
7	Select the **Network Configuration** tab and perform entries in the following order: a) Select the **number of NIC** cards. b) For **FTE** configurations • Select the **NIC1 and NIC2 participating in FTE community** check box. • Enter the **Community Name**. • Select the **FTE Network type** per chart below:

You have one or more	FTE Network type
C300	FTE Based EPN
FIM with FTEB	FTE Based EPN
Series-C FIM	FTE Based EPN
C200 with FTEB	FTE Based EPN
C200 with ControlNet (RSLinx)	FTE Supervisory
ACE or SIM-C200 without PCIC	FTE Based EPN

If you DO NOT select **NIC1 and NIC2 participating in FTE community** check box, the default EPN is Control Net (RSLinx).

c) Enter the IP address/subnet Mask/Gateway address for each network interface card (NIC) by clicking on TCP/IP Properties under each NIC in the tree. To perform this task:

- Click the **TCP/IP Properties of NIC** button to launch the **Internet Protocol (TCP/IP) Properties** dialog.
- Click **Use defaults** checkbox to enter the TCP/IP values.

If your Experion Process Network (EPN) is FTE then Select FTE Based EPN, for all other options select FTE Supervisory.

Step	Action
8	Click the **Input/Output Devices** tab and complete the form.

- PowerEdge Servers only support:
  - Single monitor option.
  - **1024x768** resolution option.
  - Standard System Keyboard option.
- **Single**/**Dual (side by side)**/**Triple**/**Quad** monitor configurations are possible on Dell Precision Workstation 360, Dell Precision Workstation 370 and Dell Precision Workstation 470 platforms.
- Only **Single**/**Dual (side by side)**/**Quad** monitor configurations are possible on Dell Precision Workstation 340.
- Only **Single**/**Dual (side by side)**/**Dual (one over one)** monitor configurations are possible on Integrated Operator Node (I.O.N.) workstation.

TIP

TouchScreen Present option is available only for Workstations (XP Operating System).

Keyboard options are available only for Workstations.

(If you have selected Integrated Keyboard/OEP, do not select it later in the Experion PKS Software installation.)

ATTENTION

Do not change the NIC MAC addresses.

Step	Action
9	Click the **System Details** tab and complete the form with appropriate details.

Naming restrictions

- The computer name must be **15 characters**, or less, in length and cannot contain spaces or other non-standard characters.
- The last letter for **Redundant Servers** must end in the letter **A** or **B,** with the same **Base** Name. For example, **HSERVA** and **HSERVB**.
- All other nodes including non-redundant Servers **Must Not** end with the letters A or B.
- FTE names must include the words “Yellow” or “Green” as appropriate.

Tuning Options:

Node	Server Optimization	Performance Tuning Options
Experion PKS Server	Max T-P for Network Apps	Tune for Services
eServer	Max T-P for Network Apps	Tune for Services
ACE/SIM-C200	Balance	Tune for Services
Console Station	Max T-P for Network Apps	Tune for Services
Flex Station	Max T-P for Network Apps	Tune for Application
Console Ext. Station	Max T-P for Network Apps	Tune for Application

Server Services:

- **Terminal Server Service** is only available on Flex /Console Extension Stations installed with Windows 2003 Server Operating System.
- **Internet Information Services** MUST be selected for **eServers** and **Experion PKS Servers**.
- For ACE and SIM-C200, Select **No addition services**.

Step	Action
10	Click the **Activation** tab.

ATTENTION

- The Dell systems will be pre-activated when the Dell reinstallation operating system media (OEM) is used during installation.
- When Microsoft Operating System (OS) media is used, it will be necessary to activate the OS manually (over the Internet or Telephone by contacting Microsoft) after EXPPlus or Experion installation is complete.

Step	Action
11	Click the **Summary** tab. • Review the configuration details and make changes if required. • If you had selected to Install the "Operating System and Experion PKS (R300)" (UWD), click the **Process Software** button and perform the following tasks: **ATTENTION** Operating System configuration choices will restrict the types of Experion nodes that can be selected for installation. Some of these are the following: • Network Configuration (for example. FTE Network Type) • Optional Services installed (Terminal Server Service and Internet Information Server) – For Experion PKS Servers ONLY, it will be necessary to select the appropriate Redundancy Option at the top left of the dialog. If necessary, change the Computer Name. – Select the System Type. – NOTE: If the intended System Type is not available, click abort and review your selections. When complete, press the Process Software button again and repeat the process. – Click OK on the Operation Completed message. • Click **Generate Configuration Files**. • EPCTool prompts to save the configuration files to a floppy disk. If a floppy disk is in use, Click **Yes** followed by **OK** to acknowledge the file copy message. If not done prior, a blank floppy disk can be inserted at this time. • Click **No** if do not intend to save the configuration on a floppy disk.

Step	Action
12	**Validation of configuration files – Success** screen. a) Click **Continue** to start the Windows server 2003 / Windows XP installation. **CAUTION** The process formats the hard drive before starting the installation. Previous data stored on the drive will no longer be accessible after confirming the dialog. b) Click **Yes** to acknowledge that the existing hard drive will be erased. **ATTENTION** The installation process will restart the computer several times. It is no longer necessary to boot off of a CD/DVD and the following messages "**Press any key to boot from CD-ROM**" should be ignored.
13	Wait until Insert **Windows Server 2003 STA. Edition media** screen appears. Remove the EXPPlus media, insert the appropriate **Insert Windows Server 2003 STA. Edition media** as described in this section's prerequisites, and Click Continue. **ATTENTION** It is required to use the Microsoft Operating System CD for ION platform.
14	Remove the Windows OS media and Options Disk (if used), and click the Continue button.
15	Wait until **Microsoft EULA** screen appears. Review the License Agreement and when ready, select the "**I accept this agreement**" radio button. Select **Next** button to continue.

Step	Action
16	On the **Password** screen, enter the Administrator password, and then Click **Next**. **ATTENTION** Do not change the Computer Name at this stage.
17	Connect the new PC to the network and confirm proper network operation.

You have completed this task. Return to the checklist that led to this task.

9. Common TPS Migration Tasks

Topic	Page
Recording TPS node information	245
Migrating TPS Server, ACE-T, and Console stations	246

9.1. Recording TPS node information

This procedure defines what you will need to do in order to capture critical TPS node information before you start a migration. This information is not saved to the EMSN during the normal migration tasks.

Step	Action
1	From the **Start->Programs->Honeywell Experion PKS->System Management** menu, select **Configuration Utility**.
2	Select Board 0, or your node name from the Config drop-down menu.
3	Record all of the information, including the LCN address, from the LCNP tab.
4	Select **Cancel.**

You have completed this task. Return to the checklist that led to this task.

9.2. Migrating ESVT, ACE-T, and Console Stations

Before you can use your TPS node in an Experion environment, you must re-install and configure your TPS software. This procedure applies to both severs and stations to re-install TPS software on your Experion node.

Installing software

Step	Action
1	Insert the **Integrated Experion-TPS Nodes CD**. The **Experion PKS TPS Component** screen will appear.
2	Depending on the node type that you are migrating, • Select LCN-Connected Experion Server, LCN-Connected Experion Station Console, or LCN-Connected ACE. • At the Command Prompt, select '**Y**'.
3	Once the **Experion PKS TPS Component** screen re-appears, select **Licensed Package Installer**. Select the specific TPS packages that you would like to install. **TIP** The details for installing each of the TPS software packages can be found in TPS documentation. In general, you will probably want to install File Transfer on you server and GUS packages on your console station PCs.
4	Once you have finished installing the desired TPS packages, remove the Integrated Experion-TPS Nodes CD from the CD ROM drive and insert the **TPN Application Module** CD if you are migrating a server or the **GUS TPN Software** CD if you are migrating a station. **TIP** Ensure that you have the correct LCN Personality disk for your system.

Step	Action
5	• If this is a server or an ACE node, browse to **App\Pers_AM\Disk1** and double click on **setup.exe**. • If this is a station node, browse to **GUS\Per_US\Disk1** and double click on setup.exe.
6	Select **Next** then **Yes**.
7	Enter your name, company, and a 1 for the serial number and select **Next.**
8	Accept the defaults on the next screen and select **Next**.
9	Select **Next**, then **Next**. **TIP** Select Yes if you are asked to overwrite existing files.
10	Select **Finish.**

Configuring software

The following procedure applies to both severs and stations to re-configure your TPS software on your Experion node.

Step	Action
1	From the **Start->Programs->Honeywell Experion PKS->System Management** menu, select **Configuration Utility**.
2	Select Board 0, or your node name from the Config drop-down menu.
3	Select the LCNP tab and enter the information in the appropriate fields that you recorded during the **Prepare for the on-process migration** step of the checklist. See page 95.
4	Select **OK.**

TIP

If no Board 0 is shown, then

- Go to C:\Program Files\Honeywell\TPS\Emulators and double click on addrmvbd.exe.
- Repeat steps 1 thru 4 above.

You have completed this task. Return to the checklist that led to this task.

10. Controller Migration

The Controller Migration wizard lets you on-process and off-process migrate your controller component's firmware to the latest supported release version/revision for your current Experion installation.

For consistency, the term *controller* refers to the following module types:

- Control Processor Module (CPM).
- Fieldbus Interface Module (FIM).
- I/O Link Interface Module (IOLIM)
- Series C300 Controller (C300)
- Series C Fieldbus Interface Module 4 (FIM4)
- Series C I/O modules (C I/O)
- Application Control Environment (ACE).
- Simulation Control Environment (SIM-C200).

ATTENTION

Run the Controller Migration Readiness Check on any controller you want to migrate before you begin controller migration.

Do **not** make any engineering changes during controller migration. Making engineering changes during migration may cause errors or result in an unsuccessful migration. Any engineering changes made during a migration may be lost.

There are four migration scenarios supported by the Controller Migration wizard.

Migration type	Page
Run Controller Migration Readiness Check	213
On-process migration of redundant controllers.	251
Off-process migration of redundant controllers.	256
Off-process migration of non-redundant controllers.	260
Off-process migration of associated I/O modules.	264

See Overview of controller migration on page 92 for description of the controller on-process migration procedure. You may need to run the Controller Migration wizard multiple times for the same controller. For example, for a redundant controller with remote I/O, you may on-process migrate the redundant controller chassis, and then run the Controller Migration wizard to off-process migrate the controller's associated remote I/O.

ATTENTION

Only redundant controllers can be on-process migrated.

During the on-process migration there may be a control freeze of up to ten seconds for C200 controllers and up to twenty seconds for C300 controllers (depending on the size of the control strategy).

NTools and CTools

Use the Controller Migration wizard to migrate existing control components, (instead of using NTools or CTools utilities). However, for new or replacement components use NTools or CTools for updating firmware.

10.1. On-process migration of redundant controllers

Choose this option to perform an on-process migration of all components in a selected redundant chassis pair or redundant controllers. This will update the firmware of all components in the selected redundant chassis pair without a loss of control. However, there may be a freeze in control of up to ten seconds for C200 controllers and up to 20 seconds for C300 controllers (depending on the size of your control strategy), and SCMs in peer controllers may experience delay during the control freeze period, resulting in step timeout or failure notifications.

