System 800xA Information Management
Enterprise Historian Migration

System Version 6.0
NOTICE

This document contains information about one or more ABB products and may include a description of or a reference to one or more standards that may be generally relevant to the ABB products. The presence of any such description of a standard or reference to a standard is not a representation that all of the ABB products referenced in this document support all of the features of the described or referenced standard. In order to determine the specific features supported by a particular ABB product, the reader should consult the product specifications for the particular ABB product.

ABB may have one or more patents or pending patent applications protecting the intellectual property in the ABB products described in this document.

The information in this document is subject to change without notice and should not be construed as a commitment by ABB. ABB assumes no responsibility for any errors that may appear in this document.

In no event shall ABB be liable for direct, indirect, special, incidental or consequential damages of any nature or kind arising from the use of this document, nor shall ABB be liable for incidental or consequential damages arising from use of any software or hardware described in this document.

This document and parts thereof must not be reproduced or copied without written permission from ABB, and the contents thereof must not be imparted to a third party nor used for any unauthorized purpose.

The software or hardware described in this document is furnished under a license and may be used, copied, or disclosed only in accordance with the terms of such license. This product meets the requirements specified in EMC Directive 2004/108/EC and in Low Voltage Directive 2006/95/EC.

TRADEMARKS

All rights to copyrights, registered trademarks, and trademarks reside with their respective owners.

Copyright © 2003-2014 by ABB. All rights reserved.

Release: August 2014
Document number: 3BUF001150-600
## Table of Contents

### About this User Manual
- General ................................................................. 7
- User Manual Conventions ........................................ 7
- Warning, Caution, Information, and Tip Icons ............. 7
- Terminology ......................................................... 8
- Released User Manuals and Release Notes ................ 8

### Section 1 - Migrating Enterprise Historian Systems to 800xA
- Introduction .......................................................... 11
  - Full Migration ....................................................... 11
  - Hybrid Migration .................................................. 12
  - Migration Limitations .......................................... 14

### Section 2 - 800xA System Setup
- Introduction .......................................................... 17
- Installing and Setting Up a Connectivity Server ............... 17
  - Importing the Control Configuration into the 800xA System Aspect Directory . 18
  - Migration Procedures .......................................... 19
- Full Migration ........................................................ 19
  - Procedural Overview .......................................... 20
  - Making a Backup of the Existing History Configuration .................. 21
  - Migrating the History Database to the Information Management Server ...... 21
- Hybrid Migration ..................................................... 54
  - Procedural Overview .......................................... 55
  - Prerequisite Setup .............................................. 55
  - Importing Remote Log Configurations ....................... 56
## Table of Contents

Consolidating Message Logs and PDLs .............................................................. 77

### Section 3 - Migrating Other Applications

Introduction ..................................................................................................................... 79

Migrating Archived Data and Data Access Applications ............................................... 79

  - Migrating Archived Data ..................................................................................... 79
  - Migrating Reports ................................................................................................ 80
  - Migrating Displays .............................................................................................. 87

### Section 4 - Mapping FCM Data Sources

Introduction ..................................................................................................................... 93

Mapping FCM Data Sources ........................................................................................... 93

### Section 5 - Resolving Conflicts

Introduction ................................................................................................................... 101

Resolving Conflicts ....................................................................................................... 101

Introduction ................................................................................................................... 105

MOD 300 EH Migrations .............................................................................................. 105

## Index
About this User Manual

General

Any security measures described in this User Manual, for example, for user access, password security, network security, firewalls, virus protection, etc., represent possible steps that a user of an 800xA System may want to consider based on a risk assessment for a particular application and installation. This risk assessment, as well as the proper implementation, configuration, installation, operation, administration, and maintenance of all relevant security related equipment, software, and procedures, are the responsibility of the user of the 800xA System.

This User Manual describes how to use the Enterprise Historian Applications to migrate a history database and related data access applications from Enterprise Historian version 3.2/n (Windows) or Enterprise Historian version 2.2/n (HP-UX) to the 800xA 5.1 with Information Management software.

User Manual Conventions

Microsoft Windows conventions are normally used for the standard presentation of material when entering text, key sequences, prompts, messages, menu items, screen elements, etc.

Warning, Caution, Information, and Tip Icons

This publication includes Warning, Caution, and Information where appropriate to point out safety related or other important information. It also includes Tip to
point out useful hints to the reader. The corresponding symbols should be interpreted as follows:

- Electrical warning icon indicates the presence of a hazard which could result in *electrical shock*.
- Warning icon indicates the presence of a hazard which could result in *personal injury*.
- Caution icon indicates important information or warning related to the concept discussed in the text. It might indicate the presence of a hazard which could result in *corruption of software or damage to equipment/property*.
- Information icon alerts the reader to pertinent facts and conditions.
- Tip icon indicates advice on, for example, how to design your project or how to use a certain function.

Although **Warning** hazards are related to personal injury, and **Caution** hazards are associated with equipment or property damage, it should be understood that operation of damaged equipment could, under certain operational conditions, result in degraded process performance leading to personal injury or death. Therefore, **fully comply** with all **Warning** and **Caution** notices.

### Terminology

A complete and comprehensive list of Terms is included in *System 800xA System Guide Functional Description (3BSE038018*)*. The listing includes terms and definitions that apply to the 800xA System where the usage is different from commonly accepted industry standard definitions and definitions given in standard dictionaries such as Webster’s Dictionary of Computer Terms.

### Released User Manuals and Release Notes

A complete list of all User Manuals and Release Notes applicable to System 800xA is provided in *System 800xA Released User Documents (3BUA000263*)*.
System 800xA Released User Documents (3BUA000263*) is updated each time a document is updated or a new document is released. It is in pdf format and is provided in the following ways:

- Included on the documentation media provided with the system and published to ABB SolutionsBank when released as part of a major or minor release, Service Pack, Feature Pack, or System Revision.

- Published to ABB SolutionsBank when a User Manual or Release Note is updated in between any of the release cycles listed in the first bullet.

A product bulletin is published each time System 800xA Released User Documents (3BUA000263*) is updated and published to ABB SolutionsBank.
Section 1  Migrating Enterprise Historian Systems to 800xA

Introduction

This section describes how to migrate a history database and related data access applications from Enterprise Historian version 3.2/n (Windows) or Enterprise Historian version 2.2/n (HP-UX) to the 800xA 5.1 with Information Management software. There are two migration methods, depending on current system functionality:

Full Migration

If the 800xA System can support all functionality provided by the current system, then it is possible to completely replace all Enterprise Historian, MOD 300 Console, and/or AdvaCommand nodes with the equivalent 800xA System components. This method is illustrated in Figure 1.

The 800xA System does not support Batch 300, migration of EH history logs collecting from MOD 300 Primary History logs, or ALM at this time. If the current system uses this functionality, use the hybrid migration method.
Hybrid Migration

If the current system uses Batch 300 (MOD 300) or ALM (Master), then it is necessary to retain the existing Enterprise Historian and connected operator stations to continue supporting that functionality.

The 800xA System does not support Batch 300, migration of EH history logs collecting from MOD 300 Primary History logs, or ALM at this time. If the current system uses this functionality, use the hybrid migration method.
The Enterprise Historian will continue to support History collection and storage. Importer link logs can be configured on the Information Management node for read access to the historical data by the 800xA System. In addition, new logs may be configured on the Information Management server with access via the 800xA for MOD 300 or Master connectivity server. Hybrid migration is illustrated in Figure 2.

**Figure 2. Hybrid Migration**
**Migration Limitations**

The data from any **standalone** EH node in a control system will properly migrate to an 800xA System. The data from a standalone EH node feeding a single EH consolidation node will also migrate to an 800xA System. There will be one IM node in the 800xA System and a second IM consolidation node. The limitations in the following subsections apply.

**Dual and/or Distributed Configurations**

The following can not be migrated to an 800xA System:

- Two EH nodes configured to independently collect the same data from the control system (dual configuration).
- Two EH nodes configured to independently collect the same data from the control system (dual configuration) where the data from the two EH nodes are distributed to a third EH node (dual distributed configuration).

These configurations cannot be migrated because data can only be kept from one of the EH nodes. If using a dual and/or distributed configuration:

1. Upgrade one node.
2. Add the dual logs into the created log templates to create an empty, but dual log on another IM Server node in the 800xA System.

**EH Nodes Running at or Near Capacity for the EH Performance**

Carefully migrate EH nodes running at or near capacity for the EH performance into the 800xA System. This requires careful investigation and planning to make sure that individual Connectivity Servers are not overloaded with the final configuration. This may be common for MOD and Master migrations. In some cases, it may be necessary to add Connectivity Servers to perform in the same manner as one EH.

