## Honeywell



# **ENTIS** R130.1

Installation and Configuration Guide

### **ABOUT THIS GUIDE**

This manual describes how to install and configure the ENTIS system. It has been written for the operators as well as system supervisors to provide them with all the information required to install and configure the system.

### Safety and prevention of damage

'Cautions', and 'Notes' have been used throughout this manual to bring special matters to the immediate attention of the reader.



A Caution draws attention to an action which may damage the equipment.



A Note points out a statement deserving more emphasis than the general text but does not deserve a "Warning" or a "Caution".

### Additional information

Contact Honeywell or its representative if you require additional information. Also, refer to the list of related documents in Documentation References

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### Support

For support, contact your local Honeywell Process Solutions Customer Contact Centre (CCC). To find your local CCC visit the website, https://process.honeywell.com/us/en/contact-us

### **Revision History**

ENTIS Installation and Configuration Guide (This document)

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### **Documentation References**

The following list identifies publications that may contain information relevant to the information in this document.

ETDOC-X612-en-R130.1	ENTIS Quick Start Guide
ETDOC-X615-en-R130.1	ENTIS User's Guide
EHDOC-X136-en-R510A	Experion HS Software Installation Users Guide

ENTIS documentation on HPSweb:

https://process.honeywell.com/us/en/products/terminals/enraf-tankgauging/entis-tank-inventory-system

### Contacts

See back page for details

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### **1** INTRODUCTION

This guide introduces you to software and hardware requirements, prerequisites, and procedures for installing ENTIS as a server or client system on a physical or virtual machine.

This document provides information on how to configure an ENTIS system. It describes how to create Channels, Controllers & Equipment for an ENTIS system using Configuration Studio, and how to download them to an Experion HS server. In addition, it also explains how to export the database from a CIU 888 and how to configure the ENTIS license.

Reference document

- 1. For more information on using Configuration Studio, refer to Experion HS Configuration Studio Overview, EHDOC-X113-en-511.
- 2. For more information on Experion HS, refer to the link below: Product Documents & Downloads (honeywell.com)

### **2 HARDWARE REQUIREMENTS**

The hardware systems (for Physical or Virtual machine) that are recommended for installation and use of ENTIS as a Server and Client on Physical/Virtual machine, or Panel PC are given in the following tables.

### 2.1 ENTIS as a Server

System Configuration	Specifications	
Processor	Single Intel Xeon Processor E5-1620v3, 3.50GHz (or equivalent)	
RAM	8GB	
Networking	100 Mbps Ethernet	
Video resolution	1600x1200, 1680x1050, 1920x1200, 1920x1080; 65K colours	
Hard drive	500GB	
Physical Hardware	Dell T5820XL Tower Workstation	

Table 2-1: ENTIS	as a SERVER
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### 2.2 ENTIS as a Client (User Interface)

Table	2-2:	ENTIS	as a	a Client
-------	------	-------	------	----------

System Configuration	Specifications	
Processor	Single Intel Processor i3-4330, 3.50GHz (or equivalent)	
RAM	8GB	
Networking	100 Mbps Ethernet	
Video resolution	1600x1200, 1680x1050, 1920x1200, 1920x1080; 65K colors	
Video Memory	512MB VRAM per channel	
Hard drive	500GB	
Physical Hardware	Dell OptiPlex XE2, OptiPlex 3040, Dell T5820XL Tower Workstation, HP 400G3 or equivalent	

### 2.3 ENTIS as Server / Client on Panel PC

System Configuration	Specifications	
Processor	Single Intel i5-4300U, 1.9GHz Dual Core processor or equivalent	
RAM	8GB	
Networking	Integrated dual Gigabit Ethernet ports	
Video resolution	1920x1080	
Hard drive	Single 256GB (or larger) SSD	
Physical Hardware	MZ-PPCT01- Experion Panel PC, Standard 19 inch	
Operating System	Pre-installed Win10 Enterprise LTSB 2016	
Cooling	Fan less design	

### Table 2-3: ENTIS Server / Client on Panel

### **3 SOFTWARE REQUIREMENTS**

The following software is required for the successful installation of ENTIS.

 Experion HS R511.5 point release For access to the Experion software at <u>https://process.honeywell.com</u>, send a mail to <u>HPSWeb@Honeywell.com</u>



The ENTIS installation will fail if installed on any operating system other than Windows 10 LTSB/Windows Server 2016 Standard or in any environment other than Experion HS

### 3.1 Prerequisite Software

ENTIS must be installed on a system where Experion HS R511.5 point release is already installed and configured.

Go to: Experion-HS-R511-5-Software-Download-Datasheet.pdf

	Software	Specifications
ENTIS Server and/or Client	Operating System	Microsoft Windows 10 Enterprise 2016 LTSB (64bit)/Windows Server 2016 Standard
	Browser type	Microsoft Internet Explorer 11

### Table 3-1: Software requirements

### 3.2 Antivirus Software

ENTIS R130.1 is qualified with McAfee Endpoint Security (ENS) v10.7, as is qualified and supported by Honeywell for use by Experion PKS.

Please follow the steps in the document Antivirus Software Guidelines, XXDOC-X588-en. The document contains the instructions to install McAfee ENS 10.7.



Note that Honeywell has tested and qualified the <u>Threat Protection</u> feature of McAfee Endpoint Security. Other features such as Firewall, Web Control, and Adaptive Threat Protection are not qualified for use on Honeywell systems. Do not install these features.

### **4 INSTALLATION OF ENTIS**

### 4.1 Prerequisites

Administrator privileges.

Prepare PC hardware (Physical or Virtual machine) and complete below prerequisite installation using Experion HS manuals, Videos and ENTIS Manuals. Ensure the following applications are available in the system before installing ENTIS:

Experion HS R511.1 Experion HS R511.5 point release Experion HS R511.5 HMIWeb Update 3

To install Experion HS follow the instructions mentioned below:

- 1. Install: Win 10 LTSB OS with License (Customer will receive the OS media/DVD from ACT/Softco via Sales Order.
- 2. Install: Language pack on the Windows OS to view ENTIS in Dutch, French, Italian, Spanish, Russian and Chinese Default Language for ENTIS is English.
  - Refer the below link for changing Win OS language:
  - https://support.microsoft.com/en-in/help/14236/windows-language-packs
- 3. Install: Language pack for Experion. Refer the link below:
  - <u>http://hpsvault.honeywell.com/sites/hpsvault/products/experion-pks/Documents1/Experion-Localization/The-Localization-Toolkit.pdf</u>
- 4. Install: Experion HS R511.1 software + License (Customer will receive the media /DVD from ACT/Softco via Sales Order.
- 5. Install: Experion HS R511.5point release Software from HPSWEB. Customer can directly download this release from HPSWEB using the links below:

Directly download this point release from HPSWEB using the below links:

CM\_EXP511.5-13.1\_Experion\_Updates\_DVD\_R511.5\_51156630.z01

CM EXP511.5-13.1 Experion Updates DVD R511.5 51156630.z02

CM\_EXP511.5-13.1\_Experion\_Updates\_DVD\_R511.5\_51156630.z03

CM\_EXP511.5-13.1\_Experion\_Updates\_DVD\_R511.5\_51156630.z04

CM\_EXP511.5-13.1\_Experion\_Updates\_DVD\_R511.5\_51156630.z05

CM\_EXP511.5-13.1\_Experion\_Updates\_DVD\_R511.5\_51156630.z06

CM\_EXP511.5-13.1\_Experion\_Updates\_DVD\_R511.5\_51156630.z07

CM\_EXP511.5-13.1\_Experion\_Updates\_DVD\_R511.5\_51156630.z08

CM\_EXP511.5-13.1\_Experion\_Updates\_DVD\_R511.5\_51156630.z09

CM\_EXP511.5-13.1\_Experion\_Updates\_DVD\_R511.5\_51156630.z10

CM\_EXP511.5-13.1\_Experion\_Updates\_DVD\_R511.5\_51156630.z11

CM\_EXP511.5-13.1\_Experion\_Updates\_DVD\_R511.5\_51156630.zip



Note: Above part 1 to part 11 are split delivery content. They all need to be downloaded together to generate ISO. Win Zip must be installed on your system before you begin extraction.

6. Install: Experion HS R511.5 HMIWeb Update 3

https://honeywellprocess.blob.core.windows.net/public/Support/Experion/ Experion-PKS-R511-5-Server-HMIWeb-Update-3.zip

7. ENTIS R130.1 software + License (Customer will receive the media/DVD from ACT/Softco via Sales Order).



ENTIS R121.2.1 or prior release license is not valid for R130.1, An updated license is required for ENTIS.

ENTIS Installation and Configuration Manuals can be found at: <u>https://process.honeywell.com/us/en/products/terminals/enraf-tank-gauging/entis-tank-inventory-system</u>

8. CIU 888(s) to be connected, operating firmware version R210.1.

ENTIS R130.1 is compatible with CIU888 R210.1 or higher versions.

### 4.2 Migrating non redundant ENTIS R121.1 to R130.1

### Prerequisites

- The user should have the CIU with the latest firmware (R210). Steps to update the firmware are mentioned in CIU Firmware Upgrade Manual (Part No. 4417596).
- Installed CIU R210 service tool to configure the database for ENTIS R130. Configuration steps are mentioned in CIU Configuration Manual (Part No. 4417584).
- License for ENTIS R130.1 and a license for CIU888 R210 with OPCUA.



*In ENTIS R130.1 has changed entities and ways of communication with CIU. ENTIS R130.1 is only compatible with CIU R210.1.* 

### Steps to migrate

- 1. Create Backups:
  - a. ENTIS reports and Exported data
  - b. Backup Experion Databases using EBR
  - c. Alternative backup is a full server image
  - d. Record all Alarm settings and point data ranges on the existing SCADA points, this will be needed to manually set again later.
- 2. Install ENTIS R130.1.
  - a. Uninstall the previous version and then install the new version of ENTIS (see section 4.4).
- 3. Once the installation is complete, copy the ENTIS license to the appropriate folder location.
  - a. The license file name should be like ENTISR130.lic.
  - b. Place license in following path:
    - C:\ProgramData\Honeywell\ENTIS\License.
- Remove SCADA points from previous ENTIS versions

   Follow the steps in Section 10.6



Due SCADA point name changes and additions it is recommended to remove existing ENTIS SCADA points from the Experion database, which will lead to data loss (Alarm settings).

- 5. Migrating to the latest R210 CIU888 Database.
  - a. Launch the ENTIS Configuration Tool (from the Windows Start menu).
  - b. Click the Upload Files button.
  - c. Navigate to the CIU888 database .mdb file folder

(C:\Users\Public\Public Documents\Honeywell\CIU 888 Service Tool R210.1\Site Database\ {actual site database name}).

- d. Once the .mdb file is validated, click the **Configure** button.
- e. Click the **Migrate** button and confirm the migration by clicking **Yes**.
- f. When the ENTIS database is successfully created, create the Experion point files by clicking **Yes**.
- g. Wait for the Success, Experion point files successfully created message.
- 6. Manually enter recorded set point and settings for alarms on SCADA points
  - a. Using Experion Configuration Studio
  - b. Upload all points in the system
  - c. For each point
    - i. Set the alarms
    - ii. Set the data range

### 4.3 Migration Redundant setup with Single Network

If a newer version of ENTIS becomes available, an operational redundant setup with a single network (H12), as commissioned according chapter 5.3 below, can be upgraded by performing the following steps.

Upgrade ENTIS on Server A

- 1. Stop the primary server
- 2. Stop the backup server
- 3. Uninstall ENTIS on server A
- 4. Install ENTIS on server A

Upgrade ENTIS on Server B

Prerequisites: Servers A and B are both stopped

- 1. Uninstall ENTIS on Server B (Backup Server)
- 2. Install latest version of ENTIS on server B (Backup Server)
- 3. Start Server A (Takes Primary role)
- 4. On Server A, launch the Configuration tool to perform migration of the existing database(s).
- 5. Answer Yes to the question "Do you want to create Experion point files?"
- 6. Start Server B (takes the role of Backup server)
- 7. Execute the instructions of Chapter 5.5 Configuring ENTIS for data synchronization



On a redundant backup server (ServerB), the commissioning of redundancy creates some configuration files which get removed by the uninstallation. Therefore, the commissioning needs to be repeated after having upgraded ServerA and ServerB.

- 8. Stop and reboot server B. or Manually start the Mosquitto service on server B.
- 9. Execute the instructions of Chapter 5.6 Configuring Station connections for Server Redundancy

### 4.4 Installing ENTIS as a Server

Perform the following steps to install ENTIS as a server in your system:



The installer application, .NET framework 4.8 and .NET Core 3.1 setup files are contained in the disc drive ENTIS R130 folder within the disk. ENTIS uses .NET framework 4.8 and .NET Core 3.1. If the appropriate framework version is not present in your system, the installer will install it for you.

The restart of your computer is required following the installation of the .NET frameworks.

🧶 → This PC → CD Drive (E:) ENTIS		✓ <sup>™</sup> Sear	ch CD Drive (E:) ENTIS	J
Name	Date modified	Туре	Size	
📙 Redist	12/10/2019 1:00 AM	File folder		
😋 setup	12/10/2019 1:00 AM	Application	175,245 KB	
Setup	12/10/2019 1:00 AM	Application	175,245 KB	

Figure 1: ENTIS Setup

1. Right-click the installer application **Setup** in the disk and run it as Administrator. The ENTIS – Install Shield Wizard appears.