ATTENTION

Before starting controller OPM, you must run the Controller Readiness Check using MRT, (see page 213).

If your system has Fault Tolerant Ethernet Bridge Modules (FTEBs), verify the switch port settings.

Prerequisites

- Purchase the Redundancy license required to enable on-process migration.
- The associated Experion servers must be migrated (does not apply for service pack or patch releases).
- Redundant chassis pair (RCP) or redundant controllers must be synchronized prior to commencing on-process migration.
- Honeywell recommends that all controller and I/O chassis contain CNI module numbers CCN013 or CCR013.
- A RCP must only contain CNI module numbers CCN013/CCR013 or CCN014/CCR014 for on-process migration.
- ControlNet communication paths with FIMs or HART I/O modules must only contain CNI module numbers CCN013 or CCR013. However, legacy CCN012 or CCR012 CNI modules can reside in non-redundant controller or I/O chassis that do not contain FIMs or HART I/O modules.
- You must stop the HART software multiplexer service (see page 209).
- The Controller Migration wizard supports only Honeywell qualified module types and firmware versions (see page 224).

- You must ensure that the C200/C300 CEE control strategy has no dangling control connections (see page 307).
- You must ensure that all peer references in the C200/C300 CEE are working as expected *before* starting the on-process migration. Peer references that do not work usually indicate a configuration mismatch between the ERDB and the controller. Such a mismatch can result when the peer definition block is reconfigured and reloaded, but the block with the peer reference is not subsequently reloaded. This condition must be fixed before starting on-process migration, otherwise, the controller migration will fail to complete.
- Make sure that all required Experion patches are installed before starting controller on-process migration. See the Patch SCN for installation instructions.
- Open every CEEFB and make sure the BASEPERIOD is not set to DEFAULT. If the value is set to DEFAULT, then call Honeywell TAC and do not start on-process migration.
- There must be no active locks in the Engineering Repository DataBase (ERDB). (see page 302).
- If RM modules are at firmware 3.38v, manually upgrade the RM modules to 3.40v using NTools *before* starting controller on-process migration.
- Ensure that Auto Synchronization State of each Redundancy module is set to Conditional before starting controller on-process migration.
- If your system contains Series C control hardware, (C300 controllers, FIM4s) you must upgrade the CF9 control firewall to the latest firmware before you migrate the Series C hardware.

Considerations

- Valid module types to select to commence redundant controller migration include: Control Processor Module (CPM), Fieldbus Interface Module (FIM), I/O Link Interface Module (IOLIM), C300 Controller and FIM4.
- Select the Primary module to commence controller migration.
- In Redundant Chassis Pairs (RCPs) the Controller Migration wizard identifies associated components such as Redundancy Modules (RMs), ControlNet Interface Modules (CNIs), Fault Tolerant Ethernet Bridge Modules (FTEBs) and any remote I/O Modules (IOMs).
- Migrated components maintain control during the migration process. However, there may be a freeze in control of up to ten seconds for C200 controllers and up to 20

seconds for C300 controllers (depending on the size of your control strategy). In addition, SCMs in peer controllers may experience delay during the control freeze period resulting in step timeout or failure notifications.

- On-process migration leverages controller redundancy. The redundant pair must be synchronized to commence on-process migration. Moreover, the redundant pair must be able to switchover and resynchronize in order to complete on-process migration.
- The Controller Migration wizard automatically updates firmware. For modules participating in on-process migration, do *not* extract modules, remove power, issue shutdown commands or disconnect communication cables, otherwise, you may have to return the module to the factory for reprogramming.
- The Control Builder application should be the only application running on the computer when migrating controllers. Close all other applications *before* starting controller migration and do *not* start any additional applications until controller migration is complete.

To start on-process migration of redundant controllers:

Step	Action
	Controller migration must be started from Control Builder running on a server. On redundant Experion servers, controller migration must be started from Control Builder running on Server B.
1	In Configuration Studio, select a Server and **Control Strategy** in the tree view. Select **Configure Process Control Strategies** from the task list to launch Control Builder.
2	Log on to Control Builder with Engineer (Engr) security permissions.
3	In the **Control Builder Monitor/Assignment** tab, select the module to be migrated.
4	Choose **Controller > Migrate…** to start the Experion PKS Controller Migration wizard.
5	Click **Next** on the Welcome dialog box.
6	Select the release for migration: • To migrate your components to the latest major release available for this system, click **Migrate Components to the Latest Release**. For example, if the Experion Servers have been migrated to R300.1, use this option to

Step	Action
	migrate an R210 controller to R300.1 firmware. • To migrate your components to the latest service pack or patch available for their current release, click **Migrate Components to the Latest Service Pack**. For example, if the Experion servers have been migrated to R300.1, use this option to migrate an R210 controller to the latest R210 patch release. When a service pack is selected, only components that were updated in that service pack require migration. Service Packs are only supported if all other components in the chassis are at the same base release. For example, you cannot use a service pack in a chassis where the CPM is using R300.1 firmware, but a FIM is using R210 firmware.
7	Click **Next** to continue. The Controller Migration wizard collects information about each component to determine if the component is mismatched and requires migration.
8	Select the **On-process Migration of All Components in the Redundant Chassis Pair** check box, and then click **Next**.
9	Review the list of components to be on-process migrated.
10	Click **Next** to continue.
11	Click **Yes** to start on-process migration. The Controller Migration wizard does the following: • Creates a Checkpoint. The Experion PKS Controller Migration wizard updates the Checkpoint for your controller. Depending on the size of your database, this operation may take several minutes. This only applies if either a C200 or C300 controller is being migrated. • Migrates selected components. The Controller Migration wizard updates all of the selected components. This operation may take several minutes. More specifically, the Controller Migration wizard indicates the following progress steps:

Current migration progress
Updating Components in Secondary Chassis
Performing Synchronization and Switchover of Redundant Chassis Pair

Step	Action
	Updating Components in New Secondary Chassis Performing Synchronization of Redundant Chassis Pair On Process Migration Complete • Once migration is complete, a summary of all the completed component updates is displayed.
12	Click **Finish**.
13	Rerun the Controller Migration wizard, or use the Network Tools application, to determine if there are any associated I/O modules that need to be migrated.
	You have completed this task. Return to the checklist that led to this task.

10.2. Starting off-process migration of redundant controllers

Choose this option to perform an off-process migration of all components in the selected redundant chassis pair. This will update the firmware of all components in the selected redundant chassis pair. However, control will not be maintained during the migration process.

Prerequisites

- The associated Experion servers must be migrated (does not apply for service pack or patch releases).
- For systems with the Qualification and Version Control System (QVCS) licensed, the Module Function Blocks for components that are to be migrated must be checked out before running the Controller Migration wizard. These objects can be detected by running the Controller Migration wizard. Items that are highlighted for migration (or manually selected for off-process migration) should be checked out. For redundant components, both the primary and secondary object should be checked out.
- You must stop the HART software multiplexer service (see page 209).
- The Controller Migration wizard supports only Honeywell qualified module types and firmware versions (see page 224).
- If RM modules are at firmware 3.38v, manually upgrade the RM modules to 3.40v using NTools before starting controller on-process migration.
- If your system contains Series C control hardware, (C300 controllers, FIM4s) you must upgrade the CF9 control firewall to the latest firmware before you migrate the Series C hardware.

Considerations

- Valid module types to select to commence redundant controller migration include: Control Processor Module (CPM), Fieldbus Interface Module (FIM), I/O Link Interface Module (IOLIM), C300 Controller and FIM4.
- Select the Primary module to commence controller migration.
- In Redundant Chassis Pairs (RCPs) the Controller Migration wizard identifies associated components such as Redundancy Modules (RMs), ControlNet Interface Modules (CNIs), Fault Tolerant Ethernet Bridge Modules (FTEBs), and any remote I/O Modules (IOMs).

- Migrated components do *not* maintain control during the migration process.
- The Controller Migration wizard automatically updates firmware. Do *not* extract modules, remove power, or disconnect communication cables, otherwise, you may have to return the module to the factory for reprogramming.
- The Control Builder application should be the only application running on the computer when migrating controllers. Close all other applications *before* starting controller migration and do *not* start any additional applications until controller migration is complete.

To start off-process migration of redundant controllers:

Step	Action
	Controller migration must be started from Control Builder running on a server. On redundant Experion servers, controller migration must be started from Control Builder running on Server B.
1	In Configuration Studio, select a Server and **Control Strategy** in the tree view. Select **Configure Process Control Strategies** from the task list to launch Control Builder.
2	Log on to Control Builder with Engineer (Engr) security permissions.
3	In the **Control Builder Monitor/Assignment** tab, click the module to be migrated.
4	Choose **Controller** >**Migrate…** to start the Experion PKS Controller Migration wizard.
5	Click **Next** on the Welcome dialog box.
6	Select the release for migration: • To migrate your components to the latest major release available for this system, click **Migrate Components to the Latest Release**. For example, if the Experion servers have been migrated to R300.1, use this option to migrate an R201or R210 controller to R300.1. • To migrate your components to the latest service pack or patch available for their current release, click **Migrate Components to the Latest Service Pack**. For example, if the Experion servers have been migrated to R300.1, use this option to migrate an R210 controller to the latest R210 patch release. When a service pack is selected, only components that were updated in that service pack require migration. Service Packs are only

Step	Action
	supported if all other components in the chassis are at the same base release. For example, you cannot use a service pack in a chassis where the CPM is using R300.1 firmware, but a FIM is using R210 firmware.
7	Click **Next** to continue. The Controller Migration wizard collects information about each component to determine if the component is mismatched and requires migration.
8	Select the **Off-process Migration of All Components in the Redundant Chassis Pair** check box.
9	Click **Next** to continue.
10	Review the list of components to off-process migrate.
11	Click **Next** to continue.
12	Click **Yes** to start off-process migration. The Controller Migration wizard performs the following activities: • Creates a Checkpoint. The Experion PKS Controller Migration wizard updates the Checkpoint for your controller. Depending on the size of your database, this operation may take several minutes. This only applies if either a C200 or C300 controller is being migrated. • Migrates selected components. The Controller Migration wizard updates all of the selected components. This operation may take several minutes. More specifically, the Controller Migration wizard indicates the following progress steps: **Current migration progress** Updating Components in Secondary Chassis Updating Components in Primary Chassis Off Process Migration Complete • Once migration is complete, a summary of all the completed component updates is displayed.
13	Click **Finish**.

Step	Action
14	At this point, any CPM, FIM, IOLIM (in the migrated redundant chassis pair), C300 and FIM4 that was firmware updated must have its control strategy reloaded.
15	In the **Control Builder Monitor/Assignment** tab, do the following: 1) Click each updated IOLIM and/or FIM and then click **Load With Contents**. 2) Click the updated CPM and then click **Load With Contents**.
16	Rerun the Controller Migration wizard, or use the Network Tools application, to determine if there are any associated I/O modules that need to be migrated.
	You have completed this task. Return to the checklist that led to this task.

10.3. Starting off-process migration of non-redundant controllers

Choose this option to perform an off-process migration of individually selected components associated with a non-redundant controller. Selected components will *not* maintain control during the migration process.