**Archived Historical Data and Data Access Applications**

Archived historical data and data access applications such as reports and graphical displays may also be migrated to the 800xA System. Adjustments will be required to make these applications compatible with the 800xA System. Guidelines for migrating these applications are provided in this section.
Certain data access applications **can not** be migrated from Enterprise Historian to the 800xA System. This includes:

- Primary History Logs (PHLs).
- Batch 300.
- ALM.
- Reports and report schedules based on Oracle Reports (from Enterprise Historian 2.2).
- Reports created with Crystal Reports, DataDirect, or Microsoft Excel can be migrated; however, the schedules can not be migrated. The schedules must be recreated using the 800xA System Application Scheduler.

The 800xA System must be installed and operational prior to the migration. System requirements related to migration are described in Section 2, 800xA System Setup.
Section 2  800xA System Setup

Introduction

Instructions for installing and setting up the 800xA System are provided in:

- *System 800xA Manual Installation (3BSE034678)*.
- *System 800xA Post Installation (3BUA000156)*.

In addition to these instructions, migration has the following installation and post installation requirements:

- **Connectivity servers for existing system controllers** - Add the applicable connectivity server (MOD 300 or Master) to the 800xA System, and install the applicable connectivity software (800xA for MOD 300 or 800xA for Master) on ALL 800xA System nodes. See *Installing and Setting Up a Connectivity Server* on page 17.

- **Import the OCS control configuration into the 800xA System aspect directory**. Once the connectivity server has been set up, and the applicable connectivity software has been installed on ALL system nodes, you must import the existing MOD 300 or Master OCS control configuration into the 800xA System aspect directory. This exposes the process objects to 800xA System applications, for example to Information Management History Services. See *Importing the Control Configuration into the 800xA System Aspect Directory* on page 18.

Installing and Setting Up a Connectivity Server

When you replace the Enterprise Historian server with an Information Management server in the 800xA System, the system will require an 800xA connectivity server to interface the Information Management node with the control application.
There are two connectivity software packages depending on the type software running on your Enterprise Historian system: 800xA for MOD 300 or 800xA for Master. This software must be installed in the 800xA system.

For instructions on installing this software, refer to System 800xA Manual Installation (3BSE034678*). Also refer to System 800xA Post Installation (3BUA000156*) for any post installation procedures for the connectivity server.

Remember to add the system extension for the connectivity software. Refer to System 800xA Post Installation (3BUA000156*) for details.

**Importing the Control Configuration into the 800xA System Aspect Directory**

Once the connectivity server has been set up, and the applicable connectivity software has been installed on ALL system nodes, you must import the existing MOD 300 or Master OCS control configuration into the 800xA System aspect directory. This exposes the process objects to 800xA System applications, for example to Information Management History Services. This procedure is described in the applicable configuration User Manual for the connectivity product:

- System 800xA for MOD 300 Configuration.
- System 800xA for Master Configuration.

For systems with Master software, if the Enterprise Historian database has TTD logs, those logs must be uploaded to the 800xA System BEFORE you restore the history database. This is described in Uploading TTD Logs on page 18.

**Uploading TTD Logs**

For systems with Master software, if the Enterprise Historian database has TTD logs, those logs must be uploaded to the 800xA System BEFORE you migrate the history database. Use the Controller object’s TTD Node Configuration aspect as illustrated in Figure 3. In the Control structure, find the applicable Controller object
and select the TTD Node Configuration aspect. Then select the **Synchronize** view, and click **Upload**.

Migration Procedures

Instructions for full migration, are provided in **Full Migration** on page 19.

Instructions for hybrid migration, are provided in **Hybrid Migration** on page 54.

Also refer to the procedure for migrating archived data and data access applications in **Migrating Archived Data and Data Access Applications** on page 79.

Full Migration

This section describes how to replace Enterprise Historian, MOD 300 Console and/or AdvaCommand nodes with the equivalent 800xA System components. This
is the preferred method when all functionality provided by your current system can be migrated to the 800xA System. An overview of the equipment changes is provided in Table 1.

Table 1. Overview or Equipment Changes

<table>
<thead>
<tr>
<th>Existing System</th>
<th>800xA System</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enterprise Historian Server</td>
<td>Information Management Application Server, plus one of the following depending on your connectivity requirements:</td>
</tr>
<tr>
<td></td>
<td>• MOD 300 Connect Connectivity Server</td>
</tr>
<tr>
<td></td>
<td>• Master Connect Connectivity Server</td>
</tr>
<tr>
<td>MOD 300 Console or AdvaCommand</td>
<td>800xA Operator Workplace or Information Management Remote PC Client</td>
</tr>
</tbody>
</table>

Procedural Overview

There are four basic steps:

1. Review the EH configuration to identify the correct System 800xA Configuration to use. Refer to Appendix A, MOD 300 EH Migrations to prepare the MOD 300 System for migration to System 800xA.

2. Make sure all prerequisite set-up for the 800xA System has been completed as described Introduction on page 17.

3. Make a back up of the existing history configuration on each Enterprise Historian node using hsBar.

4. Restore the history configurations to the respective Information Management nodes.

Detailed instructions for steps 3 and 4 are provided in the following sections.

If you need to migrate archived data and/or data access applications such as reports, when you are finished migrating the history database refer to Migrating Archived Data and Data Access Applications on page 79.
Making a Backup of the Existing History Configuration

Use hsBar on the Enterprise Historian platform to make a backup of the existing history database. This backup file will be used to migrate the database configuration to the Information Management History server.

If you are making a backup for Enterprise Historian version 2.2, use the -e option in the hsBar command to create .zip files for the Windows platform. This requires you to stop the Enterprise Historian processes. To do this:

- Open a terminal window and change to the root user (su root).
- Enter: /opt/advant/Startup/bin/IMSstop -v
- When this command is done, change to ocsmgr user, go to /opt/advant/History/bin and run hsBAR
  Example: hsBAR -mb -e -h /home/opt/histBackup/eng159

For further guidelines on using hsBar, refer to the instructions for the platform from which you are migrating (Enterprise Historian version 3.2/n or version 2.2).

Use binary FTP or an equivalent method to transfer the backup files from the Enterprise Historian to the Information Management server workstation.

Migrating the History Database to the Information Management Server

Use the Information Management Backup and Restore utility to migrate the Enterprise Historian history database. The restore utility will perform a series of database conversions to bring the migrated history database up to the current software version, and will synchronize the history database with the 800xA aspect system.

Most history objects are created automatically by the restore utility. This includes message logs, report logs, log sets, archive devices, and archive groups. The creation of log templates and log configuration aspects for numeric logs will require some input from you.

The restore function creates an xml-format aspect system definition file with all the log configuration information. You will edit this file to convert object.attribute strings to object:property strings as required by the 800xA System.
During this procedure it is critical that you properly map the data source specifications used in your current Enterprise Historian system to the corresponding data source specifications in the 800xA System. Plan your mapping requirements BEFORE you begin the migration process. Guidelines for most applications are provided in these instructions (see Table 2). Contact ABB technical support for assistance if necessary.

During this migration procedure you will:

- Stop PAS Processes on the Information Management Server
- Defining Tablespace for hsBackupApp
- Run the Information Management Restore Utility
- Generate XML Files for History Configuration
- Merge the Log Configurations with Process Objects
- Convert Data Source Specifications Per 800xA System Requirements
- Modify the Data Source Type Definitions on the New Templates
- Completing the Migration

Detailed instructions for each phase of this operation are provided in the following sections.

If you are migrating a dual log configuration, you can only migrate one of the dual EH nodes.

**Stop PAS Processes on the Information Management Server**

Stop all processes under PAS supervision. Access the PAS administrative tools from **ABB Start Menu > ABB Industrial IT 800xA > PAS Management > PAS Control**
This displays the main PAS window, Figure 4.

![Figure 4. PAS Main Window](image)

Click **Stop All** to stop all processes under PAS supervision. Then click **Close** to exit PAS when you see that all processes are stopped.

Also, make sure no third-party applications are accessing the Oracle database.

**Defining Tablespaces for hsBackupApp**

Tablespaces for the hsBackupApp must be defined. The procedure varies depending on whether the migration is coming from a Unix-based EH System or a Windows-based EH System.

**Unix-Based EH System.** To define the tablespaces for hsBackupApp when migrating from a Unix-based EH System:

1. Create a .txt file on the system and name it `migration.txt`.
2. Copy the following lines into the migration.txt file:

   ```plaintext
   HS_CONFIG,C,40M,AUTO,4M,80M
   HS_ICONFIG,C,40M,AUTO,4M,80M
   HS_ARCHIVE,C,5M
   HS_REPORTS,C,10M,AUTO,1M,20M
   HS_RESTORED,C,50M,AUTO,5M,100M
   ```
INFORM_HS_RUNTIME,C,128M,AUTO,64M,2048M
HS_INDEXES,C,128M,AUTO,64M,2048M
HS_PDL,C,128M,AUTO,64M,1024M
HS_IPDL,C,128M,AUTO,64M,1024M

3. The lines added in Step 2 define drive C as the data drive. Typically, the Oracle files are on a data drive such as D, E, etc. Modify the drive letter to match that of the data drive in the current system.