### 2. Click Next. The License agreement screen appears.

🔀 ENTIS			×
License Agreement Please read the following license agreem	ent carefully.		と
Honeywell	Process Solution	ons	^
End User Lie (United States	cense Agreem of America - E	ent nglish)	
IMPORTANT: READ THIS END USER LICENSE AGE USING THE SOFTWARE (AS DEFINED BELOW) AG AND ENFORCEABLE LEGAL AGREEMENT BETWE ("HONEYWELL"). YOU ACKNOWLEDGE YOU ARE AUTHORITY TO DO SO, OR IF YOU DO NOT HAVE ANY DAMAGES RESULTING FROM A BREACH OF	REEMENT ("LICENSI COMPANYING THI EN THE BUYER A BINDING THE BU E THE AUTHORITY, THIS LICENSE, HO	E") CAREFULLY BEFORE S LICENSE. THIS LICENS ND HONEYWELL INTEF YER, AND REPRESENT YOU WILL BE PERSON NEYWELL LICENSES THI	EINSTALLING OR SE IS A BINDING NATIONAL INC. YOU HAVE THE ALLY LIABLE FOR E SOFTWARE TO V
<ul> <li>I accept the terms in the license agreeme</li> <li>I do not accept the terms in the license a</li> </ul>	nt greement		Print
[	< Back	Next >	Cancel

3. Select the "I accept the terms..." option and click Next.



The Program Maintenance screen does not appear if you are installing ENTIS for the first time.

🕼 ENTIS	×
Custom Setup Select the program features you want to install.	と
Click on an icon in the list below to change how a feature is in	stalled. Feature Description Entis is a unique Tank Inventory Management System developed on Experion HS. This feature represents the server application and is not required on clients. This feature requires 395MB on your hard drive.
Install to: C:\Program Files (x86)\Honeywell\Entis\	Change
Help Space < Back	Next > Cancel

- 4. Click Next. The Custom Setup screen appears.
- 5. Select **ENTIS Server** and click **Next**. The Service account details screen appears.



If .NET framework 4.8 / core 3.1 is not present, ENTIS installer will only install when 'ENTIS Server' feature is selected for installation.

得	ENTIS				×
Sei	vice Account Detai	<b>ls</b> Int password detail	s		と
	UserName:	EntisUser			
	Password:			]	
	Confirm Password:			]	
l	Note : This account Please follow the be - At least 8 char - At least one u - At least one u - No Whitespac	wiil be used to run elow password rule: racters (with a max igit upper-case characto ies	certain Entis serv s and must meet t imum of 31 chara er	ices. he following criteria: cters)	
			< Back	Next >	Cancel

6. Enter the Valid password for the ENTIS User account. Click **Next**.

🔀 ENTIS			×
Ready to Install the Program The wizard is ready to begin installation			と
Click Install to begin the installation.			
If you want to review or change any of exit the wizard.	your installation settin	gs, click Back. C	lick Cancel to
	< Back	Install	Cancel

7. Click Install.





A restart is required after the installation is completed.

After a successful installation, the **Install Shield Wizard Completed** screen appears.



The ENTIS Server application is successfully installed in your system as a server.

### **5 INSTALLING ENTIS WITH REDUNDANCY**

Depending on the network topology, extra steps might be required. Please follow the directions of the chapter related to your network topology to implement ENTIS at your site.

- Non-redundant
- Non-redundant ENTIS hosting redundant CIU's
- Redundant with single network

### 5.1 Non-redundant

The next figure will show the topology of a non-redundant ENTIS connected to a non-redundant CIU 888.



### Figure 2: Non-redundant ENTIS topology

No additional steps are required for redundancy. You can continue with chapter **6**.

### 5.2 Non-redundant ENTIS hosting redundant CIU's

The following figure shows the topology of ENTIS on a single server hosting a redundant pair of CIU's 888.



Figure 3: Non-redundant ENTIS hosting redundant CIU's topology

This topology does not require extra commissioning steps for ENTIS. You can continue with chapter **6**.

### 5.3 Redundant with Single network

ENTIS redundant with single network is based on the topology.



### Figure 4: ENTIS redundant single network topology

To commission ENTIS for the topology pictured above, the following steps need to be performed.

### 5.3.1 Prerequisites

Ensure the following:

- The host names of both systems comply with the rule for Experion HS. This means the host name of one system ends with the character "a" and the other with "b".
- Ensure that both servers have Experion HS and ENTIS installed, are connected to the same network and turned on.

### 5.3.2 Commissioning

Commissioning of redundancy starts with steps to commission Experion HS to support a single network. These steps need to be performed after having installed Experion HS and ENTIS.

The following sections describe the steps to configure the hosts file, define the arbitration and setup the data links between the servers.

### Configure the host file

During commissioning of the Single Network Redundancy topology (Topology H12), see Figure 5, the hosts file need to be constructed according the following instructions.

In a single network configuration without Backup Control Center (BCC), both servers are connected on a single network and have a single network card installed. Figure 5 shows an example of a single network configuration.



Figure 5: Single network configuration

In this example the TCP/IP address of **hsserva** is 192.168.0.1 and the TCP/IP address of **hsservb** is 192.168.0.2. Add the following lines to the hosts files:

- # TCP/IP address for primary
- 192.168.0.1 hsserva hsserva0
- # TCP/IP address for backup
- 192.168.0.2 hsservb hsservb0

### 5.3.3 Configure arbitration



The Experion HS command prompt referred to in the next section can be located at: C:\ProgramData\Microsoft\Windows\All Honeywell tools\Server\Diagnostic Tools\Experion Command Prompt.Ink

The arbitration method to be used in your redundant server system must be defined for the primary and backup servers.



An example hardware definition file (which you can modify and use) is shipped with Experion HS. The file name is redun.hdw and is located in <data folder>\Honeywell\Experion PKS\Server\User\, where <data folder> is the location where Experion data is stored. For default installations, <data folder> is C:\ProgramData.

#### Prerequisites

 You must stop the Experion HS server before using the hdwbld utility.

### To define the arbitration method

- 1. In any text editor, open or create your hardware definition file.
- 2. Add the following entry to the hardware definition file:

DEL PSW00

ADD PSW00 NETWORK PSW RECOVER=recover option

IDLE=10 READ=15

#### Where the recovery option is **ABORT** or **REBOOT**.

**ABORT** means that when a failover occurs, Experion HS server service is stopped and restarted on the failed server. **REBOOT** (the recommended option) means that when a failover occurs, Experion HS server service is stopped and the database unloaded on the failed server. The Experion HS server service is then restarted.

- 3. Save the file and copy to the primary and backup servers.
- 4. Type the following:

#### hdwbld filename.hdw

where **filename** is the path and filename of the file you created in the text editor.

5. Repeat the above step on the backup server.

#### **Example:**

The following hardware definition file entries are for a redundant server system with software arbitration. When a failover to the backup server occurs, Experion HS is stopped and restarted on the primary server.

DEL PSW00

ADD PSW00 NETWORK\_PSW RECOVER=ABORT IDLE=10 READ=15

### Defining the data links

When the primary and backup servers are running in redundant mode, all database changes on the primary server are sent to the backup server via data link. (A data link is a network path between the primary server and the backup server.)

A hardware definition file must be created defining the data links. This file must be built individually on both servers (using the hdwbld utility).



The example hardware definition file <data folder>\Honeywell\Experion PKS\server\user\redun.hdw also includes data link definition examples. Where <data folder> is the location where Experion data is stored. For default installations, <data folder> is C: \ProgramData. The C: \ProgramData folder is a system folder, which means that it is only visible if you select the Show hidden files, folders, and drives option button in the Folder Options dialog box. To change this setting in Windows Explorer, click Organize > Folder and search options, and then click the View tab.