Prerequisites

- The associated Experion servers are migrated (does not apply for service pack or patch releases).
- For systems with the Qualification and Version Control System (QVCS) licensed, the Module Function Blocks for components that are to be migrated must be checked out before running the Controller Migration wizard. These objects can be detected by running the Controller Migration wizard. Items that are highlighted for migration (or manually selected for off-process migration) should be checked out. For redundant components, both the primary and secondary object should be checked out.
- You must stop the HART software multiplexer service (see page 209).
- The Controller Migration wizard supports only Honeywell qualified module types and firmware versions (see page 224).
- If your system contains Series C control hardware, (C300 controllers, FIM4s) you must upgrade the CF9 control firewall to the latest firmware before you migrate the Series C hardware.

Considerations

- Valid module types to select to commence controller migration include: Control Processor Module (CPM), Fieldbus Interface Module (FIM), I/O Link Interface Module (IOLIM), Application Control Environment (ACE), Simulation Control Environment (SIM-C200), C300 controller and FIM4.
- In Redundant Chassis Pairs (RCPs), the Controller Migration wizard identifies associated components such as ControlNet Interface Modules (CNIs), Fault Tolerant Ethernet Bridge Modules (FTEBs) and I/O Modules (IOMs).
- Migrated components do not maintain control during the migration process.
- The Controller Migration wizard automatically updates firmware. Do *not* extract modules, remove power, or disconnect communication cables, otherwise, you may have to return the module to the factory for reprogramming.

- The Control Builder application should be the only application running on the computer when migrating controllers. Close all other applications *before* starting controller migration and do *not* start any additional applications until controller migration is complete.

To start off-process migration of non-redundant controllers:

Step	Action
	Controller migration must be started from Control Builder running on a server. On redundant Experion servers, controller migration must be started from Control Builder running on Server B.
1	In Configuration Studio, select a Server and **Control Strategy** in the tree view. Select **Configure Process Control Strategies** from the task list to launch Control Builder.
2	Log on to Control Builder with Engineer (Engr) security permissions.
3	In the **Control Builder Monitor/Assignment** tab, click the module to be migrated.
4	Choose **Controller > Migrate…** to start the Experion PKS Controller Migration wizard.
5	Click **Next** on the Welcome dialog box.
6	Select the release for migration: • To migrate your components to the latest major release available for this system, click **Migrate Components to the Latest Release**. For example, if the Experion servers have been migrated to R300.1, use this option to migrate an R201or R210 controller to R300.1. • To migrate your components to the latest service pack or patch available for their current release, click **Migrate Components to the Latest Service Pack**. For example, if the Experion servers have been migrated to R300.1, use this option to migrate an R210 controller to the latest R210 patch release. When a service pack is selected, only components that were updated in that service pack require migration. Service Packs are only supported if all other components in the chassis are at the same base release. For example, you cannot use a service pack in a chassis where the CPM is using R300.1 firmware, but a FIM is using R210 firmware.
7	Click **Next** to continue.

Step	Action
	The Controller Migration wizard collects information about each component to determine if the component is mismatched and requires migration.
8	Select the Off-process Migration of Individually Selected Components in the Non-Redundant Chassis check box.
9	Click **Next** to continue.
10	Click components to migrate and then click **Next**.
11	Review the list of components to migrate off-process.
12	Click **Next** to continue.
13	Click **Yes** to commence off-process migration. The Controller Migration wizard does the following: • Creates a Checkpoint. The Experion PKS Controller Migration wizard updates the Checkpoint for your controller. Depending on the size of your database, this operation may take several minutes. This only applies if either a C200 or C300 controller is being migrated. • Migrates selected components. The Controller Migration wizard updates all selected components. This operation may take several minutes. More specifically, the Controller Migration wizard indicates the following progress steps: **Current migration progress** Updating Selected Components in Chassis Off Process Migration Complete • Once migration is complete, a summary of all the completed component updates is displayed.
14	Click **Next** in the Checkpoint created message.
15	Click **OK** in the status message.
16	Click **Finish**.
17	At this point, any CPM, FIM, IOLIM (in the migrated non-redundant controller chassis), C300 controller and FIM4 that was firmware updated must have its

Step	Action
	control strategy reloaded.
18	In the **Control Builder Monitor/Assignment** tab, do the following: • Click each updated IOLIM, FIM and/or FIM4 and then click **Load With Contents**. • Click the updated CPM and/or C300 and then click **Load With Contents**.
19	Rerun the Controller Migration wizard, or use the Network Tools application, to determine if there are any associated I/O modules that need to be migrated.

You have completed this task. Return to the checklist that led to this task.

10.4. Starting off-process migration of associated I/O modules

Choose this option to off-process migrate local or remote I/O components associated with the selected controller chassis. Selected components do *not* maintain control during the migration process.

Prerequisites

- The associated Experion servers must be migrated (does not apply for service pack or patch releases).
- For systems with the Qualification and Version Control System (QVCS) licensed, the Module Function Blocks for components that are to be migrated must be checked out before running the Controller Migration wizard. These objects can be detected by running the Controller Migration wizard. Items that are highlighted for migration (or manually selected for off-process migration) should be checked out. For redundant components, both the primary and secondary object should be checked out.
- You must stop the HART software multiplexer service (see page 209).
- The Controller Migration wizard supports only Honeywell qualified module types and firmware versions (see page 224).

Considerations

- Valid module types to select to commence Controller Migration include: Control Processor Module (CPM), Fieldbus Interface Module (FIM), I/O Link Interface Module (IOLIM), Application Control Environment (ACE), Simulation Control Environment (SIM-C200), C300 controller, Series C I/O modules and FIM4.
- Select the Primary module to commence migration.
- In Redundant Chassis Pairs (RCPs), the Controller Migration wizard identifies associated components such as Redundancy Modules (RMs), ControlNet Interface Modules (CNIs), and I/O Modules (IOMs).
- Migrated components do *not* maintain control during the migration process.
- For a C200 or C300 controller, the Controller Migration wizard lists all local and/or remote IOMs (associated with a controller) regardless of the number of remote I/O chassis and/or regardless of whether IOMs reside in a chassis or are directly connected via ControlNet (for example, Rail I/O).

- The Controller Migration wizard automatically updates firmware. Do *not* extract modules, remove power, or disconnect communication cables, otherwise, you may have to return the module to the factory for reprogramming.
- The Control Builder application should be the only application running on the computer when migrating controllers. Close all other applications *before* starting controller migration and do *not* start any additional applications until controller migration is complete.

To start off-process migration of associated remote I/Os:

Step	Action
	Controller migration must be started from Control Builder running on a server. On redundant Experion servers, controller migration must be started from Control Builder running on Server B.
1	In Configuration Studio, select a Server and **Control Strategy** in the tree view. Select **Configure Process Control Strategies** from the task list to launch Control Builder.
2	Log on to Control Builder with Engineer (Engr) security permissions.
3	In the **Control Builder Monitor/Assignment** tab, click the module to be migrated.
4	Choose **Controller >Migrate…** to start the Experion PKS Controller Migration wizard.
5	Click **Next** on the Welcome dialog box.
6	Select the release for migration: • To migrate your components to the latest major release available for this system, click **Migrate Components to the Latest Release**. For example, if the Experion servers have been migrated to R300.1, use this option to migrate an R201or R210 controller to R300.1. • To migrate your components to the latest service pack or patch available for their current release, click **Migrate Components to the Latest Service Pack**. For example, if the Experion servers have been migrated to R300.1, use this option to migrate an R210 controller to the latest R210 patch release. When a service pack is selected, only components that were updated in that service pack require migration. Service Packs are only supported if all other components in the chassis are at the same base release. For example, you cannot use a service pack in a chassis where

Step	Action
	the CPM is using R300.1 firmware, but a FIM is using R210 firmware.
7	Click **Next** to continue. The Controller Migration wizard collects information about each component to determine if the component is mismatched and requires migration.
8	Select the **Off-process Migration of Associated I/O Components** check box.
9	Click **Next** to continue.
10	Click components to migrate and then click **Next**.
11	Review the list of components to off-process migrate.
12	Click **Next** to continue.
13	Click **Yes** to commence off-process migration. The Controller Migration wizard does the following: • Migrates selected components. The Controller Migration wizard updates all selected components. This operation may take several minutes. More specifically, the Controller Migration wizard indicates the following progress steps: **Current migration progress** Updating Selected Components in Chassis Off Process Migration Complete • Once migration is complete, a summary of all the completed component updates is displayed.
14	Click **Finish**.
15	At this point, any FIM (in the migrated remote chassis) that was firmware updated must have its control strategy reloaded. You may need to recover from loss of communication to IOMs if any IOMs or CNIs were updated. 3) In the **Control Builder Monitor/Assignment** tab, click each updated FIM and then click **Load With Contents**. Recovering from loss of communication to IOMs is control strategy dependent. The controller automatically detects the presence of the IOMs once

Step	Action
	communication is restored.
	You have completed this task. Return to the checklist that led to this task.

11. Troubleshooting

This section provides troubleshooting information and guidance on clearing errors encountered during a migration.

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11.1. Isolating problems

First, it is best to determine where or in which stage of the migration process did errors occur.

- During pre-migration checks –
  - For example, were errors detected when running the Migration Readiness Tool? See View and Interpret reports in section 12 for the details for correcting these errors before starting a migration.
- During Server migration –
  - Were errors detected while the Migration application was running?
  - FTE configuration problems
  - During installation of the Operating System?
  - During Experion R300.1 Installation (Experion Installation application)?
- Did errors occur during Controller migration (Controller Migration wizard)?

11.2. Fixing common problems

Errors detected by the Migration application

The Migration application detects errors while performing migration tasks and generates messages to indicate the error. Normally, two types of error messages are generated:

- **Critical Failure** – Indicates that the error must be corrected before continuing migration. Clicking OK stops the Migration application. The error then can be fixed and migration restarted.
- **Optional Failure** – Indicates that the error will not prevent migration from continuing, but will allow you stop the migration application, correct the fault and then restart migration. Clicking OK continues with migration. Clicking Cancel stops the Migration application.

What to do when an error message appears:

Step	Action
1	Note the contents of the message. See Migration Application Error Messages below.
2	Depending upon the error type, select the option (**OK** or **Cancel**) to either continue or abort the Migration application.
3	If you chose to abort the Migration application, check the listing below for the error message text, the cause and a possible solution.
4	Correct the error.
5	Restart the Migration application by selecting **Setup.exe** on the media DVD.

When you restart the Migration application, migration continues from beginning of the step where the error was detected.

Migration Application error messages

The following messages may be generated by the Migration application when an error is detected. This listing contains the text of the error message, the possible cause and a solution to correcting the error.

General

These general error messages may occur during migration process.