4. Review the maximum sizes. If the restore fails, the maximum sizes have to be increased.

Windows-Based EH System. To define the tablespaces for hsBackupApp when migrating from a Windows-based EH System:

1. Run hsBAR with the following options to extract the datafiles_config information:

   hsBAR -mr -h c:\myDB -b c:\

   where myDB is the file name that was entered when the backup was made and -b is the location to extract the datafiles_config file to.

2. Edit the datafiles_config file. An example is shown in Figure 5.

   ![Figure 5. Editing the datafiles_config File](image)

3. Use these new files with the Information Management Restore Utility.
After editing the datafiles_config file, a file an extension is added (for example datafiles_config.txt). That extension must be included in the specification for the -e option in hsBAR.

**Run the Information Management Restore Utility**

This utility restores the database, converts the database to Information Management 5.1, and synchronizes the database with the 800xA aspect system. To do this:

1. From the ABB Start Menu, choose **ABB Start Menu>ABB Industrial IT 800xA>Information Mgmt> History>IM Backup and Restore**, Figure 6.

![Figure 6. Starting the IM Backup and Restore Utility](image)
2. Click **Restore configuration from backup files**, Figure 7, then click **Next**.

![Figure 7. Starting a Restore Operation](image)

3. Use the dialog shown in **Figure 8** to specify the location and name of the backup files that you transferred to the Information Management server. For example, in **Figure 8** the files are located in `c:\eng159`, and the file names are `eng159-Xnn.zip`, where `X` is the drive specification and `nn` represents a sequential file number. You can enter the path specification directly in the **Path of IM backup** field, or use the corresponding **Browse** button, Figure 9. The file name specification defaults to `Histdb`. Change this specification if you created the backup file under a different name (in this case `eng159`).

If you are migrating from the Enterprise Historian version 2.2 platform (HP-UX based), you must also specify a new mount point path for numeric log flat files. This is not required when migrating from the Enterprise Historian version 3.2 (Windows-based) platform. If you need to specify new mount points, use the corresponding **Browse** button and refer to the mount point procedure at the end of this step for further guidelines.
Section 2  800xA System Setup  Migrating the History Database to the Information Management

Specifying a New Mount Point

The mount point specifies the location to which the History database is to be restored on an hsBAR restore operation. Create the following directory:

<drive letter>:HsData\History
4. Click **Next** when you are finished with this dialog. This starts a process that restores the database, converts the database to Information Management 5.1, and synchronizes the database with the 800xA aspect system. The progress is indicated in a status window and HsBAR Output Window, Figure 10. The HsBAR Output window may be opened over and hide the status window.

The HsBAR window has a check box to specify that the window be closed automatically when finished, Figure 10. This mode of operation is recommended and is selected by default. If you choose not to have the window close automatically (by unchecking this box), you will be required to click the **Continue** button which is displayed when the current phase of the restore operation is completed.
When the restore operation is done, the utility will automatically continue with the database conversion routine, and then the history synchronization routine. You may watch for each routine to start and then finish, Figure 11. Do not interfere with these routines as they run.

5. When you see the *Click next to continue* message at the end of the history sync routine, Figure 12, click *Next*.

---

**Figure 11. Progress Status Window**

**Figure 12. Restore, Conversion, and Synchronization Complete Indication**
Generate XML Files for History Configuration

The next two steps create two xml files. One is required by the 800xA System to create the applicable history objects in the aspect directory. The second file creates the Oracle database instance for history. To do this:

1. Use the dialog shown in Figure 13 to generate the xml file used by the 800xA System to create the history objects.

   First select **Generate IM aspect system definition file**, then enter a full path specification for the aspect system definition file. The file name must have an XML file extension. When you are finished, click **Next** to continue.

![Figure 13. Generate IM aspect system definition file](image)

Figure 13. Generate IM aspect system definition file
2. Use the dialog shown in Figure 14 to generate a new database definition file. This step creates the Oracle database.

First select **Generate New Database Definition File**, then enter a full path specification for the database definition file. The file name requires an XML file extension. When you are finished, click **Next** to continue.

If you have already run the restore operation once, and you are repeating the process for some reason, the Oracle database already exists. In this case you can select the **Use Existing Database Definition File** option, and use the **Browse** button to find and select the existing database definition file.

![Figure 14. Generate Database Definition File](image)
3. When you see the message indicating **Importer Module successfully loaded**, Figure 15, click **Next** to continue.

![Figure 15. Importer Module Successfully Loaded](image)

**Merge the Log Configurations with Process Objects**

At this point, the new log configurations being created by this procedure must be merged with their respective process objects. Use the objects that were imported into the 800xA aspect system (**Importing the Control Configuration into the 800xA System**).
System Aspect Directory on page 18). Use the dialog shown in Figure 16 to select the location (the root object) where the imported process objects exist.

![Figure 16. Selecting the Location for the Log Configuration Aspects](image)

To do this:

1. Click Add.
2. Use the browser as shown in Figure 17 to select the root object, then click Add. The dialog remains open to let you select additional objects if necessary. Click Close when you are done.

![Figure 17. Object Browser](image)
The selected objects are indicated in the list of added objects, Figure 18.

3. Click **Next** to continue.

4. When the **Merge Module Successfully Initialized** message is displayed, Figure 19, click **Next** to continue.
5. The dialog in Figure 20 lets you modify template and log names. This is optional. Modify the names or use the defaults, then click Next to continue.

![Figure 20. Modifying Template and Log Names](image)

It is recommended to create a new folder for templates. Click ... to the right of the History Log Template Library field shown in Figure 20.

The dialog shown in Figure 21 indicates the number of aspect system objects, the number of log templates created as a result of the restore operation, and the number of objects which need to, but have not yet been merged with their respective process objects.

![Figure 21. Merge Objects Summary](image)
Convert Data Source Specifications Per 800xA System Requirements

Data source naming conventions used by the Enterprise Historian platforms are not compatible with the 800xA System. In most cases you are simply required to convert *object.attribute* strings to *object:property* strings. When you specify the property name, you must take care to select the property that corresponds to the original data source. Properties are selected from the property list of the object’s Control Connection aspect.

FCM and third-party OPC data sources have additional requirements. Guidelines for converting FCM tag names are provided in this section. For guidelines on converting third-party OPC tags, contact ABB Technical Support.

In addition to converting tag names, you must also modify the log templates to make the log hierarchy defined within each template compatible with the 800xA System property log structure. Typically this involves adding a basic history (trend) log to each log hierarchy. The trend log will collect directly from the 800xA System OPC data source. The Information Management history logs being created as a result of the migration will collect from the trend logs. If you want to learn more about the 800xA System property log structure, refer to the section on Historical Process Data Collection in *System 800xA Information Management Configuration (3BUF001092)*.

To perform this conversion:

1. Click **Assign Objects**. This displays the Assign Objects dialog, Figure 22. The upper pane in this dialog lists objects in the Control structure where you may choose to merge the new log configurations.

The lower pane lists the logs from the Enterprise Historian history database that are now defined in the xml file. The status of each log is indicated by a
color-coded icon in the Access Name column. The key for interpreting these icons is provided in the lower left corner of the dialog.

![Assign Objects Dialog]

Figure 22. Assign Objects Dialog
2. From the Objects to merge with list (upper pane), Figure 23, select the root object where the imported process objects to be merged are located (object selected in Merge the Log Configurations with Process Objects on page 32).

![Assign Objects to Imported Tags](image)

**Figure 23. Selecting Location for Merging**

The next few steps convert the object,attribute strings to object and property strings by stripping the attribute part of the object name, and specifying the correct property name.

3. To strip the attribute part of the object name string:
   a. Make sure **Access Name** is selected in the Object String section, Figure 24.

![Object String](image)

**Figure 24. Using Access Name for Object String**
b. Click **Add**. This displays the Add String Split Rule dialog, Figure 25.

![Figure 25. Add String Split Rule](image)

**Figure 25. Add String Split Rule**

c. For **Split Character**, enter a comma (,). Retain the other default settings:
   - **Occurrence** = 1st,
   - **Search Direction** = **Forward**.

d. Click **OK**. This trims the attribute name, but leaves the comma, Figure 26.

![Figure 26. Attribute Name Trimmed](image)

**Figure 26. Attribute Name Trimmed**
e. To trim the comma, in the String for Object Name section, click the Right check box, and enter 1. This trims one character to the right of the object name (the comma), Figure 27.

Figure 27. Trimming Result

4. Set the Property String to the name of the property in the Control Connection aspect’s property list that corresponds to the data source.

It is critical that you properly map data source specifications used in your current Enterprise Historian system to the corresponding data source specifications in the 800xA System. These instructions cover most common applications.