### To build the data link for a single network

- 1. Open a text editor such as Notepad.
- 2. Add the following entry to the file:

DEL LNK00

ADD LNK00 NETWORK LINK

- 3. Save the file with a . hdw extension.
- 4. On the primary server, open the Experion HS Command Prompt window. To run Experion HS commands, you must be a member of the Product Administrators group. If you want to do engineering tasks, you must be a member of the Local Engineers group. You must run Experion HS commands from the Experion command prompt and not the standard Windows command prompt, otherwise you will not see the output from the command and the command will fail.
- 5. Type the following:

hdwbld filename.hdw

where filename is the path and filename of the file you created in the text editor.



Performing step 5 will result in the system showing the following screen.

```
👞 Experion Command Prompt
                                                                                 ~
::\>hdwbld C:\ProgramData\Honeywell\Entis\redun.hdw
Hardware builder
WARNING: System status is BACK-UP
       Database changes will not be
       transferred accross the link
       Source file: C:\ProgramData\Honeywell\Entis\redun.hdw
       Output file:
 ******
 Redundancy Option Hardware Definition File
 *******
 *******
 Define the arbitation type
& Add this line if you are using the Software arbiter
DEL PSW00
ADD PSW00 NETWORK_PSW RECOVER=REBOOT IDLE=10 READ=15
& Note: The valid values to which IDLE and READ can
& be set are as follows:
& - the IDLE value can be 5 or 10 only
& - if IDLE=5 then READ can be between 10 and 40
 - if IDLE=10 then READ can be between 5 and 20
 This leads to a failover time of between 5 and 20 seconds
 Add this line if you are using a Communications Director
 DEL PSW00
 ADD PSW00 SERIAL PORT=COM1 BAUD=1200 RECOVER=REBOOT
 ***********
& Add this line for your first network
DEL LNK00
ADD LNK00 NETWORK LINK
& This line should also be added if you are using dual networks
& DEL LNK01
 ADD LNK01 NETWORK_LINK
& For Backup Control Center, add list of servers to ADD LNK lines
& ADD LNK00 NETWORK_LINK SERVERS=0A,0B,1A,1B
& ADD LNK01 NETWORK_LINK SERVERS=0A,0B,1A,1B
END
Hardware build complete.
   0 ERRORS
::\>_
```

**Figure 6: Experion Command Prompts** 

### To start Experion server

1. Search for the "Start-Stop Experion PKS Server" application in the Windows Start menu and open it.

If Experion is shut down, this app's status will look like the following:

🕸 Exp	perion HS Server	—		×
	<ul> <li>Database Unloaded</li> <li>Database &amp; Daemons</li> </ul>	⊖ Databa ⊖ Syster	ase Oni n Runni	ly ing

- 2. Click on System Running and select Yes.
- 3. Once the server is started, System Running will be selected.



### 5.4 Configuring ENTIS for File Replication

In the redundant configuration for ENTIS, there are artifacts that must be synchronized between the redundant servers. ENTIS leverages the Experion File Replication service, which must be configured by following these steps:

- Open Honeywell Experion Station:
- Open the Windows Start Menu
- Select Honeywell Experion → Experion Station
- Log in as a user with Manager permissions
- Open the file replication configuration page in Station via the top menu bar

 $\text{CONFIGURE} \rightarrow \text{File Replication}$ 



The ENTIS Installer will create the correct shared network folders, with the proper access permissions, for the replication service to work properly.

Select an empty row at the bottom of the list The edit page will open



To Change the settings and fields, one must confirm each edit by pressing the "Enter" key.

- 1. Definition changes:
  - Name: EntisRepository
  - Path (will populate automatically to the created shared folder)
  - o Select "Replicate files from this path"
  - Select "Postpone replication if files are in use by another application"
- 2. File selection changes:
  - Select "Include subdirectories"
  - o Deselect "Overwrite existing files (even if newer)"
  - o Select "Auto purge/mirror files"
- 3. Schedule changes:
  - Deselect "Replicate every day at"
  - o Select "Replicate automatically whenever files change"
- 4. Destination changes:
  - Select "Specific PC's"
  - Enter both PC names <servername>A and <servername>B
  - Confirm green indicator for both (when <servername>B is also running)
- 5. Click "Save"
- 6. Click "Replicate Now"

### 7. Confirm status "OK"

🕺 Station - Default - File Replication Settings(sysDtIFil	eReplication.htm)	+ 4	10.146.3.162	- ē × /			- 8 ×
ENTIS STATION EDIT VIEW CONTROL ACTION							
			🕲 🔍 Zoom To Fit 💌 Command				•
System Configuration	File Replication 16				Ĺ		
General     Sever License Details     File Replication     System Hardware     Alarm & Event Management     Operational Security	Definition Name    EntisRepository Path: CAProgram DataNH   Repicate files from this path   Postpone repication if files are in use by an Network bandwidth limit.   None	oneywell/Entis other application	Last repica Sta	Save Replicate now 03-Mar-21 12:52:06 PM Itus: OK Purge			
History     Reports     Schedules	File mask:  File mask:  Coverwrite existing files (even if newer)	0	Schedule  Replicate every day at  Replicate automatically whenever 1	0:00 hh.mm			
+ Trend & Group Displays	Auto purge / mirror files						
+ Applications	Extra files on the destination machines will be r	emoved					
+ Application Development	Destination						
+ Server Scripting	Desthauon						
	All distributed servers ServerA ServerA ServerB	● ▲ 0 ● ↓					
				View rej	port	Activate Windows Go to Settings to activa	i ste Windows.
	03	-Mar-21 12:51:40 Entis/	sset CIU1_HAL ALARM U 00 CIU 888	Hot Standby Alarm ALLFAIL			
Honeywell Experion	03-Mar-21 12:54:37	ALARM	SYSTEM [F] MESSAGE	Ø ALERT		Stri01	2 Oper

- 8. Go back to CONFIGURE  $\rightarrow$  File Replication
- 9. Select "Send" box at the "EntisRepository" entry