Error Message	Unknown Error
Cause	Initialization Error
Solution	None

Error Message	Unable to Retrieve Migration Information.
Cause	Unable to Read Migration Registry Information
Solution	Problem with HKLM\Software\Honeywell\Experion PKS\Migrate (Controlled by Migration application)

Error Message	Migration Drive not found
Cause	EMSN Drive at specified location not present or connected
Solution	Reconnect to EMSN Drive (Controlled by Migration application)

Error Message	Unsupported Experion Version found, Experion Patch Removal plug-in halted mid operation!
Cause	Not a Supported Experion Release for Migration to R300.1
Solution	None

Error Message	Error messages for exception handling.
Cause	Exception handling
Solution	Contact Honeywell TAC.

Database migration

The following messages indicate an error was detected during the migration of the system's database.

Error Message	Some blocktypes have failed to migrate. Please collect error logs from 'C:\Documents and Settings\All Users\Application Data\Honeywell\Experion PKS' folder and contact TAC. If you have collected the error logs, then click OK to proceed ahead with Migration Process.
Cause	Error indicates that some blocktypes have failed during migration from the previous release to the current release. The blocktypes which failed are logged in the IXP Error Log files. This error may result in improper functioning of these blocktypes in Control Builder after migration.
Solution	Collect the error log files and contact Honeywell TAC.

Error Message	Some instances block types encountered errors during migration. Please collect error logs from 'C:\Documents and Settings\All Users\Application Data\Honeywell\Experion PKS' folder and contact TAC. If you have collected the error logs, then click OK to proceed ahead with Migration Process.
Cause	Error message is shown when import of block type succeeds, but errors occurred during expression parsing due to inconsistencies detected in the syntax for expressions used in control strategies. These errors are collected in the IXP Error Log files and are shown in the table below.
Solution	Collect the error log files and contact Honeywell TAC, and then after migration, manually correct the syntax of the expressions so as to make it compatible with R300.1. See Expressions used in Control Strategies on page 72 for details.

The following errors may be listed in the error log file:

```
ERR_CL_EXPR_PARSER_FATAL_SEVERE_ERROR

ERR_CL_EXPR_PARSER_CANNOT_DECODE_MESSAGE_FORMAT

ERR_CL_EXPR_PARSER_NO_DIAGNOSTIC_MESSAGE_FORMAT

ERR_CL_EXPR_PARSER_FATAL_SEVERE_ERROR_MESSAGE_FORMAT
```

```
ERR_CL_EXPR_PARSER_WARNING_MESSAGE_FORMAT

ERR_CL_EXPRESSIONTOOLONG
```

This message is related to the syntax changes imposed in R300.1 for expressions.

Error Message	$-$-$- BlockExtImp::UpdateForMigration -> Error in Migrating the Expr:
Cause	Syntax restrictions imposed in current release.
Solution	Reset the expressions for the block after migration is completed.

The following messages indicate that the load destination for CTRLCONFIRM and GWCOMMAND parameters is different from that in the previous release. A similar error message may occur for other block types.

Error Message	Load destination of parameter CTRLCONFIRM changed. It could affect On Process Migration. [EXPKS_E_CL_LOADDESTCHANGE (1L .101.9079)] IXP-- WARNING: Load destination of parameter CTRLCONFIRM changed. It could affect On Process Migration. [EXPKS_E_CL_LOADDESTCHANGE (1L .101.9079)]
Cause	Load destination of CTRLCONFIRM parameter is different from that of the previous release.
Solution	The warning could be ignored as the load destination change will not affect migration.

Error Message	Load destination of parameter GWCOMMAND changed. It could affect On Process Migration. [EXPKS_E_CL_LOADDESTCHANGE (1L .101.9079)] IXP-- WARNING: Load destination of parameter GWCOMMAND changed. It could affect On Process Migration. [EXPKS_E_CL_LOADDESTCHANGE (1L .101.9079)]
Cause	Load destination of CTRLCONFIRM parameter is different from that of the previous release.
Solution	The warning could be ignored as the load destination change will not affect migration.

Operating System migration

The following messages indicate an error was detected during the installation of the operating system when using the EXPPlus media on supported hardware platforms.

Error Message	Passed parameter to OS Migration Plug-In was unrecognized.
Cause	Parameter passed to OSMig was not a supported parameter
Solution	OSMig only supports a -S for size check as a parameter

Error Message	OS Migration Plug-in does not support the phase value of %Migration phase%.
Cause	Migration Phase was not 1, 2, or 3.
Solution	Fix Migration Phase.

Error Message	Two different Active NICs have been found with the same name; check if a ghosted FTE NIC configuration exists
Cause	Invalid FTE Configuration has been detected (phantom NICs left over from a previous FTE configuration)
Solution	See Uninstall Phantom FTE Devices from System on page 68.

Error Message	OS Mig found more than 5 or more Network Cards configured in the system. Experion only supports up to 4.
Cause	More that 4 NICs have been detected in the system.
Solution	Return the system to a supported configuration

Error Message	Unable to validate configuration. Error reading registry information.
Cause	Migration information from Phase 1 was not available.
Solution	Restart the Migration phase, verifying logged in user has access to write to registry, (that is Admin rights).

Error Message	Topology Change Detected! Number of NICs when you started was ‘x’, but is now ‘y’.

Cause	Previous system had ‘x’ number of NICs, where current system has ‘y’ number of NICs.
Solution	Number of NICs must be increased or reduced based on the numbers returned.

Error Message	Current IP Address on % Current NIC Name % does not match any previously configured IP Addresses.
Cause	Currently configured IP Address does not match any IP addresses from the previous configuration.
Solution	Reapply original IP Addresses.

Error Message	Current Subnet Mask Address on % Current NIC Name % does not match previously configured address.
Cause	Currently configured Subnet Mask does not match the one used in the previous configuration.
Solution	Reapply original Subnet Mask on the NIC Identified.

Error Message	Current Gateway Address on %Current NIC Name% does not match previously configured address.
Cause	Currently configured Default Gateway does not match the one used in the previous configuration.
Solution	Reapply original Default Gateway on the NIC Identified.

Product installation migration

The following messages indicate an error was detected during the preparation or installation of the product.

Error Message	Error occurred trying to copy Product Version file, Product Migration plug-in halted mid operation!
Cause	Error trying to copy ProductVersion.txt
Solution	Verify that the logged on account can access the file, which exists, but is not currently open.

Error Message	Failed to locate the files stored on the EMSN in phase 1, ProdMig plug-in halted mid operation!
Cause	Required files saved in phase 1 of migration do not exist on the EMSN
Solution	Check the location of the EMSN node. If possible, re-run phase 1 of migration.

Error Message	Error occurred trying to copy Product Version file from EMSN, Product Migration plug-in halted mid operation!
Cause	Error trying to copy ProductVersion.txt
Solution	Verify that the logged on account can access the file, which exists, but is not currently open.

Error Message	Product Version File is currently opened and cannot be backed up.
Cause	Error trying to copy ProductVersion.txt, because file is currently open.
Solution	Close application that has file open.

Error Message	Product Version File could not be located on this system
Cause	Required configuration file does not exist.
Solution	Check system, as it does not appear to have a valid configuration. Internal: Systems that have had NTSetup run are not supported for Migration.

Error Message	System is missing required information for the Plug-in to Continue.
Cause	Required Installation information is missing.
Solution	Problem with HKLM\Software\Honeywell\TPS50\InstallInfo.

Error Message	Unable to locate an Installed Experion Product.
Cause	Could not find an installed version of Experion to migrate.
Solution	None

The following message indicates an error has been detected during the Pre-installation Migration of data on server A.

Error Message	Plug-In hscmigplugin.exe has failed.
Cause	The migration tool was unable to restore archives because the drive where the archives were stored is not present
Solution	Click OK to continue. If the archives were present on a second hard disk (for example: e:\) ensure the hard disk is connected. Then restart the "Continue migration" phase at the first step "Insert Experion PKS R300.1 Application media and Click on Setup.exe to restart the Migration Application."

CAB files migration

The following message indicates that an error was detected during the migration of CAB files if they are present in the system.

Error Message	Exception Occurred in CAB Migration Plug-In
Cause	Indicates that an older CAB patch was not removed.
Solution	Call Honeywell TAC. Supply the contents of the log file at c:\Program Files\Honeywell\Experion PKS\Migrate\Plugin\CABmigrplugin\CABMigrPlug-in.log

KB Backup Restore

The following messages may occur during the migration of Knowledge Builder application files (such as: Favorites, Dynamic Help and any custom book sets).

Error Message	Error occurred while restoring Booksets to KB Server
Cause	It may occur when KB_Selection.xml is not found or KB_Selection.xml is altered by some external environment.
Solution	Exit from Migration and launch Knowledge Builder, verify that all the booksets are listed in tree view. If Knowledge Builder can not list all the booksets verify if any users have modified C:\Program Files\Honeywell\PST_Server\Knowledge_Builder\Docs\KB_Selection.xml, Roll back the changes as necessary and restart migration.

Error Message	Error occurred because KB Client is not installed properly
Cause	It may occur when KB Client is not installed properly and so some dlls which are required to run KBBackupRestore.exe might be missing.
Solution	Exit from Migration, Reinstall Knowledge Builder client and Restart Migration.

Error Message	Error occurred while restoring Booksets to KB Server
Cause	During phase 1, a back up of Dynamic Help bookset is performed. During phase 3, while restoring KB, an error will occur if KB does not have dynamic help bookset.
Solution	Remove 'Dynamic help' entry from KB_Selection.xml during phase 3. or remove Dynamic Help folder from backup content of phase 1.

Platform updates

The following messages may occur during the installation of Microsoft Windows updates.

Error Message	Error.....Invalid DVD Drive!
Cause	DVD Drive is not available or accessible.
Solution	Make sure DVD Drive is accessible.

Error Message	Unable to Start the windows firewall service. Please start it manually.
Cause	Failed to start the Windows Firewall service.
Solution	Go to Microsoft Service Console panel and start windows firewall service manually.

Error Message	Installation of Windows XP Service pack 2 has failed…
Cause	Failed to install Windows XP service pack 2
Solution	Contact Honeywell TAC.

Error Message	Installation of Windows 2003 service pack 1 has failed…
Cause	Failed to install Windows 2003 service pack 1
Solution	Contact Honeywell TAC.

Error Message	Installation of Windows 2003 service pack 1 Hotfix KB899416 has failed…
Cause	Failed to install Windows 2003 service pack 1 Hotfix KB899416
Solution	Contact Honeywell TAC.

Error Message	Installation of Windows Installer 3.1 has failed...
Cause	Failed to install Windows Installer 3.1
Solution	Contact Honeywell TAC.

Error Message	Installation of Dot Net Frame work 1.1 has failed...
Cause	Failed to install Dot Net Framework 1.1
Solution	Contact Honeywell TAC.

Error Message	Installation of Dot Net 1.1 service pack 1 has failed…
Cause	Failed to install Dot Net Framework 1.1 Service Pack 1
Solution	Contact Honeywell TAC.