There are additional requirements when mapping FCM data sources. Guidelines are provided in Making Adjustments to Trend Display Elements on page 91.

If you need to map third-party OPC data sources, or other data sources not covered in these instructions, contact ABB technical support for assistance.
Refer to Table 2 to the 800xA System property name that matches the Enterprise Historian attribute string.

**Table 2. Mapping Data Source Attribute String to Corresponding Property**

<table>
<thead>
<tr>
<th>System</th>
<th>Attribute String</th>
<th>Property</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>MOD 300</td>
<td>MEASURE</td>
<td>MEASURE</td>
<td>Refer to the technical bulletin System 800xA MOD 300 Using Measure Comp for Trend Data Quality Presentation (3BUA00120*)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>It is recommended to setup the MOD OPC/DA server to treat MEASURE like MEASURE_COMP. This ensures that the archives and CCF trends all work off the MEASURE property and keep parity with EH archives and history configurations when migrated to System 800xA. Refer to Appendix A, MOD 300 EH Migrations for more information.</td>
</tr>
<tr>
<td>MOD 300</td>
<td>OUTPUT</td>
<td>RESULT</td>
<td></td>
</tr>
<tr>
<td>MOD 300</td>
<td>FCM Data Source</td>
<td>----------</td>
<td>See <a href="#">Making Adjustments to Trend Display Elements</a> on page 91.</td>
</tr>
<tr>
<td>MASTER</td>
<td>VALUE</td>
<td>VALUE</td>
<td></td>
</tr>
<tr>
<td>MASTER</td>
<td>MV</td>
<td>VALUE</td>
<td></td>
</tr>
<tr>
<td>OPC Data Source</td>
<td>-----------------</td>
<td>---------</td>
<td>Contact ABB Technical Support</td>
</tr>
</tbody>
</table>
If all tags in the imported tag list can be mapped to the same property, then you can use the same mapping specification for all tags, and you can map all tags at the same time. If some tags must be mapped to different properties (for example, some require MEASURE_COMP and others require RESULT), then you must perform the mapping for each set of tags separately. Use the applicable procedure below, depending on whether you need to map one or several attributes.
When all tags are mapped to the same property:

a. In the String for Property Object area, select **Custom** and enter the property name, for example: **VALUE**, Figure 28.

b. Click **Match All** when you are finished.

c. Continue with Step 5.

When some tags are mapped to different properties:

a. Click **Filter** and use the Filter dialog to isolate a set of tags that are being mapped to one property. Filter on the access name since the attribute name has already been stripped from the object,attribute string. A filtering example is provided in Making Adjustments to Trend Display Elements on page 91.

b. In the String for Property Object area, select **Custom** and enter the property name, for example: **VALUE**, Figure 28.
c. Click **Match Selected** when you are finished.

d. Repeat steps a–c for each set of tags that require a different property.

5. When you are finished mapping attributes click **Close**. This returns you to the Assign Objects summary dialog. This dialog now indicates how many tags (log configurations) have been assigned to objects, and how many are left unassigned.

**DO NOT** continue (by clicking Next) until you are finished with **Modify the Data Source Type Definitions on the New Templates** on page 44.

### Modify the Data Source Type Definitions on the New Templates

The data source definition on each log template must be modified to support the property log structure. In most cases, you will be required to create a basic history (trend log) to collect directly from the OPC/HDA source. The Information Management log (created from the Enterprise Historian log), will then collect from the basic history log. Some log types (TTDs and dual logs) have other requirements. The following procedure covers all log types.

The 800xA System does not allow duplicate log names within the same log template. This may occur as a result of assigning all tags in the imported tag list to the same property (for example, in TTD applications when mapping both MV and VALUE attributes to the VALUE property). Use the **View Conflicts** button to check whether or not duplicate log names exist. If there are no conflicts, then proceed with this procedure for modifying the log templates. If there are conflicts, refer to **Making Adjustments to Trend Display Elements** on page 91 BEFORE continuing with this procedure.
To modify data source definitions:

1. Click **Modify Templates** on the Assign Objects Summary dialog. This displays the View/Modify Property Log templates dialog, Figure 29.

2. Select a template from the Property Log Template List (left pane). This shows the current property log structure in the Selected property Log Template pane (upper right pane). The current log structure has one log collecting from an API data source.

![Figure 29. View/Modify Property Log Templates Dialog](image)

💡 You may use the **Show Tag List** button to display a list of tags that use the selected template. This expands the dialog by adding a fourth pane below the other panes, Figure 30. To remove this pane, click **Hide Tag List**.
Figure 30. Show Tag List

3. Click **Modify Data Source Type**. This displays a dialog with options for converting the data source, **Figure 31**.

Figure 31. Modify Data Source Type Dialog
4. Select the appropriate option from this dialog according to Table 3. In most cases, the last option (Create basic history log...) is the correct choice.

**Table 3. Modify Data Source Options**

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do not change data source</td>
<td>Use this option for lab data logs and consolidation logs.</td>
</tr>
<tr>
<td>Convert TTD logs to OPC HDA collection through AIP. Do not change data source of non-TTD logs.</td>
<td>Use this option when the template contains TTD logs (Master systems only)</td>
</tr>
<tr>
<td>Convert data source to OPC/DA collection through AIP</td>
<td>Not applicable for this release.</td>
</tr>
<tr>
<td>Create basic history log and convert collection to OPC HDA to collect from that log. Specify basic history log period.</td>
<td>Use this option for typical (non-TTD) log configurations. This creates the basic history trend log which collects directly from the OPC/HDA source (VALUE property of the object). It also configures the Information Management log for OPC HDA collection from the basic history log. You must specify the log period for the basic history log (typically much smaller than the log period of the Information Management log).</td>
</tr>
</tbody>
</table>
You may view the result by expanding the property log structure in the upper right pane. Both a typical example and a TTD example are illustrated in Figure 32.

![Typical example, basic history log (AIPLog) added to structure and collecting from OPC/HDA]

![TTD example]

Figure 32. Modify Data Source Result

For dual log applications, the basic history trend logs in a dual log pair must have unique names. Therefore you must rename at least one of the logs. The name defaults to AIPLog. One way to make each name unique is to add the computer name as a prefix, for example: **Eng62_Trend**. This is illustrated in Figure 33.

![Step 1: Double-click on the current name]

![Step 2: Enter the new name]

Figure 33. Renaming the Basic History Log for Dual Log Applications

5. Repeat steps 2 through 4 for all templates.

6. When you are finished, click **Close** to exit the Modify Templates dialog. This returns focus to the Assign Objects Summary dialog.

7. Click **Next** to continue.
Completing the Migration

The next series of dialogs take you through some miscellaneous steps to complete the migration:

1. If a large number of log configurations are being merged, you may use the dialog in Figure 34 to organize the log configurations in groups of 500 or less. This improves system performance when the tag list is very large, because it is time consuming to open a folder with an excessive number of objects.

![Figure 34. Organizing Logs into Groups](image)
2. Click **Next** when you are done. This displays a summary, **Figure 35**.

![Figure 35. Summary](image)

3. Read the summary then click **Next**.
4. When you are prompted to continue, Figure 36, click Next.

![Figure 36. Update Aspect System](image)

5. Make sure **Update using IM aspect system definition file** is selected, Figure 37, then click Next.

![Figure 37. Update Using IM Aspect System Definition File](image)
This displays a dialog for mapping controller object locations, Figure 38. You are NOT required to make any entries in this dialog unless the locations have changed since the backup was made. Select the Reset numeric logs already matched with aspect system’s object/aspect/property check box.

Always select the Reset numeric logs already matched with aspect system’s object/aspect/property check box.

6. Enter the mapping specifications if necessary (typically NOT REQUIRED), then click Next to continue. This displays the Progress Status, Figure 39.
7. Click **Next** when you are ready to proceed.

8. Use the dialog in **Figure 40** to make sure the imported Service Groups are properly mapped to the Service Groups that currently exist in the Aspect Directory. Click **Next** to continue.

![Figure 40. Checking Service Groups](image)

9. When the display in **Figure 41** indicates synchronization is complete and the **Next** button is enabled (short delay after complete message), click **Next**.

![Figure 41. Progress Status](image)
10. When the execution complete message is displayed, Figure 42, click Finish. This completes all steps required to restore a history database.

![Figure 42. Finish Synchronization](image)

**Start PAS**

Start all processes under PAS supervision (see Stop PAS Processes on the Information Management Server on page 22).

**Hybrid Migration**

If your current system uses Batch 300 (MOD 300 systems only) or ALM (Master systems only), and you need to retain that functionality, then you cannot completely replace your existing equipment. In this case, you can use the hybrid migration method to:

- Create importer link logs to provide read access to historical data collected by the Enterprise Historian node.