Station - Default - File Replication Summary(sys	CfgFileReplication.htm	m)								- 8 ×
station edit view control action 点 & & ロロロロロ レ	configure Help	• • . / X (1) 0 700m	To Ed Command							
	-0   11 -		to ric v Command							
Ξ System Configuration	File	Replication								
- General		Name	Send status	Send	Lasts	end				
Server License Details	1	QDB\$	🥥 ок	✓	14-Nov-19	10:46:44	Replic	cate all now		
File Replication	2	<u>views</u>	🥥 ок	<b>v</b>	12-Nov-19	10:36:32	s	tave all		
+ System Hardware	3	mapping	ок	$\checkmark$	12-Nov-19	14:16:40				
+ Alarm & Event Management	4	das	OK	$\checkmark$	12-Nov-19	10:36:32				
	5	NotifOverrides	UK	-	12-Nov-19	10:36:32				
	6	odsquery	OK	$\checkmark$	12-Nov-19	10:36:32				
+ History	7	<u>odsdata</u>	OK	✓	12-Nov-19	10:36:32				
+ Reports	8	abstract	OK	<b>v</b>	12-N04-19	10:36:32				
+ Schedules	9	Menus And Tooloans	ok	✓	13-NOV-19	10:00:42				
+ Trend & Group Displays	10	EquinTemplates	ok	⊻	12 Nov 19	10.33.17	_			
+ Applications	12	IEC61850	🥥 ок	v	12-Nov-19	10:36:32				
+ Application Development	13	CompressorMaps	🥥 ок	v V	12-Nov-19	10:36:32				
	14	EntisRepository	🥥 ок	•	14-Nov-19	10:41:26				
+ server scripting	15		Unconfigured							
	16		Unconfigured	П						
	17		Unconfigured	П						
	18		Unconfigured							
	19		Unconfigured							
	20		Unconfigured				•			
							_			
									Activate Window Go to Settings to activ	rs ate Windows
			14-Nov-19 10:11:22 Serve	er Location 0 Re	dundant COM	IS U 00 ISERV	/ER 1021 Server B	Down	Go to Settings to Beth	ale mildons.
Romerwall Experion		14-Nov-19 10:47:01	🛆 ALARM	M SYSTEM	E MESS	AGE	ALERT	server-a	Stn01	Mngr



This configuration must be repeated on the redundant server (<servername>B)

### 5.5 Configuring ENTIS for data synchronization Prerequisites:

- 1. ENTIS on both Primary and Backup servers.
  - Includes the configuration and installation of Experion HS.
  - ENTIS installer will create the files and network shares with the right permissions.
- 2. Experion File Replication setup on both Primary and Backup servers.

To configure Redundancy features for ENTIS, do the following on the **Primary** server:

- 1. In Windows Explorer, **Open** the folder: <ENTIS install directory>\Redundancy
- 2. Locate "RunRedundant.bat" file
  - o Double click the "RunRedundant.bat" file

Script output:

3. Reboot the Backup server



### 5.6 Configuring Station connections for Server Redundancy

Stations need to connect to whichever server is running as the primary server. However, special Station configuration is required for local and network-connected Stations to locate and connect to the server running as primary.

Two options are available (both can be performed if needed):

- 1. Single screen stations without SafeView, continue to chapter 5.6.1.
- 2. Multi screen stations with SafeView, continue to chapter 5.6.2.

When either (or both) are completed proceed to chapter 6.

### 5.6.1 Single-screen stations

To configure the station connections:

- 1. Start Experion Station on the Primary Server
- 2. On the top menu bar goto "Station", "Connect..."
- 3. Select "Default"
- 4.  $\rightarrow$  Edit Connection.. (opens connection properties window)

Connection Properties - Default	×
Connection Displays Appearance Toolbars Notifications Web	Access Scripting
Connection type: <ul> <li>Static Station</li> <li>Rotary Station (for casual use)</li> </ul>	
Server(s): servera,serverb	~
Station number: 1	
Window mode:   Single window  Panel PC	
Aurilian achus file	Basic <<
	Browse
Other connection properties:	
Communications timeout 130	seconds
FunctionKeyRepeatInterval Show reconfigure dialog on connection fail 1	
,	
Save As.	Cancel

**Figure 7: Connection properties** 

- 5. Type the server names separated by comma, in "Server(s)" followed by Enter (see Figure 7)
- 6.  $\rightarrow$  Save as .. Default.stn  $\rightarrow$  Save (Overwrite)
- 7. Close Experion Station on the Primary Server, Start Experion station on the Backup Server
- 8. Repeat steps 2..6 on the Backup server

### 5.6.2 Multi-screen stations using SafeView

For Redundant systems using SafeView to display multi windows over multiple screens, a special Station configuration is required using the supplied **ENTISMultiScreen.stn** file. This needs to be modified using a text editor to avoid file corruption.

To configure the station connections:

- 1. On the **Primary** Server
- 2. In Windows Explorer, navigate to

C:\ProgramData\Honeywell\Experion PKS\Client\Station\

- 3. Open "ENTISMultiScreen.stn" with notepad
- 4. Scroll to "[Communications]"
- 5. Change "Connection Type" to "LAN"

54	
55	[Communications]
56	CommTimeout=130
57	ConnectionType=LAN
58	HostNotPrimaryFailoverAttempts=3
59	

#### Figure 8: ENTISMultiScreen edit Connection Type

- 6. Scroll to "[LAN]"
- 7. Change "Hostname" Type the server names separated by comma

67	[LAN]
68	AuxiliarySetup=
69	DisplayType=0
70	FastUpdateRate=1
71	HostName=servera,serverb
72	NormalUpdateRate=5
73	StartupDisplay=sysstartuppage.htm
74	StaticNode=1

### Figure 9: ENTISMultiScreen edit Hostnames

- 8.  $\rightarrow$  Save ENTISMultiScreen.stn
- 9. Repeat steps 2..8 on the **Backup** server

Continue with chapter 6

# 6 INSTALLING ENTIS AS CLIENT (USER INTERFACE)

Perform the following steps to install ENTIS as a Client or User Interface in your system.

```
T
```

For Client/User Interface only, not for Server use.

🥪 → This PC → CD Drive (E:) ENTIS		✓ <sup>™</sup> Sear	ch CD Drive (E:) ENTIS	Q
Name	Date modified	Туре	Size	
📙 Redist	12/10/2019 1:00 AM	File folder		
😋 setup	12/10/2019 1:00 AM	Application	175,245 KB	

#### Figure 10: ENTIS Setup

1. Right-click the installer application **Setup** in the disk and run it as Administrator. The ENTIS – **Install Shield Wizard** appears.



2. Click Next. The License Agreement screen appears.



3. Select the "I accept the terms..." option and click Next.



The Program Maintenance screen does not appear if you are installing ENTIS for the first time.

4. In the **Custom Setup** screen, click the drop-down button to the left of *ENTIS Server* and choose the **This feature will not be available** option.

Sele	ct the program features you wa	ant to install.		C
Click of	n an icon in the list below to cha	ange how a feature is	Feature Description	
	<ul> <li>This feature will be installed on local hard drive.</li> <li>This feature, and all subfeatures, will be installed on local hard drive.</li> <li>This feature will be installed when required.</li> </ul>			
	× This feature will no	t be available.		
Install	to: gram Files (x86)\Honeywell\Ent	tis \		Change
5. Select the option ENTIS User Interface.

🚽 ENTIS				>
Custom Setup Select the program fe	atures you want to	install.		4
Click on an icon in the lis	st below to change i er Interface	how a feature is ins	talled. Feature Descript The User Interfa overview of tank ENTIS (Experion is also a require the ENTIS serve This feature req your hard drive.	tion to provides an t inventories on an HS) station. This d component on r. uires 202MB on
Install to: C:\Program Files (x86)\H	loneywell\Entis\			Change
Help	Space	< Back	Next >	Cancel

6. Click Next.

🔀 ENTIS			X
Ready to Install the Program The wizard is ready to begin installation			と
Click Install to begin the installation.			
If you want to review or change any of exit the wizard.	your installation	settings, click Back. (	Click Cancel to
	< Back	Install	Cancel

### 7. Click Install.

After a successful installation, the **Install Shield Wizard Completed** screen appears.