11.3. FTE network problems

Blue screen recovery during FTE_Driver installation

Complete the following two procedures to recover from a Blue Screen condition during migration:

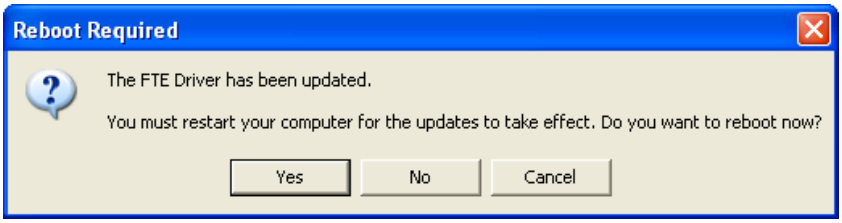
1. Uninstall the FTE_Driver Service
2. Reinstall FTE_Driver Service

To Uninstall the FTE_Driver Service:

Step	Action
1	Select My Network Properties: **Right mouse Click** on the Yellow adapter Ethernet adapter and select **properties.**

2	Select **Uninstall**. Select "**Yes**" to any confirmation prompts.
3	If prompted for you to restart the computer select "**No**".
4	Select **Close**, Select **Yes** to restart computer prompt.
5	Verify computer restarts.

To Reinstall FTE_Driver service

Step	Action
1	Task Bar Select Start **Run…** Type:"**c:\Program Files\Honeywell\Fte_Driver\upgradeftedriver.bat**" in Open Text Box, Select **OK**.
2	Select **Yes** to Reboot Required Prompt. 
3	Verify the computer reboots.
4	Login as Administrator and restart migration. Run **Setup.exe** in the root of the DVD\install location. Migration will continue.

Workaround for phantom NIC configurations

The Migration application can detect phantom Network Interface Card (NIC) configurations during migration and halt if any errors are found. Phantom NIC configurations can occur when the NIC names are still present in the FTE MAC address.txt file from a previous FTE configuration.

Therefore you must perform the following actions to correct the error and continue migration:

Step	Action
1	If you get this critical message: "**Two different Active NICs have been found with the same name; check if a Ghosted FTE NIC configuration exists.**" click **OK** to abort the Migration application.
	Manually edit the names given to the NICs in the **FteMACAddr.txt** file. The file is located in the Experion Migration Storage Node (EMSN) folder.
2	Rename the current NICs to another name that does not match the older configuration. For example, if NICs are currently named as 'FTE SIUG Yellow' and 'FTE SIUG Green,' give them a shorter name, like 'FTE Yellow' and 'FTE Green.' (The new names must be unique from the old name.)
3	Restart the Migration application by selecting **setup.exe** in the root of DVD/Network drive.
	The Migration application will then drop the old phantom NICs out of the configuration (because they no longer match the currently active NICs) and the system will validate the two NIC now defined in the system.
4	After migration, the NICs can be renamed to the phantom names, if desired.

11.4. Controller migration errors

This section describes some errors that may occur during controller migration. Specifically, these are errors or messages that may occur when using the Controller Migration Wizard to migrate controller hardware on-process.

Data collection in case of a Controller OPM failure

If a controller fails during on-process migration you should collect data from both primary and backup controllers, contact Honeywell Technical Assistance Center (TAC) and send it to TAC for analysis. Capture the following data:

For…	Data
C200 and C300 Controllers	Bitmap of Controller Migration wizard report screen.
C200 and C300 Controllers	Bitmap of primary controller FB Redundancy tab.
C200 and C300 Controllers	Bitmap of secondary controller FB Redundancy tab.
C200 Controller	NTools Chassis Capture of primary chassis.
C200 Controller	NTools Chassis Capture of secondary chassis.
C300 Controller	CTools Capture file.

Controller Migration Wizard

During controller migration, if a timeout occurs while waiting for indirect sync or an error message appears during the “Performing Synchronization and Switch-over of Redundant Chassis Pair” stage of the migration and the Station Event Summary display shows an “OPM: Open I/O Conns Failure” notification, migration may have failed due to mismatched peer references between the ERDB and the controller being migrated. This mismatch can occur when the peer definition block is reconfigured and reloaded, but the block with the peer reference is not subsequently reloaded. You must ensure that all peer references in the CPM being migrated are working as expected and then reattempt the on-process migration.

Error messages

During migration when the database is copied back onto the node (after Experion software installation) a screen may appear warning of errors detected in function blocks

migrated into Experion R300.1. Normally you can select 'Continue with Migration' without canceling migration. See Figure 6 for an example screen.

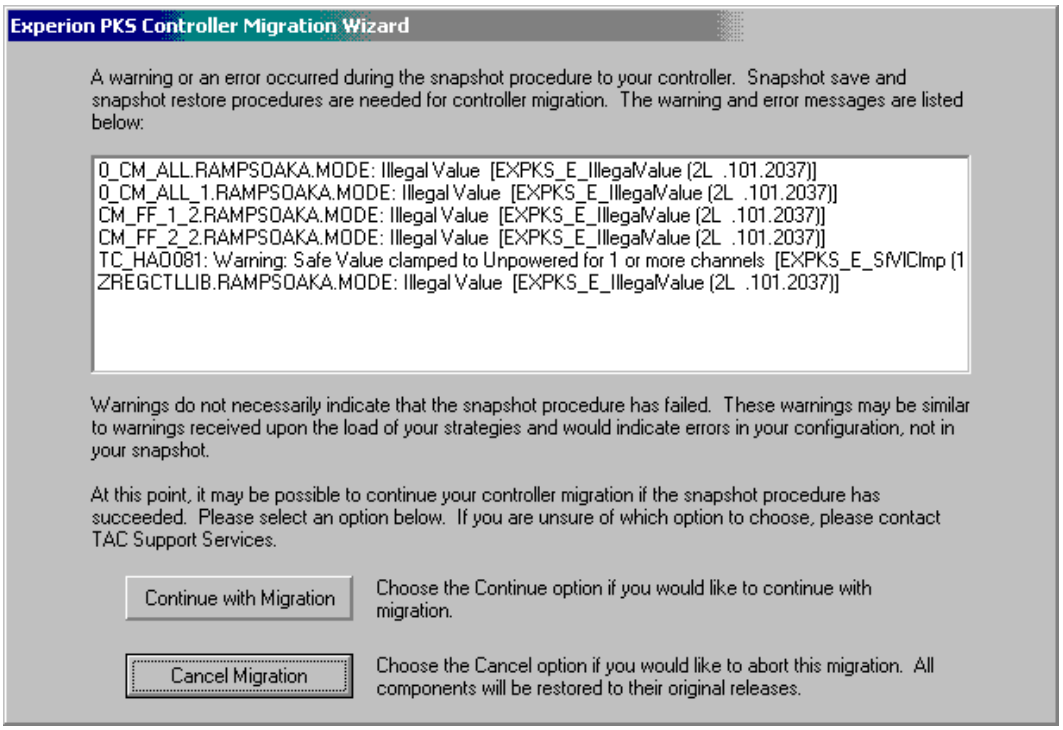


Figure 6 Error warning during controller migration

Message: "Function not allowed when connected to secondary database"

Generally, performing engineering changes during migration is not allowed and is not recommended. For example, performing tasks such as load Enterprise Model system configuration or import network definitions during server migration, when Server B and Server A are operating in Dual Primary mode, will cause error messages to be generated. These messages state that the current function is not allowed. One error message may state 'Function not allowed when connected to Secondary Database.' The message is incorrect and should state '**Cannot change ER while On Process Migration is enabled**.'

Message: Rampsoak MODE parameter Illegal value when mode is AUTO

During on-process controller migration a warning may appear indicating a Rampsoak block is in AUTO mode. This warning can be safely ignored and you can select 'Continue with Migration.' The actual mode (Auto) is transferred in a subsequent migration stage as dynamic state data. It is not an error that will halt migration or cause migration to fail.

Message indicating Phantom FTEB modules in database

This message indicates that a database inconsistency has been detected between the Monitoring ERDB and the loaded C300 Controller configuration.

Error Message	Querying IOMGRCLI parameter. Connection could not be established to the Controller [EPKS_E_CodeConnNotEstablished(6L .101.7007)]
Cause	FTEB Modules which are not physically present in the chassis but are loaded to the Monitoring side ERDB in Control Builder. (Phantom modules)
Solution	Correct the non-existing FTEB Module in the configuration either by: deleting module from the Monitoring side or installing the module in the chassis and then rerun Controller Migration Readiness check.

Message indicating incompatible firmware versions

This message indicates that incompatible firmware versions have been detected during controller migration.

Error Message	The SIM loading window will briefly flash "Communication Error" before it exits. The FIM and IOLIM will reject the first block of the new image.
Cause	New versions of FIM, IOLIM and SIM will start ship after the R300.1 release. They will reject loading of incompatible firmware.
Solution	Obtain new compatible firmware from SSOL.

Migration Readiness Check errors

For descriptions and correction of errors detected while using the Migration Readiness Tool, see View and Interpret Reports in section 12.

11.5. For further assistance

Database (ERDB) Consistency Tool

When running the Database Consistency tool a log file is generated that can be used to diagnose inconsistencies in the ERDB. These log files are intended to be analyzed by Honeywell TAC personnel. Therefore, if errors are reported when running the ERDB Consistency tool, contact Honeywell TAC and extract the log file so that it can be sent to TAC for analysis. The log file is located at c:\temp.

Migration application

All operations that the Migration application performs are posted in a log file. When migration operations complete successfully, or when an error occurs during a migration operation, the event is posted to the log file. The log file is used by Honeywell Technical Assistance Center personnel to analyze and help diagnose migration errors when they occur during a migration. Therefore, if a migration operation fails to complete successfully, or if an error occurs during a migration operation which cannot be resolved through the actions described in Fixing common problems, stop the migration application and copy the log file located at C:\install. Contact Honeywell TAC and provide them with the information regarding the migration.

12. Migration Readiness Tool

This section describes some of the features of the Migration Readiness Tool.

Topic	Go to
MRT Description	287
View and interpret reports	299
Report details	302
Save and print reports	308

12.1. Migration Readiness Tool

The Migration Readiness Tool (MRT) is a software utility that automatically performs the prerequisite checks necessary to ensure that an Experion system is ready for migration. Once the MRT is run, a report is generated indicate the readiness status of the system and its components, which include Servers, controllers, I/O chassis and remote chassis modules, control network platforms.

See Obtain latest Migration Readiness Tool for details in accessing the latest version of the MRT and installing it on the server.