You may also use this method if you want to continue using MOD 300 Consoles and/or AdvaCommand nodes.
Procedural Overview

There are four basic steps:

1. Make sure all prerequisite set-up for the 800xA System has been completed as described in on page 17.

2. Perform the prerequisite set-up for the Enterprise Historian and Information Management nodes, including set-up of OMF domains, and user accounts.

3. Import log configurations from the Enterprise Historian platform to the Information Management node to create importer link logs. These logs provide a window in the 800xA System for accessing the historical data stored in the Enterprise Historian system. You can view the data and create reports that read from the importer link logs; however, the importer link logs do not actually store data.

4. Consolidate message and PDL data from the Enterprise Historian system.

Detailed instructions for steps 2, 3, and 4 are provided in the following sections.

Information Management Configuration (3BUF001092*)

If you need to migrate archived data and/or data access applications such as reports, when you are finished migrating the history database refer to Migrating Archived Data and Data Access Applications on page 79.

Prerequisite Setup

The following set-up is required BEFORE you begin creating importer link logs and consolidating message/PDL data:

- **Create an OMF domain for the Enterprise Historian and Information Management nodes.** The Enterprise Historian and Information Management nodes must reside in the same OMF domain. This must be done prior to performing the other steps described in this section. To set up the Enterprise Historian, refer to the section on extending the OMF domain to TCP/IP in the applicable administrator’s guide (for version 2.2/n or 3.2/n). To set this up on the Information Management node, refer to the equivalent section in System 800xA Information Management Configuration (3BUF001092*).

- **Create the applicable Information Management user account on the Enterprise Historian.** There are different requirements for Unix-based (v2.2/n) and Windows-based (v3.2/n) nodes:
For Enterprise Historian 2.2/n you must execute a script to create an ocshis user (within Oracle) and corresponding synonyms on the Enterprise Historian node. This procedure is described in Creating the ocshis User on Enterprise Historian 2.2/n (HP-UX) on page 56.

For Enterprise Historian 3.2/n create a user account on the Enterprise Historian that is identical to the user account used by History on the Information Management node (as specified during Information Management post installation). This user must be added to the HistoryAdmin group. How to add a user account is described in the Enterprise Historian administrator’s Guide. get the user name and password from your system administrator.

Creating the ocshis User on Enterprise Historian 2.2/n (HP-UX)

This procedure creates an ocshis user within Oracle on the Enterprise Historian 2.2/n node, and creates the corresponding synonyms for that user. This procedure must be re-run whenever you add a new message log, even if you delete a message log and create a new one with the same name.

This procedure is applicable for all HP-UX based Enterprise Historian platforms. This includes dedicated Enterprise Historian nodes and Operator Stations that run Enterprise Historian history. The history software must be version 2.4/0 - patch 13 or higher.

To do this:

1. Open a terminal window as the ocsmgr user.
2. Enter: sqlplus sys/change_on_install @ /opt/advant/History/config/sql/create_hp_ocshis_user.sql

   sys is the Oracle user and change_on_install is the default password for that user. If the password has been changed, substitute the new password for change_on_install.

Importing Remote Log Configurations

This procedure creates importer link logs that provide 800xA System users with read-access to history logs on the Enterprise Historian. You can also create reports
against the importer link logs. These logs do not actually store data. All data for these logs will reside on the Enterprise Historian.

Launching the History Access Importer Tool

From the Windows task bar choose ABB Start Menu>ABB Industrial IT 800xA>Information Mgmt>History> IM History Access Importer Tool, Figure 43.

Figure 43. Launching the IM History Access Importer Tool

The History Access Importer is a wizard-like tool that guides you through the process of importing the remote history log configurations. The first step is to read the log configuration information from the remote history server.
Reading the Remote Log Configurations

The XML file must be created on a pre IMSV5.1 system. If connecting to EH UNIX, the system requires oracle8 client to be properly installed.

Use the dialog in Figure 44 to read log configuration information from a specified remote history server into an xml file on the Information Management node:

1. Specify whether to generate a new file, or use an existing file.
   - You must always use the **Generate New File** option if the information has not yet been read from the remote history server.
   - The **Use Existing Definition File** option is used only when you’ve already read the information from the remote history server, and you are simply finishing an import operation that is partially completed.

2. For Import Type select **IM Historian Database**.

3. Enter the computer name and IP address for the remote history server (the server from which the history configuration is being imported).

4. Enter the port number.
   - For Windows-based servers (Information Management and Enterprise Historian 3.2/n) use **1521**.
   - For HP-UX-based servers (Enterprise Historian 2.2) use **1526**.

5. Specify an xml file name.
6. Click **Next** when you are done.

![IM Import Utility](image)

*Figure 44. History Access Tool - Initial Dialog*

This starts the process of reading the log configuration information from the specified remote history server. The progress is indicated in the dialog shown.
in Figure 45. When the *Importer Module successfully loaded* message is displayed, the read-in process is done.

![Progress Status Window](image)

**Figure 45. Progress Status Window**

7. Click cancel and then copy the XML file created to the SV5.1 system. Restart the tool and select "Use Existing Definition file", referencing the XML file created. Then, continue with the procedure for Assigning the Imported Tags to Objects on page 60.

**Assigning the Imported Tags to Objects**

Every Log Configuration aspect must be associated with an object and object property. The IM Import utility lets you create dummy objects whose sole purpose is to provide a place to instantiate the Log Configuration aspects for the imported tags. However, for migration applications, it is generally recommended that you assign the imported tags to the existing objects that were created when you downloaded the control configuration *(Importing the Control Configuration into the 800xA System Aspect Directory* on page 18).
To assign the imported tags to their respective objects:

1. Use the dialog in Figure 46 to select the method for associating the imported tags with their respective objects.

![Figure 46. Assigning Objects to Imported Tags](image)

- a. Check **Merge imported tags with existing process control objects**. Then uncheck **Create new objects for imported tags**.
- b. Click **Add**.
c. Use the browser as shown in Figure 47 to select the root object, then click **Add**. The dialog remains open to let you select additional objects if necessary. Click **Close** when you are done.

![Figure 47. Object Browser](image)

**Figure 47. Object Browser**

d. Click **Next** to continue. This displays a dialog for specifying the location and naming conventions for the Log Template object, and the Log Configuration aspects, Figure 48.

2. Typically, you can use the default settings. This will create the Log Template in the **History Log Template Library** and provide easy-to-recognize names for the template and Log Configuration aspects. You may adjust these settings if necessary.

You may want to create one or more template library objects in the Library structure for grouping the log templates being created by this procedure. This will make it easier to find the templates associated with this import. This procedure is illustrated in Figure 48 and Figure 49.
3. Click **Next** when you are done.

![Figure 48. Template Specification](image1)

Click here if you need to add template libraries

![Figure 49. Adding History Log Template Libraries](image2)
This displays a dialog which summarizes the log/object association process, **Figure 50.** At this point no associations have been made. There are no tags assigned to new objects.

![Figure 50. Assign Objects Summary - Before Assign Objects Done](image)

**Convert Data Source Specifications Per 800xA System Requirements**

Data source naming conventions used by the Enterprise Historian platforms are not compatible with the 800xA System. In most cases you are simply required to convert `object.attribute` strings to `object:property` strings. When you specify the property name, you must take care to select the property that corresponds to the original data source. Properties are selected from the property list of the object’s Control Connection aspect.

FCM and third-party OPC data sources have additional requirements. Guidelines for converting FCM tag names are provided in this section. For guidelines on converting third-party OPC tags, contact ABB Technical Support.

To begin this process:
1. Click **Assign Objects**. This displays the Assign Objects dialog, Figure 51. The upper pane in this dialog lists objects in the Control structure where you may choose to merge the new log configurations.

The lower pane lists all logs from the Enterprise Historian history database that are now defined in the xml file. The status of each log is indicated by a color-coded icon in the Access Name column. The key for interpreting these icons is provided in the lower left corner of the dialog.

*Figure 51. Assign Objects Dialog*
2. From the Objects to merge with list (upper pane), Figure 52, select the root object where the imported process objects to be merged are located (object selected in Merge the Log Configurations with Process Objects on page 32).

![Figure 52. Selecting Location for Merging](image)

The next few steps convert the *object,attribute* strings to *object* and *property* strings by stripping the attribute part of the object name, and specifying the correct property name.

3. To strip the attribute part of the object name string:
   a. Make sure Access Name is selected in the Object String section, Figure 53.

![Figure 53. Using Access Name for Object String](image)
b. Trim the attribute name and leading comma from the access name. To do this, click **Add**. This displays the Add String Split Rule dialog, Figure 54.

![Figure 54. Add String Split Rule](image)

For Split Character, enter a comma (,). Retain the other default settings: Occurrence = **1st**, Search Direction = **Forward**.

c. Click **OK**. This trims the attribute name, but leaves the comma, Figure 55.

![Figure 55. Attribute Name Trimmed](image)
e. To trim the comma, in the String for Object Name section, click the **Right** check box, and enter **1**. This trims one character to the right of the object name (the comma), **Figure 56**.