🛃 ENTIS	×
	InstallShield Wizard Completed
	The InstallShield Wizard has successfully installed ENTIS. Click Finish to exit the wizard.
	☐ Show the Windows Installer log
	< <u>B</u> ack <u>Finish</u> Cancel

The ENTIS application is successfully installed in your system as a client.

To configure the client's station connection.

- 1. Open Experion station, select STATION on the top menu bar
- 2.  $\rightarrow$  Open Connection Properties (opens the connection properties window).

Connection P	ropertie	es - Default				×
Connection	Display	vs Appearance	Toolbars	Notifications	Web Access	Scripting
Connection	type:	<ul> <li>Static Station</li> <li>Rotary Statio</li> </ul>	n (for casua	al use)		
Server(s):		servera,serverb				~
Station num	ber:	3				
Window mo	de:	● Single windo ○ Panel PC	W			
- Augilian	satura file				Basic <	<
Advillary	setup nit	5			Browse	
Other conne	ection pr	operties:				
Communica	ations tin	neout			130 seconds	
FunctionKe	eyRepea	tinterval			_	
Show reco	onfigure	dialog on connec	tion fail		1	
,						
			Sa	ive Sa	ave As	Cancel

#### Figure 11: Connection properties

In the properties Window.

- 1. In **Server(s)**, enter the server name (or comma separated list in case of redundant servers) or IP address.
- 2. Select Station 2 or another station other free station station.
- 3. Press **Save** and Connect.

With this configuration, the client station connects to the server defined in the Default.stn.

# **7 INSTALLING ENTIS ON PANEL PC**

Perform the following steps to install ENTIS as Server/User Interface on Panel PC:



Panel PCs have pre-Installed Windows 10 Enterprise 2016 LTSB operating system.

- 1. Perform steps 4 and 5 from section 4.1 procedure to install Experion HS 511.5.
- 2. Select the preferred option for ENTIS Server/ENTIS User Interface.
- 3. Click Next.
- 4. Follow the same steps from the previous procedure to complete the installation of ENTIS as a Server/Client on Panel PC.
- 5. Follow the procedure decribed in section 5.6 for configuring station connections using PanelStation\_Default.stn



New Station (PanelStation\_Default.stn), .xml (DisplayGroupLinks.xml) .stb (PanelStation\_Default.stb) files are provided to accommodate ENTIS Panel PC Station view.



Station View for panel PC

# 8 Changing Language

## 8.1 ENTIS and Experion HS server

Perform the following steps to change ENTIS and Experion language to Dutch, French, Italian, Chinese, Russian or Spanish. Only the Administrator can change it during ENTIS installation.

- 1. **Operating System (OS)**: Install Language Pack in your Windows OS first as mentioned in Prerequisites above.
- ENTIS: Browse to the path C:\Program Files
   (x86)\Honeywell\Entis\Localization and execute the batch file
   RunChangeLocale.bat.

This will change ENTIS and Experion HS language to the system's Windows OS language.

**Experion**: The default language is English. For more information please find in the links below:

- <u>http://hpsvault.honeywell.com/sites/hpsvault/products/experion-pks/Documents1/Experion-Localization/Experion-Localization%20v2.html</u>
- <u>http://hpsvault.honeywell.com/sites/hpsvault/products/experion-pks/Documents1/Experion-Localization/Languages-Available\_old.pdf</u>
- 3. Start Experion PKS Server.

To start Experion server:

1. Search for the "Start-Stop Experion PKS Server" application in the Windows Start menu and open it.

If Experion is shut down, this app's status will look like the following:

Experion HS Server	- 🗆 🗙
<ul> <li>Database Unloaded</li> <li>Database &amp; Daemons</li> </ul>	○ Database Only ○ System Running

2. Click on **System Running** and select **Yes**. Once the server is started, **System Running** will be selected.



Note: Administrator should make sure that the site is not in full operation before executing the batch file for language change.

## 8.2 Experion HS Client

Perform the following steps to change Experion HS Client language to Dutch, French, Italian, Chinese, Russian or Spanish. Only the Administrator can change it during ENTIS installation.

- 1. **Operating System (OS)**: Install Language Pack in your Windows OS first as mentioned in Prerequisites above.
- ENTIS: Browse to the path C:\Program Files
   (x86)\Honeywell\Entis\Localization\ ExperionHS and execute the batch
   file RunChangeEPKSLanguage.bat.

This will change Experion language to the system's Windows OS language.

Note: ENTIS client language will remain same as ENTIS server.

**Experion**: The default language is English. For more information please find in the links below:

- <u>http://hpsvault.honeywell.com/sites/hpsvault/products/experion-pks/Documents1/Experion-Localization/Experion-Localization%20v2.html</u>
- <u>http://hpsvault.honeywell.com/sites/hpsvault/products/experion-pks/Documents1/Experion-Localization/Languages-Available\_old.pdf</u>

# 9 Verifying successful installation

Perform the following steps to ensure that ENTIS is successfully installed in your system.

#### On the Entis server machine

- 1. Open the Start menu.
- 2. Type "Control Panel".
- 3. Select Programs and Features.
- 4. Find 'Entis'. The version number should start with 130.1

		4. FIND EINS. THE VEISIO			50.1.	
ଶି	Programs and Features					
÷	- 🔿 👻 🛧 🛐 > Control Pa	anel > Programs > Programs and Features				
	Control Panel Home	Uninstall or change a program				
	View installed updates	To uninstall a program, select it from the list and then	click Uninstall, Change, or Repair.			
👎 Turn Windows features on or						
	off	Organize 🝷				
		Name	Publisher	Installed On	Size	Version
		📭 7-Zip 21.02 alpha (x64)	Igor Pavlov	6/7/2021	5.10 MB	21.02 alpha
		Active Directory Authentication Library for SQL Server	Microsoft Corporation	4/6/2021	1.78 MB	14.0.3015.40
		b BabelEdit	code-and-web.de	5/10/2022	101 MB	2.8.0
		Beyond Compare Version 3.0.15	Scooter Software	4/7/2021		
		Browser for SQL Server 2017	Microsoft Corporation	4/6/2021	11.0 MB	14.0.1000.169
		Eclipse Mosquitto MQTT broker		6/27/2022		2.0.11
		rentis	Honeywell International Inc.	6/27/2022	802 MB	130.1.17.2
		<ul> <li>☐ Browser for SQL Server 2017</li> <li>■ Eclipse Mosquitto MQTT broker</li> <li>#ENTIS</li> </ul>	Microsoft Corporation Honeywell International Inc.	4/6/2021 6/27/2022 6/27/2022	11.0 MB 802 MB	14.0.1000 2.0.11 130.1.17.2

- 1. Open the **Experion Station**, ENTIS splash screen should open directly as shown below.
- 2. **ENTIS** appears on the main menu of the **Experion Station** as shown below.