12.2. MRT Description

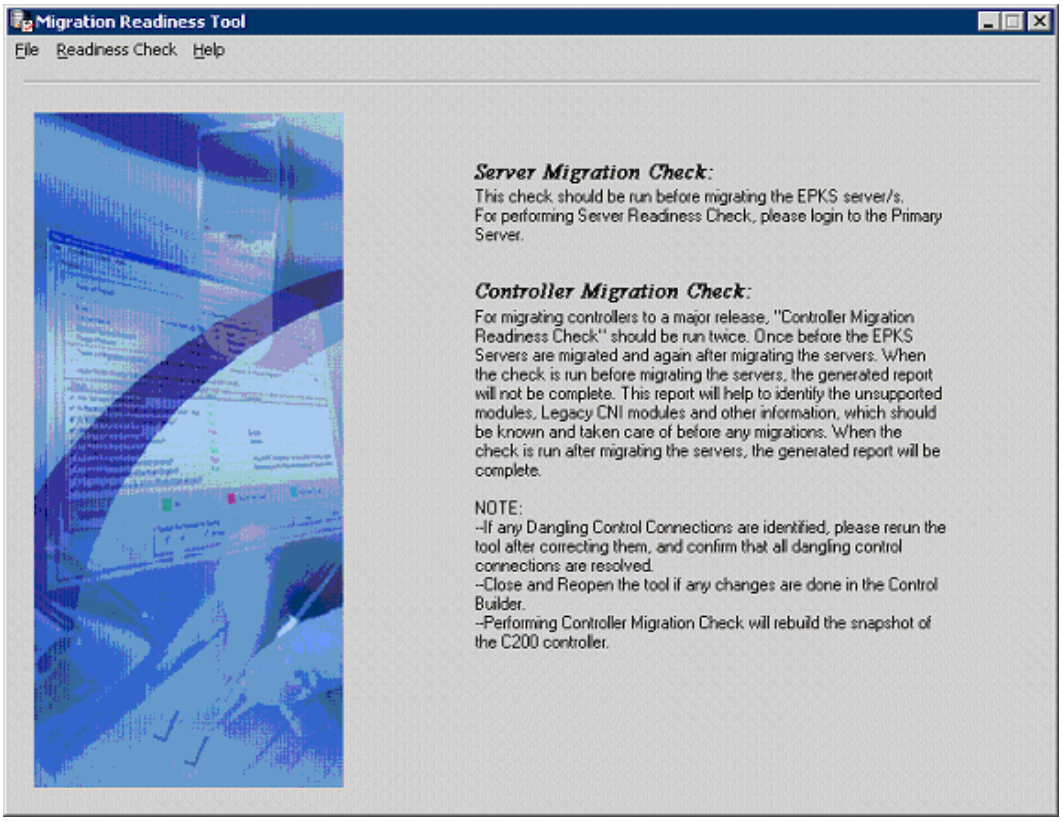
This section provides descriptions of the following features of the Migration Readiness Tool:

- Main Screen and menu options
- Server Migration Readiness Checks screen details
- Controller Migration Readiness Checks screen details
- Report details
- How to save and print reports

Main screen

The MRT main screen, as shown in Figure 7, contains three menu headings File, Readiness Check and Help that give you access to the utility's functions. Within the window there are instructions you should follow on when to perform readiness tests for servers and controller components.

Figure 7 MRT Main Screen



File menu

The file menu allows you to choose the following functions.

File Menu Item	Function
Open	Opens a previously saved readiness report.
Save as CSV	Saves a report in CSV format as an .xls file or .txt file. Selection is enabled after a report is generated.
Save as HTML	Saves a report in HTML format. Selection is enabled after a report is generated.
Print	Prints a generated report. Selection is enabled after a report is generated.
Exit	Closes the window and exits the application.

Readiness Check Menu

The Readiness Check Menu allows you to select the type of check that you want to perform.

Readiness Check Menu Item	Function
Server Migration	Checks for the readiness of the server/s for migration. This check covers the following components: Redundant or Non-redundant Experion Server/s.
Controller Migration	Checks for the readiness of the controller/s for migration. This checks for the readiness of control modules residing on: • Redundant / Non-redundant Controller Chassis. • Redundant / Non-redundant Remote Chassis. Checks also for compatibility of the following nodes with the current and target version of Experion release. • ACE, SIM-C200 (SCE), SIMIOLIM

Server Migration Readiness Checks

The screen shown in Figure 8 appears when you select 'Server Migration' from the Readiness Check menu. Table 8 provides a list and brief description of all checks performed during a server migration readiness check.

Figure 8 Server Migration Readiness Check screen

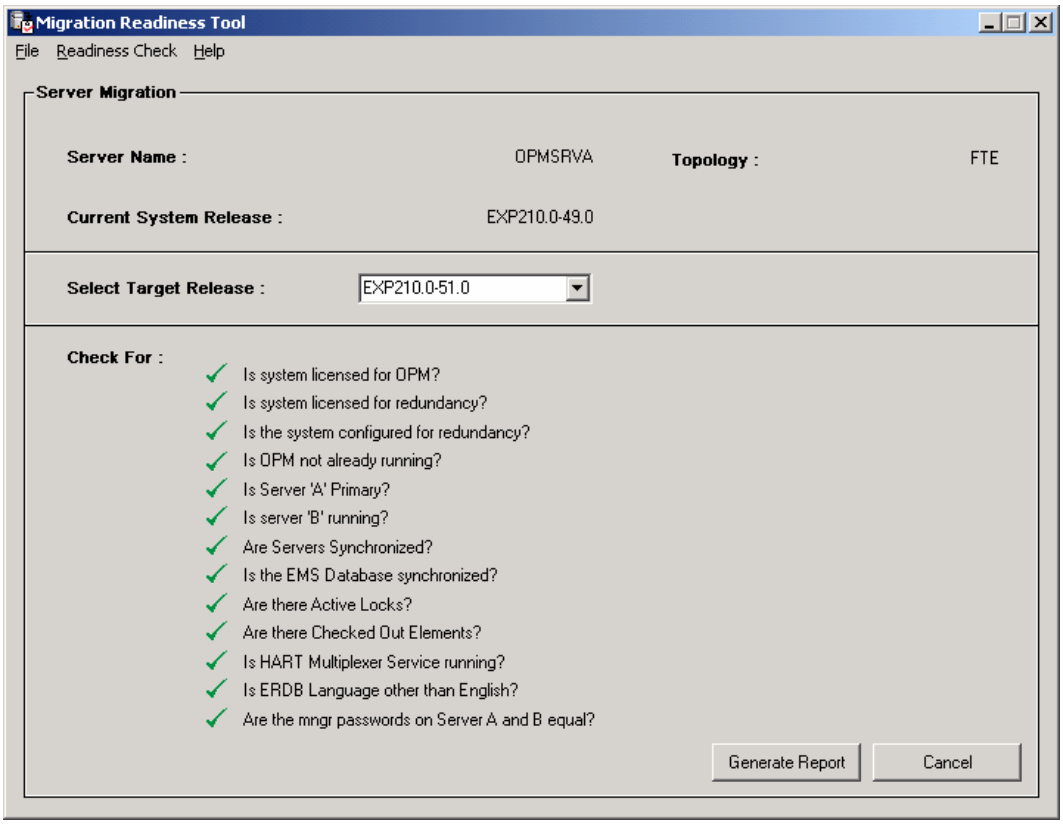


Table 8 Server Migration Readiness Check description

√ Check	Description
Is system licensed for OPM?	This check verifies that an OPM license is enabled. An OPM license must be purchased and enabled to perform an on-process migration.
Is system licensed for redundancy?	This check verifies that a redundancy license is enabled. The redundancy license must be purchased and enabled to perform an on-process migration.
Is the system configured for redundancy?	This check verifies that the system is configured for redundancy. On-process migration can only be performed on systems that are redundant.
Is OPM not already running?	This check verifies if OPM has been started on the servers.
Is Server 'A' primary?	This check is performed if servers are redundant to verify that the primary server is designated as Server A. In order to begin an on-process migration, the primary server must be designated as 'Server A' and the secondary designated as 'Server B'.
Is Server 'B' running?	This check verifies that Server B is up and running. Server B must be running to begin an on-process migration.
Are Servers Synchronized?	This check is performed if servers are redundant. This check verifies that the secondary server is synchronized with the primary server. The servers must be synchronized in order to start an on-process migration.
Is the EMS Database synchronized?	This check is performed if servers are redundant. For servers to be synchronized, the EMS database must be in sync and there should be no Event Database Replication Failed alarm listed in the alarm summary.

Check	Description
Are there Active Locks?	This check identifies whether there are any active locks currently on database objects. There should be no active locks on database objects in the ERDB when performing system migration.
Are there Checked Out Elements?	This check identifies whether there are any elements currently “checked out” from the QVCS. It is not necessary that the elements are “checked in” before starting migration, but the migration may take longer to complete when elements are checked out.
Is HART Multiplexer Service running?	This check detects whether HART Multiplexer service is running on the server/s. HART Multiplexer service application must be stopped before starting migration.
Is ERDB Language other than English?	This check identifies if the ERDB language is other than English. This is just a warning to users that the ERDB language may be changed to English during the migration process.
Are the mngr passwords on Server A and B equal?	This check is performed if servers are redundant and verifies the equality of passwords on both Server A and Server B. Both Server A and Server B must be logged in using the same account and the password of the account must be same on both servers during migration.

Controller Migration Readiness Checks

The screen shown in Figure 9 appears when you select 'Controller Migration' from the Readiness Check menu. Table 9 provides a list and brief description of all checks performed during a controller migration readiness check.

Figure 9 Controller Migration Readiness Check Screen

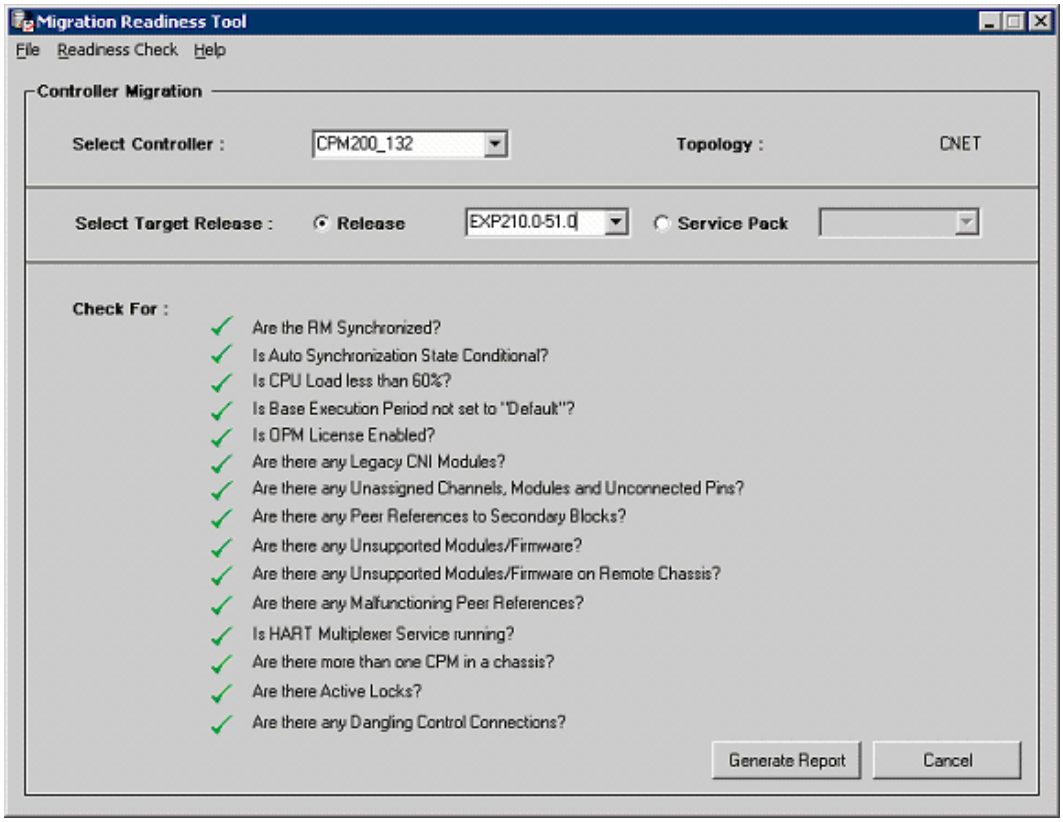


Table 9 Controller Migration Readiness checks

√ Check	Description
Are the RM Synchronized?	This check is performed only if the selected controller and its associated components are installed in a Redundant Chassis Pair (RCP). This check verifies that the redundancy modules (RMs) in the primary and secondary chassis are synchronized. The RMs in the primary and secondary chassis must be synchronized before you begin an on-process migration.
Is Auto Synchronization State Conditional?	This check is performed only if the selected controller and its associated components are installed in a Redundant Chassis Pair (RCP). This check verifies that the “Auto Synchronization State” of the Redundancy Module is set to “Conditional”. This condition must be true before you begin an on-process migration.
Is there enough free CPU and Memory available in the controller?	This check verifies that the total time-average free CPU available in the controller is maintained above 20%. It also verifies that at least 20% of free CPU Memory is available. Both conditions must be true before you begin an on-process migration.
Is Base Execution Period not set to “Default”?	This check verifies that the CEE “Base Execution Period” is not set to the default value.
Is OPM license enabled?	This check verifies that an OPM license is enabled. An OPM license must be purchased and enabled to perform an on-process migration.