![Figure 56. Trimming Result](image)

**Figure 56. Trimming Result**

4. Set the Property String to the name of the property in the Control Connection aspect’s property list that corresponds to the data source.

It is critical that you properly map data source specifications used in your current Enterprise Historian system to the corresponding data source specifications in the 800xA System. These instructions cover most common applications.

There are additional instructions when mapping FCM data sources. These instructions are provided in [Making Adjustments to Trend Display Elements](#) on page 91.

If you need to map third-party OPC data sources, or other data sources not covered in these instructions, contact ABB technical support for assistance.
Refer to Table 4 to the 800xA System property name that matches the Enterprise Historian attribute string.

Table 4. Mapping Data Source Attribute String to Corresponding Property

<table>
<thead>
<tr>
<th>System</th>
<th>Attribute String</th>
<th>Property</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>MOD 300</td>
<td>MEASURE</td>
<td>MEASURE</td>
<td>Refer to the technical bulletin System 800xA MOD 300 Using Measure Comp for Trend Data Quality Presentation (3BUA00120*)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>It is recommended to setup the MOD OPC/DA server to treat MEASURE like MEASURE_COMP. This ensures that the archives and CCF trends all work off the MEASURE property and keep parity with EH archives and history configurations when migrated to System 800xA. Refer to Appendix A, MOD 300 EH Migrations for more information.</td>
</tr>
<tr>
<td>MOD 300</td>
<td>OUTPUT</td>
<td>RESULT</td>
<td></td>
</tr>
<tr>
<td>MOD 300</td>
<td>FCM Data Source</td>
<td>-----------</td>
<td>See Making Adjustments to Trend Display Elements on page 91.</td>
</tr>
<tr>
<td>MASTER</td>
<td>VALUE</td>
<td>VALUE</td>
<td></td>
</tr>
<tr>
<td>MASTER</td>
<td>MV</td>
<td>VALUE</td>
<td></td>
</tr>
<tr>
<td>OPC Data Source</td>
<td>-----------------</td>
<td>-----------</td>
<td>Contact ABB Technical Support</td>
</tr>
</tbody>
</table>
If all tags in the imported tag list can be mapped to the same property, then you can use the same mapping specification for all tags, and you can map all tags at the same time. If some tags must be mapped to different properties (for example, some require MEASURE_COMP and others require RESULT), then you must perform the mapping for each set of tags separately. Use the applicable procedure below, depending on whether you need to map one or several attributes.
When all tags are mapped to the same property:

a. In the String for Property Object area, select **Custom** and enter the property name, for example: **VALUE**, Figure 57.

b. Click **Match All** when you are finished.

c. Continue with **Step 5**.

When some tags must be mapped to a different property:

a. Click **Filter** and use the Filter dialog to make the Imported Tags list show only those rows that use one specified attribute, for example MV. Filter on the access name since the attribute name has already been stripped from the **object.attribute** string. A filtering example is illustrated in **Making Adjustments to Trend Display Elements** on page 91.

b. In the String for Property Object area, select **Custom** and enter the property name, for example: **VALUE**, Figure 57.
c. Click **Match Selected** when you are finished.

d. Repeat steps a-c for each attribute that needs to be mapped to a property.

5. When you are finished mapping attributes click **Close**. This returns you to the Assign Objects summary dialog. This dialog now indicates how many tags (log configurations) have been assigned to objects, and how many are left unassigned.

6. Click **Next**.

The 800xA System does not allow duplicate log names within the same log template. This may occur as a result of assigning all tags in the imported tag list to the same property (for example, in TTD applications when mapping both MV and VALUE attributes to the VALUE property). Use the **View Conflicts** button to check whether or not duplicate log names exist. If there are no conflicts, then proceed with this procedure for specifying the service group. If there are conflicts, refer to **Making Adjustments to Trend Display Elements** on page 91 BEFORE continuing with this procedure.

**Specifying the Service Group and Other Miscellaneous Parameters**

Use the dialog in **Figure 58** to specify a history service group to support the importer link logs. Typically, this is the basic history service group for the Information Management node. The History Source aspect that supports these logs must point to this history service group. This is described later in this procedure.

The Source Type field defaults to the correct type for the source database version. Confirm the correct type is specified as indicated below:

- Enterprise Historian 2.2/0 (History version 2.4/0): **Log Manager**
- Enterprise Historian 2.2/1 (History version 2.4/1): **Remote Historian**
Enterprise Historian 3.2/n (History version 2.5/n): Remote Historian

This dialog also lets you group the Log Configuration aspects into folders. This improves system performance when the tag list is very large, because it is time consuming to open a folder with an excessive number of objects.

To use this feature, click the Enable check box in the Grouping New Imported Objects section. The default size for each group is 250 tags. You can create larger or smaller groups at your discretion. Do not make groups larger than 1000 tags.

Enter a prefix for each group’s folder name. The specified counter type (A-Z or 0-9) will be appended to the prefix to make each folder name unique. For example, by specifying eng130_ as the prefix, and 0...9 as the Counter Type, the following group names will be used: eng130_0, eng130_1, and so on.

Figure 58. Selecting Service Group
Click **Next** when you are done. This displays an import preview so that you can confirm your settings, **Figure 59**.

![Import Summary](image)

**Figure 59. Import Summary**

Read the preview. When you are ready to start the import, click **Next**.
The progress status is displayed while the log configurations are being imported, Figure 60. When you see the Import has completed successfully message, click Finish.

![Image of Import Progress Status](image)

**Figure 60. Progress Status**

The Log Configuration aspects have now been created for the imported log configurations.

A History Source object must be present above the Log Configuration aspects in the structure where they reside, Figure 61. If the History Source object is not present, add the History Source aspect now (This procedure is described in the section on configuring property logs in System 800xA Information Management Configuration (3BUF001092*).

This history source must point to the history service group specified in Specifying the Service Group and Other Miscellaneous Parameters on page 72.
You can now use the Log Configuration aspect’s Status tab (or any Desktop tool such as DataDirect or desktop Trends) to read historical data from the remote log. An example is shown in Figure 62.

Finish the set-up for historical data consolidation by Consolidating Message Logs and PDLs on page 77.
Consolidating Message Logs and PDLs

SV6.0 does not support consolidation of messages and PDL data because of the version difference between oracle in SV6.0 (Oracle 12c) and EH versions ( oracle7 for UNIX and oracle8 for windows). All Alarm and events from an EH system should have the equivalents generated and stored in the IMSMGLOG from the respective MOD 300 and Master connectivity products. For MOD 300 customers, only TCL PDL data is supported with 800xa.
Section 3 Migrating Other Applications

Introduction

In addition to history configurations and on-line history data, you may also migrate archives created on the Enterprise Historian, and data access applications such as reports and graphical displays. Adjustments will be required to make these applications compatible with the 800xA System. Guidelines for migrating these applications are provided in this section.

Migrating Archived Data and Data Access Applications

Certain data access applications CANNOT be migrated from Enterprise Historian to the 800xA System. This includes:

- Primary History Logs (PHLs).
- Batch 300.
- ALM.
- Reports and report schedules based on Oracle Reports (from Enterprise Historian 2.2).
- Reports created with Crystal Reports, DataDirect, or Microsoft Excel can be migrated; however, the schedules cannot be migrated. The schedules must be recreated using the 800xA System application scheduler.

Migrating Archived Data

The Archive Import tool lets you import archived historical data from earlier historian platforms, and from other 800xA Systems. Once restored, standard 800xA capabilities can be applied against the data. The following platforms are supported:
Migrating Reports

Section 3  Migrating Other Applications

- Enterprise Historian HP-UX
  (Advant MOD 300 or Advant Master, including TTD data).
- Enterprise Historian Windows
  (Advant MOD 300 or Advant Master, including TTD data and OPC).
- Advant IMS (Advant MOD 300 or Advant Master, including TTD data).

The archive data must be readable on the Windows platform. This can be either CD/DVD media or disk/network disks. The Archive Import tool is run from the configuration view of the Archive Volume aspect. Refer to the section on reading and managing archive data in *System 800xA Information Management Data Access and Reports* (3BUF001094*).

Migrating Reports

**Reports Created on the Enterprise Historian 2.2 Platform (HP-UX)**

Reports created in the Enterprise Historian version 2.2 environment are based on Oracle Reports. These reports will not run on the Information Management version 5.1 server, and must be recreated using either DataDirect, Microsoft Excel, or Crystal Reports. Schedules for the reports must then be specified via the 800xA System application scheduler. These procedures are covered in the applicable sections of *System 800xA Information Management Data Access and Reports* (3BUF001094*).

**Reports Created on the Enterprise Historian 3.2/n Platform (Windows)**

Reports created in Microsoft Excel or DataDirect on the Enterprise Historian 3.2/n platform can be migrated to the Information Management version 6.0 server. You may be required to modify log name references to conform to the 800xA System log naming conventions.