You have verified that the ENTIS application has been successfully installed in your system.



Check installed ENTIS Version.



# 10CONFIGURING THE ENTIS SYSTEM IN EXPERION

Configuring ENTIS means to customize the Experion server database for your plant. It involves defining communication connections, and the data acquisition and control that you want to implement at your site.

ENTIS is configured according to the end user requirements using Configuration Studio, which is installed as a part of the Experion installation.

## 10.1 Starting Configuration studio

#### Prerequisites

You must have an Experion operator account on the Experion server to which you want connection.



If this is a new installation, use the default mngr account.

To start the Configuration Studio:

Perform the following steps to start Configuration studio:

- 1. Choose Start > All Programs > Honeywell Experion PKS > Configuration Studio.
- 2. Log on to Configuration Studio.



The login prompt is only displayed if the account used to log on to Windows is not configured as an operator either directly or via Windows group membership, that is, if your system is not using single sign on. If single sign on is enabled, you do not need to enter a name or password, or select a domain name.

- a. Type the operator name and password.
- b. In the Domain list, select one of the following:

lf	Select
The operator name is maintained in a	The Windows domain name
Windows domain	
The operator name is maintained on the	Servername (the target)
server or system that you are connecting,	
and you use integrated security	
You are using traditional operator security	<traditional operator="" security=""></traditional>

c. Click OK.

LTSBWeb	
Getting Started Summary Resource Allocation Performance Tasks & Events Al	larms Console Permissions Maps
🕸 Configuration Studio	^
File View Tools Windows Help g <sup>모</sup> g Connect	
Close er	
Exit	
SystemName	
⊡ <mark>}} SystemName</mark> ⊡∰ Servers	Server Tasks
SERVER_112     Stations and Consoles     Servers     Printers     Control Strategy     Strategy     Trends and Groups	<ul> <li>Add a server to this system</li> <li>↓ Load system configuration to set</li> <li>✓ Export server definitions</li> <li>✓ Import server definitions</li> </ul>
Displays     System Access	Suctam Tacke

#### The Configuration Studio window appears.

- 3. Go to File > Connect to open the Connect dialog box.
  - a. Connect to Experion System (not to Experion Server)
  - 4. In the **Connect** dialog box, click **Other Targets** tab.
  - 5. In the Target Type drop down box, select Experion System.
  - 6. In the **Target Name** text box, type *localhost* Alternatively, you can specify the IP address of the server.
  - 7. Click **Connect**.

뤎 Connect	×
Local Targets	Other Targets
Target type:	Experion Server
Target name:	Experior System QuickBuilder Database
-	
	Connect Cancel



Select a system when you want to configure your asset model, configure your Network tree, or select a server for specific tasks.

- d. Select the option under **Server Tasks** to add a server to this system.
- e. Enter Alias (ENTIS Server).
- f. Enter **Description** (e.g., *ENTIS R130 Server*).
- g. Enter **Node Name:** Enter the name of the PC here (ENTISSVR).
- h. Click OK.

SYSTEM:SERVER Block, SERVER_	103 - Parameters
Main Identification	
Alias Description:	ENTIS Server ENTIS R121.2 Server
Server External To System?	
Non-Publishing Server	
Node Information: Node Name:	ENTISSVR
Network Type:	SINGLE/FTE
E Redundant?	
Backup Control Center Count:	0
System Wide Event Configuratio	n: le Live Event Cache de Events Wide Events



For Redundant Servers, enter the Node Name as PC name without the A or B (e.g. ENTISSVR or SERVER and also check/enable Redundant?).At this time ENTIS is only network type of single/FTE.

#### i. Click Yes.

Enterprise	e Model Builder	×
1	A server has been added. You must perform a load of the system configuration to distribute the change to all the servers. Do you wish to continue having these server update messages displayed for this session of Configuration Studio?	
	Yes No	

j. Click Continue.



#### k. Click OK.

Migration of Asset Model/Alarm Groups	
Migration of server 'ENTIS Server'	
Migration completed successfully	ОК
No Alarm Groups found on the server 'ENTIS Server' No Asset Model found on the Server 'ENTIS Server'	

8. Results: Configuration Explorer is populated with a tree of items that you can configure for your system as shown below.



## **10.2Configuring Assets**

Assets are items that make up the asset model.

#### **Prerequisites**

You have a security level of ENGR or higher. See Refer to ENTIS User's Guide, ETDOC-615-en-R130.1, see **Documentation References** 

- You have launched Configuration Studio and connected to an Experion system.
- Configuration Studio should be connected in system mode to add the server.
- Once the server is added, you can add assets to it by connecting Configuration Studio in system mode.
- You can only configure assets within an Experion system.
- You have already configured the system and added servers to the system using Configuration Studio.

To configure assets:

- 1. In the **Configuration Explorer** in Configuration Studio, select the highest-level system node.
- 2. In the right pane, under System Tasks, click Configure Assets for this system.

🕸 Configuration Studio	
Eile View Jools Windows Help & 1 Configuration Explorer II HPVIE1FCIUBLD03 - Quick Builder	
₽₽ HS500	
Servers     Servers     Servers     Stations and Consoles     Stations and Consoles     Printers     Control Strategy     System Access     System Access     System Access     Sole Acce	Server Tasks  Add a server to this system  Load system configuration to servers  System Tasks  Configure Assets for this system  Configure Assets for this system  Configure Assets for this system  Administer the system Atama Groups for th  Rename this system  Administer the system Atabase  Configure Alarm Suppression  Fer Export server licenses  Search  Search  Sarch the System

3. The **Enterprise Model Builder - Asset** window appears. The left side of the window shows an Asset tree view containing the asset model structure.

4. If the Asset tree view window is not visible, click Open Tree on the toolbar to open the asset model.



# 5. Choose File > New ASSET.

The ASSET Block Parameters dialog box appears.

ASSETS:ASSET Block, ENTISAsset	- Parameters			?	×
Main Identification					
Tag Name	ENTISAsset				
Item Name	ENTISAsset				
Full Item Name:	Assets/ENTISAsset				
Description:	This asset is used for ENTIS				
Point Detail Page:					
Associated Display:					
Directly Assignable(scope of r	esponsibility, alarm enable/disable)				
Show Parameter Names		OK	Cancel	He	lp



In order for the configuration to work, the asset name must always be set to ENTISAsset (case sensitive)

- 6. In the **Tag Name** box, Enterprise Model Builder has already assigned a default tag name. Type a new unique tag name.
- 7. In the **Item Name** box, Enterprise Model Builder has already assigned a default item name. Type another item name, if you require a different item name.
- 8. In the **Description** box, type a description of the asset.
- 9. In the **Point Detail Page** and **Associated Display** boxes, type the name of the associated displays.
- Select the **Directly Assignable** (for scope of responsibility and alarm enable/disable) check box if you want the asset to be assignable to an operator, Station, or alarm group. The icons for unassigned assets in the Asset tree view appear dimmed.
- 11. Click the **Identification** tab.
- 12. In the **Block Comment** boxes, type additional information about the asset.
- 13. Click **OK** to create the asset. The asset appears in the Asset tree view.