Check	Description
Are there any Legacy CNI Modules?	This check is performed only if the controller and its associated components are installed in a Redundant Chassis Pair (RCP). This check detects the presence of any legacy Control Net Interface (CNI) modules in the selected RCP. The RCP must not contain any legacy Control Net Interface modules (TC-CCN012 or TC-CCR012 or lower) to perform an on-process migration. See Legacy CNI Modules for more information.
Are there any Unassigned channels, Modules and Unconnected Pins?	Checks are performed to detect: IOCHANNELS that are not assigned to any of the IOModules. IO Modules that are not being used by any of the IO Channels. Block Pins that are left unconnected. Note that it is not mandatory to fix all these for starting on-process migration. See Unassigned Channels, Modules and Unconnected Pins for more information.
Are there any Peer References to Secondary Blocks?	Checks for any peer references to secondary chassis modules. Peer references to secondary modules must be removed to perform an on-process migration. See Peer References to Secondary Blocks for more information.
Are there any unsupported Modules/Firmware?	This check detects the presence of any unsupported modules and firmware versions installed in the controller chassis. Modules and firmware versions that are not listed in the ver_rev.txt file are identified as unsupported. Before starting an on-process migration, all unsupported modules must be replaced with module types that are supported. Additionally, modules must be loaded with a supported firmware version for on-process migration to succeed. See Module Information for more information.
Are there any unsupported Modules/Firmware on Remote Chassis?	This check is performed for all the remote chassis associated with the selected controller chassis. This check detects the presence of any unsupported modules and firmware versions installed in all non-redundant remote chassis associated with the controller chassis. See Remote chassis module information for more information.

√ Check	Description
Are there any Malfunctioning Peer References?	This check verifies that all peer references in the CPM are performing properly. This condition must be true before you begin an on-process migration. Peer references that do not work usually indicate a configuration mismatch between the ERDB and the controller. Such a mismatch can result when the peer definition block is reconfigured and reloaded, but the block containing the peer reference is not subsequently reloaded. See Malfunctioning Peer References for more information.
Is HART Multiplexer Service running?	This check detects whether HART Multiplexer service is running on the server/s. HART Multiplexer service application must be stopped on the associated servers before beginning a migration.
Are there more than one CPM in a chassis?	Checks whether more than one CPM module is present in a chassis. A single chassis containing more than one CPM module is not a valid configuration for performing a migration.
Are there Active Locks?	This check identifies whether there are any active locks currently on database objects. All the active locks in the ERDB should be cleared before starting a migration. See ERDB Active locks for information to clear these errors.
Are there any Dangling Control Connections?	This check detects the presence of any dangling control connections in the CPM control strategy. There must not be any dangling control connections in the CPM to begin an on-process migration. See Dangling Control Connections for more information.

Check	Description
Are there any Ghost/ Inconsistent Modules in the Controller?	This check detects: • Ghost modules in the controller – modules or function blocks which are present in the controller, but not in the ERDB. • Inconsistent modules or blocks between the controller and the ERDB. These errors must be resolved before starting migration. See Ghost or inconsistent modules in the controller for more information.

Checks performed when selecting ACE, SIM-C200, EHG or SIMIOLIM nodes

When an ACE, SIM-C200, EHG or SIMIOLIM node is selected for a readiness check, a screen appears similar to the Controller Migration readiness check screen. The screen lists the checks performed during a controller migration check and are described in the following table.

Check	Description
Check for compatibility of ACE/SIM-C200/EHG/SIMIOLIM nodes with Current and Target EPKS Release?	Checks performed to verify compatibility of all configured listed nodes with the current and target release of Experion server.

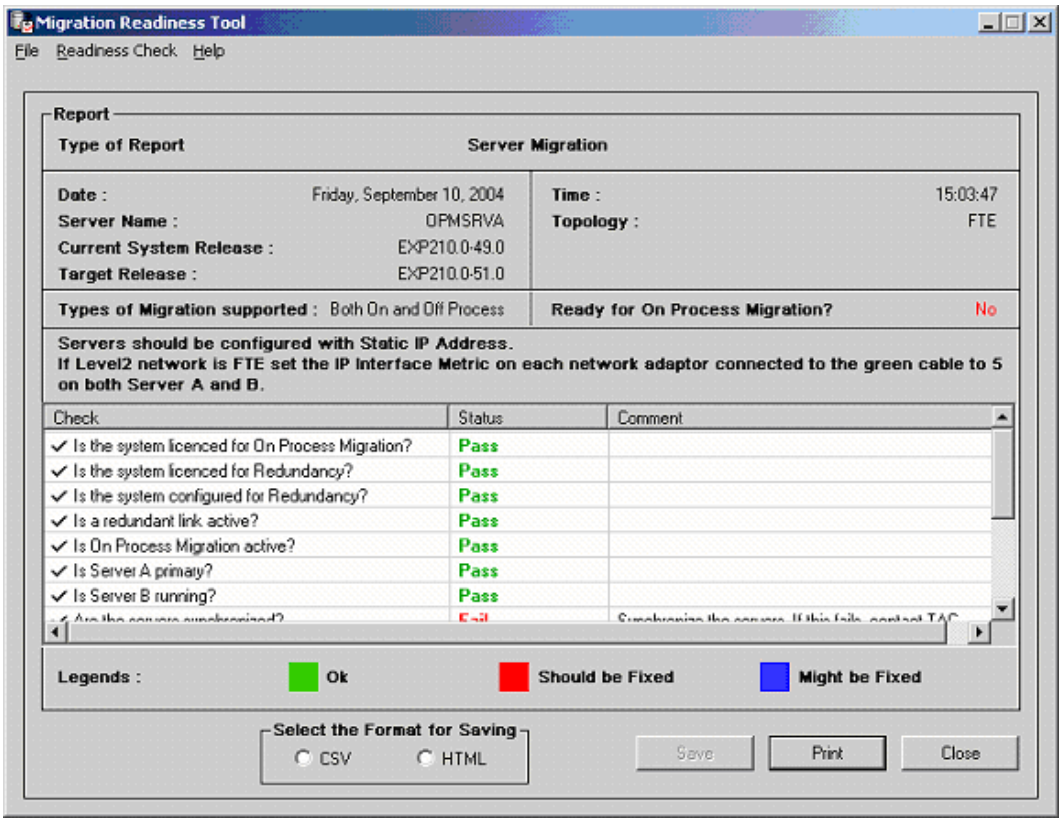
12.3. View and interpret reports

A report is generated at the completion of the readiness checks and is displayed on screen. The report can be viewed on screen, saved as a CVS file format or HTML file format, and can be printed for evaluation and reference. A sample report is shown in Figure 10 in which the results of each server readiness checks are indicated and details are provided.

Report information

The top portion of the report screen provides information relevant to the checks performed, such as the date and time of the report, the server name, the current system release version and target release, network topology, types of migration supported and readiness for on-process migration.

Figure 10 Server Migration Readiness Check Report



Reports for the Controller readiness checks are similar in format, but provide the results of the checks relevant to controller migration. The top portion of the report contains information relevant to the controller readiness checks, such as:

- Date and Time of the report.
- Controller Name
- Topology
- Target Release
- Chassis Type
- Types of Migration Supported

- Readiness to start On-process Migration.

When running readiness checks on ACE, SIM-C200, EHG or SIMIOLIM nodes, the report contains information relevant for migration of those nodes, such as:

- The block name
- Type of node: ACE, SIM-C200, EHG or SIMIOLIM
- The software version.
- Compatibility with current Experion release version
- Compatibility with target Experion release version

The lower portion of the report lists the checks that were performed on the system components with the Pass/Fail results and details.

Status column

The status of each check performed is indicated as 'Pass, Fail, or Check Aborted' and also is denoted with a color. A status of 'Check Aborted' indicates that the MRT failed to perform the check and that errors are listed in the error log file. The legend for the check status is shown near the bottom of the screen.

Color and Status	Description
Green: OK	The result of the check is OK (Pass) and no action is required.
Red: Should be fixed	The current system condition may cause the migration process to fail or abort. The condition should be corrected before attempting a migration. You may want to correct the condition and then run the readiness check again.
Blue: Might be fixed	The current system condition is not correct, but will not cause a migration to fail. The condition can be fixed if desired.

Comment column

The Comment column contains additional information on the status as a result of the readiness checks. If a check status is indicated in Blue or Red as 'Fail' due to a system condition, the Comment column may provide recommended actions to correct system condition before attempting a system migration. Clicking on 'Details' in the Comment column, when it appears, opens a dialog box that shows the database object or list of objects which were identified during a check as being locked or checked out.

Report Details, ('Details' links)

When the results of a readiness check shows a Status of Fail, a 'Details' link may exist in the Comment column of the report. Clicking on the link opens a dialog that provides more information about the components or database objects that caused the check to fail. You may need to correct these conditions that caused the check failure before proceeding with a system migration. Some conditions will prevent a successful system migration, while others may cause the migration process to take longer to complete.

The following paragraphs describe the pop up screens when the 'Details' link for a particular readiness check is clicked and provide further information on the causes for the readiness check failure. Suggested corrective actions may also be given to remedy failure conditions.