Reports created with Crystal Reports (version 8.5) on the Enterprise Historian version 3.2.n platform can also be migrated to the Information Management 6.0 platform; however, the reports and schedules will require some adjustments. You should use Crystal Reports 2013 on the Information Management 6.0 server. A brief overview of the general migration procedure is provided below:
You must re-connect the report to the applicable database. The server type and server name specifications have changed from Enterprise Historian 3.2/n to Information Management 6.0.

Some attribute names in the numericlog table have changed between software versions. If you use any attributes whose names have changed, you will be required to map the old names to their new names.

Log naming conventions are different in Enterprise Historian 3.2/n and Information Management 6.0. You must change all logname references to comply with Information Management 6.0 conventions.

The schedules that you created on the Enterprise Historian 3.2/n platform cannot be migrated directly to the Information Management 6.0 platform. Those schedules must be re-created on Information Management 6.0 using the 800xA System application scheduler and report action aspects.

Detailed instructions are provided in:

- **Migrating to Crystal Reports 2013** on page 81

It is recommended that you make a copy of the original report file BEFORE you begin making adjustments. This lets you start over in case you have problems while making the adjustments.

**Migrating to Crystal Reports 2013**

Crystal reports will prompt you to make adjustments the first time you attempt to run the report on the new platform. You can force the report to run by clicking the Function key **F5**.

This displays a dialog for connecting the report to the applicable provider, Figure 63. This is required because the EHProvider data source used for Enterprise Historian version 3.2/n does not exist on the Information Management 6.0 server.
1. Select **ABBODA** Data source, **Figure 63** and click **Finish**.

![Figure 63. Selecting the ODBC Data Source](image)

If your report uses Numericlog table attributes whose names have changed, you’ll see the **Verify Database** message shown in **Figure 64** when **Verify Database** Operation is performed. In this case you will be required to map old
attribute names used for Enterprise Historian version 3.2/n to their current names used for Information Management 6.0.

Figure 64. Verify Database Pop-up
2. Click **OK** to confirm. This displays the attribute name mapping dialog shown in Figure 65.

Report fields that require new mapping are listed in the Unmapped Fields section. In this case, the LOCALTIMESTAMP field in Enterprise Historian 3.2/n has changed to TIMESTAMP in Information Management 6.0.

![Figure 65. Mapping Old Attribute Names to New Names](image)

*Figure 65. Mapping Old Attribute Names to New Names*
3. Select the field to be mapped, then click the Map button. When all fields are mapped, Crystal Reports will indicate the database is now up to date, Figure 66.

![Image of Verify Database dialog box]

**Figure 66. Database Up to Date Message**

4. Click OK to confirm. The message in Figure 67 indicates that log name references in the report must be modified to conform to 800xA System log naming conventions.

![Image of Crystal Reports dialog box]

**Figure 67. Indication that Logname Specifications Must be Updated**

5. Click OK to acknowledge this message, then click OK again to acknowledge the subsequent error message.
6. To fix the log name references, go to the Selection Formula in the report, Figure 68, and replace `object.attribute` references with `object.property.logname` references. This is illustrated in Figure 69.

![Figure 68. Open the Selection Formula](image)

To copy and paste the log name with the correct syntax (reference Figure 70):
1. Open the History Values dialog in DataDirect, and select the applicable log.
2. Click **OK** to display the log data in the spreadsheet.
3. Click in any one of the data columns to show the formula.
4. Highlight the `object.property.logname` string.
5. Right-click and choose **Copy** from the context menu.

![Figure 69. Changing the Logname Specification](image)

To ensure you enter the new logname reference correctly, you can use the History Values dialog in DataDirect. This is described in the following procedure.

To copy and paste the log name with the correct syntax (reference Figure 70):
1. Open the History Values dialog in DataDirect, and select the applicable log.
2. Click **OK** to display the log data in the spreadsheet.
3. Click in any one of the data columns to show the formula.
4. Highlight the `object.property.logname` string.
5. Right-click and choose **Copy** from the context menu.
6. Paste the string in the logname part of the Crystal Reports selection formula.

![Image showing Crystal Reports selection formula](image)

**Figure 70. Copying the Log Name**

**Migrating Displays**

Displays that you created with Display Services on the Enterprise Historian 2.2 and 3.2/n platforms can be migrated to the Information Management version 5.1 server, and be modified to run on that server. This involves:

- copying the display files from the Enterprise Historian and placing them in the equivalent directory on the Information Management Server
replacing `dcssub` functions with `data` functions. The `dcssub` function requires an RTA connection to a DCN which is not supported in Information Management 5.1.

- revising trend display element properties for compatibility with Information Management 5.1.

Details are provided in the following sections.

**Copying Display Files**

The location of the display files varies, depending on the platform:

- **For Enterprise Historian version 3.2/2** the files are located in `c:\Program Files\ABB Industrial IT\Inform IT\Display Services\Server\Data`, Figure 71.

  ![Figure 71. Location of Display Files for Enterprise Historian 3.2/2](image)

  For each display definition:
  - the directory name is: `xxxx.svg`
  - the display name is `xxxx.svd`

  For each user element:
  - the directory name is `xxxx.uet`
  - the user element definition name is `xxxx.ued`
Copy these files to the **same** directory on the Information Management server:
`c:\Program Files\ABB Industrial IT\Inform IT\Display Services\Server\Data`

- **For Enterprise Historian version 3.2/1** the files are located in:

  C:\Program Files\ABB\Advant\SystemModules
  \AdvaInformDisplay\Server\Data

  For each display definition:
  - the directory name is: `xxxx.svg`
  - the display name is `xxxx.svd`

  For each user element:
  - the directory name is `xxxx.uet`
  - the user element definition name is `xxxx.ued`

Copy these files to the **equivalent** directory on the Information Management server:
`c:\programData\ABB\IM\Display\Data`
Replacing dcsub Functions with Data Statements

The dcsub function requires an RTA connection to a DCN which is not supported in Information Management 5.1. These functions must be replaced with data statements. An example is shown in Figure 72. For further details regarding the data statement, refer to the section on Display Scripting in System 800xA Information Management Display Services (3BUF001093*).
Making Adjustments to Trend Display Elements

Trend display elements will require the following adjustments to run on the Information Management 5.1 server.

- The data source must be changed to OPCHDA
- The logname property for each trace must be changed to AIPHDA
- The objectname property must be adjusted to conform to 800xA System conventions (object.attribute to object:property).

These adjustments are illustrated in the example in Figure 73.

Figure 73. Adjusting Trend Element Properties
Section 4  Mapping FCM Data Sources

Introduction

When the history database you are migrating to Information Management version 5.1 includes FCM data sources, you will be required to add the FCM attribute being logged to the property list of the MOD OPC Control Connection aspect, and use a slightly different method to convert the object.attribute strings.

Mapping FCM Data Sources

To add the FCM attribute to the property list:

1. Select the MOD OPC Control Connection aspect for the object whose FCM attribute you want to log. Figure 74.

Figure 74. Selecting the MOD OPC Control Connection Aspect
2. Select the **Property Info** tab, **Figure 75**.

![Figure 75. Property Info Tab](image)

3. Click **Add** to start the dialog for adding a property.

4. When you see the Add Property warning, click **Yes** to continue, **Figure 76**.

![Figure 76. Add Property Warning](image)

5. Enter the FCM attribute in the Property Name dialog as shown in **Figure 77**. Note that the proper syntax is *FCM/attribute*, for example **MTH/RESULT**.

![Figure 77. Entering the FCM Attribute](image)
6. Click **OK**.

7. Use the Data Type section on the Property Info tab to select the applicable data type, Figure 78. For example, in Figure 78 VT_R4 = floating point.

![Figure 78. Selecting the Data Type](image)

8. Specify any other parameters as may be required for your application, then click **Apply**. A finished add property specification is shown in Figure 79.

![Figure 79. Completed Add Property Specification](image)
9. Confirm the operation of the new property by subscribing to live data on the **Property View** tab, Figure 80.

![Figure 80. Subscribing to Live Data](image)

The method for converting the object, attribute string for the FCM attribute tag is slightly different than for other process objects. If the Imported tags list includes both FCM attribute tags and process object tags, you must handle each group separately because each will require a different set of rules. Whereas for process objects you must truncate the attribute name and comma delimiter from the object name string, for FCM attributes you must truncate the FCM, attribute name, and dot (.) delimiter. These differences are described in the following procedure.

Figure 81 shows an Imported Tags list which includes both FCM attribute tags and process object tags. In this case you must apply a different set of string conversion
rules separately to each group. This requires you to apply a filter to the imported tags list to segregate the FCM attribute tags from the process object tags.

To do this:

1. Click the **Filter** button to display the Filter dialog, then enter a filter to remove all rows except those rows that have FCM attribute tags. For example, Figure 82 shows a filter to remove all rows that do not include RESULT (the FCM attribute name in this example).