ERDB Active locks

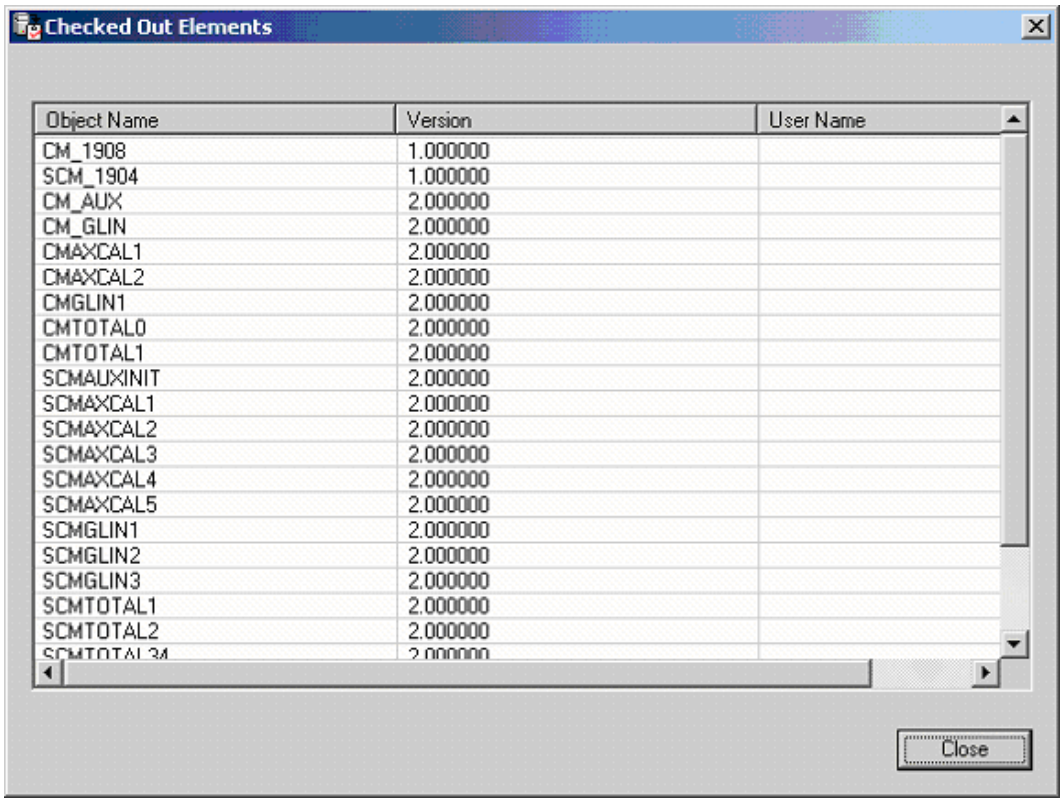
When status for the check 'Are there Active Locks?' is Fail or is red, you can click on the 'Details' link to display a list of the database objects which are identified as being locked. The table identifies the Object Name, the Object Type and the User's login Name that is currently using the object.

You should clear these locks using dbadmin tool before starting migration.

Checked Out Elements

In systems that have Qualification and Versioning Control (QVCS), you can view the list of checked out elements by clicking on the 'Details' link, when it appears across from 'Are there Checked Out Elements?.' A dialog box opens that identifies the Object Name, the Version of the object and the User's login name that has the object checked out.

'Details' log of Checked Out Elements



It is not necessary that these elements be checked in before starting the migration process, but checking in the elements may help to minimize any failures during migration.

Legacy CNI Modules

Clicking on the 'Details' link, when it appears, across from 'Are there any Legacy CNI Modules?' opens a dialog box that shows the Block Name and Model Number of the CNI modules present on the redundant chassis pair (TC-CCN012 or TC-CCR012). You should replace these ControlNet modules with TC-CCN013/TC-CCR013 or TC-CCN014/TC-CCR014 before performing an on-process migration. Also in the dialog box, the table shows the slot number of the CNI module and the MACID of the CNI module.

See the topic ‘Common Experion Process Controller tasks’ in the *Control Hardware and I/O Modules Firmware Upgrade Guide* for more information and procedures to replace CNI modules in redundant C200 controllers and non-redundant chassis.

Unassigned Channels, Modules and Unconnected Pins

Clicking on the ‘Details’ link, when it appears across from ‘Are there any Unassigned Channels, Modules and Unconnected pins?,’ opens a dialog box that shows information regarding:

- IOCHANNELS that are not assigned to any IO Modules.
- IOMODULES that are not used by any of the IO Channels.
- Block pins that are not connected.

It is not necessary to correct all items identified by this check, but correcting them will help to minimize any failures during migration.

Peer References to Secondary Blocks

Clicking on the ‘Details’ link, when it appears across from ‘Are there any Peer References to Secondary Blocks?,’ opens a dialog box that shows information regarding peer references to secondary block modules. In the dialog box, a table lists the following information about the peer references to secondary blocks.

- Strategy Name, which contains the peer reference to the secondary block.
- Parameter name referring to the secondary block.

It is necessary to remove these references to secondary blocks before starting on-process migration.

Module Information

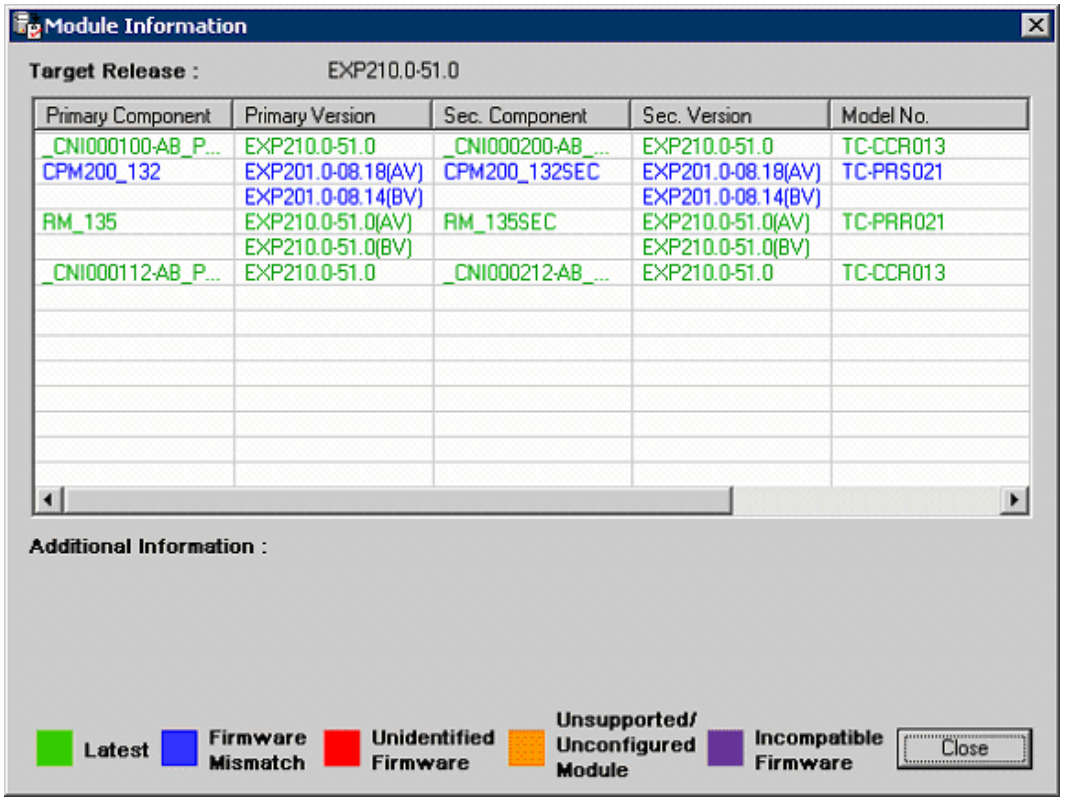
Information on the modules discovered in selected redundant or non-redundant chassis during the controller readiness checks can be displayed by clicking on the ‘Details’ link. The following modules may be listed in the Module Information dialog box:

- Supervisory CNI or FTEB modules
- CPM, RM, FIM, IOLIM, and I/O in the primary chassis lists
- Downlink CNI modules
- Redundant modules installed in the secondary chassis

The following information about the modules is listed in the dialog box:

- Primary component (module) name and module firmware version
- Secondary component (module) name and module firmware version
- Module model number, Slot number, and Firmware status

Module Information Details log



The module information is presented in color which further denotes the firmware status.

Color and Status	Description
Green: Latest	Modules loaded with firmware versions same as the target release

Color and Status	Description
Blue: Firmware Mismatch	Modules loaded with firmware versions that are different from the target release.
Red: Unidentified Firmware	The firmware loaded in the module is not recognized.
Yellow: Unsupported/Unconfigured Module	The module identified is not supported for system migration, or the module in the chassis is not configured.
Purple: Incompatible Firmware	This status appears only when the user chooses to migrate to a service pack. This condition indicates that the firmware version is incompatible because of one of the following reasons: 1) Base release of the module firmware version is different from the base release of the target service pack release. 2) The module firmware version is same as the target service pack release, i.e the module is already migrated to the service pack version.

Remote chassis module information

Information on the modules discovered in a non-redundant remote chassis during the controller readiness checks can be displayed by clicking on the 'Details' link. CNI, FIM, IOLIM, and I/O modules may be identified and listed in the Remote Chassis Module Information dialog box.

The following information about the modules is listed in the dialog box:

- Block Name
- Module Firmware Version
- Module Model Number
- Slot Number
- Status of the firmware version

A color legend is used to identify the firmware status currently loaded in the module. It is identical to the colors used in the Module Information box. See Module Information.

Malfunctioning Peer References

Clicking on the 'Details' link, when it appears across from 'Are there any Malfunctioning Peer References?,' opens a dialog box that shows information regarding the peer references identified during the readiness check that might not be functioning properly. You should work to remedy these references before starting on-process migration. In the dialog box, a table lists the following information about the peer references:

- Strategy Name on Peer 1 and the Parameter Name containing the reference
- Strategy Name on Peer 2 and the Parameter Name containing the reference
- Comment providing additional details.

Dangling Control Connections

During the controller readiness check for 'Are there any Dangling Control Connections?' if any dangling control connections are detected in the CPM control strategy, you can view them by clicking on the 'Details' link in the report. A dialog box opens with a table identifying the:

- Strategy Name in which the control connection is missing,
- Parameter Name containing the name of the control connection, and an
- Error Description of the improper control connection.

You should resolve any dangling control connections before starting on-process migration.

Ghost or inconsistent modules in the controller

- Resolve any ghost modules or blocks identified by the MRT. Go to Control Builder and choose 'Identify ERDB/Controller Inconsistencies' to correct these errors.
- Resolve any inconsistent modules or block in the controller by reloading these modules to the controller.

12.4. Save and print reports

The report containing the results and details of the readiness checks can be saved as a file for reference. Two file formats are supported: a comma separated value (CSV) format or an HTML format. The report can also be printed.

To save a report

Step	Action
1	At the bottom of the Report page you can select the file format to save the report data, CSV or HTML. Then click on the **Save** button. Or,
2	• Choose '**Save as CSV**' from the File dropdown menu if you want to save the report as an .xls file (for use in Excel) or a .txt file. Or, • Choose '**Save as HTML**' from the File dropdown menu if you want to save the report as an .htm file (for display in a browser application).

To print a report

Step	Action
1	Click on the '**Print**' button at the bottom of the Report page to print a report or choose **Print** from the file dropdown menu.
2	The results of the readiness checks and all details will be consolidated onto an HTML page. Use the Print icon on the browser page to print out the report data.

Honeywell

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