![Figure 82. Filter Example](image)

2. Once the Imported Tags list has been filtered to show FCM attribute tags only, apply the string conversion rules for the FCM attribute tags as follows:
a. In the Add string split rule dialog enter a dot (.) for the split character, Figure 83. This truncates the FCM attribute string to the right of the dot.

![Figure 83. Using the Dot as the Split Character](image)

b. In the String for Object Name section select Field 1, and Trim 1 Right character (the dot), Figure 84.

![Figure 84. Trimming the Dot](image)

c. Click Match All.

3. Apply a new filter to make the Imported tags list show the unmatched tags (non-FCM attribute tags). The easiest way to this is to negate the filter used to
Section 4  Mapping FCM Data Sources

show the FCM attribute tags. An example is shown in Figure 85.

Figure 85. Negating the FCM Attribute Filter

4. Apply the string conversion rules for process objects as described in Convert Data Source Specifications Per 800xA System Requirements on page 36.
Section 5 Resolving Conflicts

Introduction

The procedure described in this section is required if you have conflicting log names. The 800xA System does not allow duplicate log names within the same log template. This may occur as a result of assigning all tags in the imported tag list to the same property (for example, in TTD applications when mapping both MV and VALUE attributes to the VALUE property).

Resolving Conflicts

It is recommended that you check for conflicts by clicking View Conflicts on the Assign Objects Summary dialog. If duplicate log names exist on a template, one set of duplicated names must be moved to a new template. For example, in Figure 86, changing the property string for all tags to VALUE has created duplicate tag names for AC4_285,MV and AC4_285,VALUE (among others). In this case the MV tags on this template (ENG62_XX444XX) must be moved to a new template.

Figure 86. View Conflicts
To move duplicate logs to a new template:

1. Click **Close** to close the View Conflicts list.

2. Click **Modify Templates** on the Assign Objects Summary dialog. This displays the View Modify Property Log templates dialog.

3. Select a template from the Property Log Template List (left pane), then click **Show Tag List**. This expands the dialog to show the tags that use this template, Figure 87.

   ![Figure 87. Show Tag List](image)

For each imported tag (AIC4_285, AIC4_286, and so on), either the MV tags or VALUE tags must be moved to another template.

4. Isolate one set of tags (either MV or VALUE). Use either of two methods:
Method 1: Selecting tags manually (demonstrated in Figure 88.):

a. Select all MV (or VALUE) tags and click Move Tags to Template.

b. Use the Move Imported Tags to Template dialog to specify a unique name for the new template. A name similar to the original template is recommended. For example, in Figure 88, the character b is appended to the original template name. Also make sure the Update Log Names check box is checked. This will update log names with the new template name.

c. Click OK when you are finished.

d. Repeat this procedure for all templates.

e. If you are performing a full migration, return to Modify the Data Source Type Definitions on the New Templates on page 44 to finish.
If you are performing a hybrid migration, return to Specifying the Service Group and Other Miscellaneous Parameters on page 72 to finish.

Method 2: Apply a filter to segregate tags (demonstrated in Figure 89).

a. Click Filter.

b. Use the filter dialog to isolate one set of tags, for example: .*MV, then click OK.

c. Inspect the filter result, then click Move All Tags to Template. This displays the dialog for specifying the new template name. Enter a unique template name as described in the previous example, then click OK.

d. Repeat this procedure for all templates.

e. If you are performing a full migration, return to Modify the Data Source Type Definitions on the New Templates on page 44 to finish.

If you are performing a hybrid migration, return to Specifying the Service Group and Other Miscellaneous Parameters on page 72 to finish.
Appendix A  MOD 300 EH Migrations

Introduction

This appendix contains information on MOD 300 EH migrations.

MOD 300 EH Migrations

There are several items that must be identified before a MOD 300 Migration can be successful as follows:

1. Identify any invalid characters.

   System 800xA only accepts the following valid characters for objects names: a-z, A-Z, 0-9, -.

   If any MOD objects use any other characters, the objects should be renamed. A common practice is to modify the objects, recompile and reboot nodes in the system and create new EH logs that use the new names for a period of time before the actual migration occurs. Original logs can be left or deleted. When the migration is done, all the logs that have valid names will match and migration is successful.

   If EH configurations have invalid characters, the filter options should be used to exclude them from the matching list. If not excluded, the "/" character is interpreted as an object patch separator and cause the hsBackupApp to crash and it cannot handle the character in an object name.

2. Minimum sample rate.

   The minimum sample rate is important for the MOD OPC server. The MOD OPC server has some optimizations that can affect the System 800xA History configuration. This includes migrated configurations.
A simple way to see the unique sample rates for numeric logs in an EH is to use SQLPLUS.

sqlplus history/history

SQL> select distinct ( attrib_114 ) from num_comp;
SQL> exit

This identifies all unique sample rates for the EH node. The data is listed with the unit first, s3 is three seconds, m1 is one minute, etc.

3. Identify object types and properties.

The MOD300 OPC servers represent some <loop>, <attribute> and <loop>, <FCM>, <attribute> combinations differently in System 800xA. These differences should be understood before attempting to migrate an EH. The most common attributes are shown in Table 5.

<table>
<thead>
<tr>
<th>EH attribute</th>
<th>MOD OPC property</th>
<th>MOD property</th>
</tr>
</thead>
<tbody>
<tr>
<td>MEASURE</td>
<td>MEASURE_COMP</td>
<td>MEASURE</td>
</tr>
<tr>
<td>SETPOINT</td>
<td>SETPOINT_COMP</td>
<td>SETPOINT</td>
</tr>
<tr>
<td>OUTPUT</td>
<td>OUTPUT_COMP</td>
<td>RESULT</td>
</tr>
</tbody>
</table>

The *_COMP attributes combine the individual property with data quality information. It is important that the migrated logs see the same data stream.

4. Add missing FCM attributes. Refer to Section 4, Mapping FCM Data Sources.

5. Decide on the MOD 300 OPC/DA configuration.

Refer to the product bulletin System 800xA MOD 300 Using Measure Comp for Trend Data Quality Presentation (3BUA001210*) to setup the MOD Connect servers. In 99% of the configurations, it is recommended to set.

Use Composite Update Time Change  = 1

Composite Update Time Change (ms) = < minimum sample time if sample time is >
Fixed Rate for OPC DA Server (ms)>
Using these settings and the default setting for **Fixed Rate for OPC DA Server (ms)** of 2000ms (2 seconds), when the fastest EH log is 6 seconds, the **Composite Update Time Change (ms)** can be between 2001 and 6000ms. With this configuration, all the EH migrated logs stores data with the same data quality that the EH configuration would and data retrieval keep the same logical access names, LOOP1:MEASURE is LOOP1:MEASURE instead of LOOP1:MEASURE_COMP.

When the EH configuration have logs that are faster than the composite update Time change (ms) setting, those logs do not have data quality information. If data quality information is required, MEASURE_COMP should be used. Technical Support should be contacted to discuss the required history collection and the possible impact of changing the other MOD OPC/DA server configuration attributes.
A
ALM 15, 79
ALM (Master) 12
Archive Import tool 79
B
Backup 21
Batch 300 15, 79
Batch 300 (MOD 300) 12
C
Connectivity Server 17
Consolidating Message Logs and PDLs 77
Consolidating Message/PDL data 55
Control Configuration 18
Converting Tag Names 36
Creating Importer Link Logs 55
Crystal Reports 15
Crystal Reports, Migration 81
D
Data Source Options 47
Data Source Specifications 36, 64
Data Source Type Definitions 44
DataDirect 15
dcssub Functions 90
dcssub functions 88
Displays, Migration 87
Dual Log Applications 48
Duplicate Log Names 44
F
FCM Data Sources 93
FCM tag names 36, 64
Full migration 11
G
Generate New File 58
H
History Access Importer Tool 57
History Log Template Library 62
hsBackupApp 23 to 24
Hybrid Migration 54
Hybrid migration 12
I
IM Historian Database 58
M
Microsoft Excel 15
Migration, Full 11
Migration, Hybrid 12
Migration, limitations 14
Mount Point (hsBAR restore) 27
O
ocshis user 56
OMF Domain 55
Oracle 8 Client 17
Oracle Reports 15
P
PAS Processes 22
Port Number 58
Primary History Logs (PHLs) 15, 79
Index

R
Remote Log Configurations  58
Reports  79
Reports, Migration  80
Reports, Oracle  15
Restore  21
Restore Utility  25

S
Schedules  15
Service Group  72

T
third-party OPC tags  36
third-party OPC tags,  64
Trend Display Elements  91
TTD Logs  18

U
Use Existing Definition File  58
User Account  55

V
View Conflicts  44, 72, 101

X
XML Files for History Configuration  30
Contact us

www.abb.com/800xA
www.abb.com/controls Systems