You can arrange assets within the asset tree view by the clicking on the asset icon, and then dragging and dropping the icon to the new location.

## 10.3 Loading Asset Model on to Servers in the System

The asset model can be loaded to servers that are configured as part of the Enterprise Model. The asset model can be loaded to the Experion server.

This operation loads the entire asset model to the selected servers. The entire model includes the system configuration and all defined items in the model, which includes the top-level asset and all assets groups associated with that item. Individual assets cannot be loaded; assets are loaded as a model.



During the load operation, assets and points may temporarily belong to unassigned items in the Alarm Summary display. The tree view on the left of the display may show an incomplete model. These conditions should clear once the download is completed. When you start the load process, all items of the Asset model and all configured servers selected for load are locked to other users. If the asset model to be loaded is already locked, an error is reported and the load operation is aborted. If any of the configured servers are already locked an error is reported and the load operation is aborted.

#### Prerequisites

- You have a security level of ENGR or higher.
- A system model has been defined, consisting of at least one server.
- An asset model, have been defined.
- You have the Enterprise Model Builder window open with either an Asset tree view displayed.

#### To load the asset model onto servers in the system:

 In Enterprise Model Builder, choose Tools > Load Entire Model or click Load Entire Model on the toolbar. The Enterprise Model Builder - Load window appears.

Enterprise N	∕lodel Build	er - Load						×
Asset to L	.oad :		Assets					
Date last	changed :		03/13/21 18	07:46				
Load		Server Name			Date Lo	aded To Se	erver	]
	ENTIS Server	,						_
Force Lo	oad (Will over	ride existing sys	tem and reposi	tory name)	l			
					0K	Cancel	Help	

2. In the Load column, select the check boxes of the servers that you want to download the asset to. Clear the check box of any servers that you do not want to load asset to.



If no servers are selected, the OK button is disabled.

- 3. If required, select the **Force Load** check box to allow the load to proceed even if the system name or repository name has changed.
- 4. Click **OK** to begin the asset or alarm group load to the selected servers.

The Loading Asset dialog box appears, showing the name of the toplevel asset or alarm group that is being loaded. A progress bar shows the duration of the load operation.

Loading Asset			
Loading Assets on s	elected servers Complet	ed	
Server Name ENTIS Server	Load Status Completed	Details / Errors [Double-click to view log file]	
<			>
			OK

#### Results

The load operation validates all server names of all the configured servers in the system, as well as the point and full item names of the asset model.

If the load operation is successful without detection of any errors or warnings, a load status of Complete appears.

If any errors occur during the load operation, correct the fault and then perform the load procedure again.



Use the online help manual to get more information about the page at any point of time within the application. Press F1 to access Online help.

## 10.4Creating FLEX or Client Stations (Multi user)

You can create and configure more than one station using Quick Builder.

To create a Station using Quick Builder:

1. In the **Quick Builder** window tree view, click **Stations**. The Stations window appears.

Configuration studio					
File Edit View Tools Windows Help					
🔒 🖬 🗈 🗙 🆘 🖲 🖬 🖓 🝠 🛃	± @				
Configuration Explorer 1 HPVIE1FCIUBLD03 - Qu	ick Builder				×
All items	Stations		γ. ο	2	
	Name		<ul> <li>Item Number</li> </ul>		
- Controllers	STASTAL		STN01		
- (I) Equipment					
- Points	Add Items			×	
	Number of Items:	1 Remaining: 158	Name: STASTA2		
- <u>H</u> Servers					
- EFM Meters	Item Family:	Station ~	Summary		
- TRegde Bin			Add item named STASTA2		
	Item Type:	Rotary Station			
		Static Station			
All Rems	·				
SCADA Controller				OK Cancel	
T8 Assets					

- 2. In the **Stations** window, right-click and select the **Add Items**. The **Add Items** dialog box appears.
- 3. Type the number of items you want to create in the **Number of items** field. If you choose to create more than one item, extra fields appear where you can define the suffix applied to each item name. The variable used can be numbers of letters.
- 4. From the **Item Family** list, select the applicable family. If you used a template or a right-click menu option to invoke this dialog, this field will default to the template type or the item you had selected at the time.
- 5. From the Item Type list, select the item type.
- 6. In the **Name** text box, type in the name for this item, or you can accept the default provided. A summary of the details you have provided is displayed.
- 7. Click **OK** to add the item(s) to the list.
- 8. The new items appear in the List View.
- 9. Click the download button **button** on the toolbar.

The Download window appears.

🔘 All iter	ms relevant to sel	ected server		
Select	ed items only:			
◯ Items	changed since las	st download		
Selected	Item Name	Server Type	Server Name	Edit Options
$\sim$	DefaultServer	Experion PKS	1	
Summary	r:		HPVIE1FCIUBLD03	Edit options
Summary — DefaultServer item: 1 Si	r: tatic Station		HPVIE1FCIUBLD03	Edit options
Summary JefaultServer item: 1 Si	r: tatic Station		HPVIE1FCIUBLD03	Edit options

- 10. Click the **Download** button.
- 11. The **Results** message box will be displayed after successful completion of download.

Results		×
Download Successful.		
For further details, doubl	e click on files below:	
File	Location	
🌏 QBDB.hdw	C:\ProgramData\Honeywell\Qui	
		ОК

12. Click OK

## **10.5 ENTIS Multi Screens Using SafeView**

Multi-screen layouts are achieved using the Experion SafeView application. ENTIS comes with preconfigured workspace settings files that implement various screen layout configurations. The image below shows the window layout for each screen configuration.



The actual screen resolutions depend on the hardware that the system runs on and needs to be configured as per the following sections.

#### 10.5.1 Change the resolution / Desktop Area pixels

Set the Desktop Area pixels / Monitor resolutions in the WDL files as per the Windows Display Resolution.

1. The WDL files can be found at:

"C:\ProgramData\Honeywell\Entis\Experion MultiScreen Files"

- a. EPKS\_Single\_Screen.wdl
- b. EPKS\_Dual\_Screen.wdl
- c. EPKS\_Dual\_Screen\_vertical.wdl

- d. EPKS\_Quad\_1x4\_Screen.wdl
- e. EPKS\_Quad\_2x2\_Screen.wdl
- Find the resolution of your monitor(s) at Desktop > Display Settings -> Display Resolution
- 3. For each WDL settings file,
  - a. Open the file using notepad.exe or other text editor
  - b. Navigate to the following lines:

number xresolution = 1280; // Desktop Area pixels width(x) number yresolution = 1024; // Desktop Area pixels height(y)

c. Update the pixel values of the Desktop Area pixels width(x) and height(y) resolution.

#### 10.5.2 Verify the Settings

It is recommended that all steps in this Installation and Configuration Guide be completed before attempting to verify the SafeView configuration.

10.5.2.1 Open the SafeView Application

- 1. Open the **Windows Start Menu**
- 2. Select Honeywell Experion  $\rightarrow$  SafeView
- 3. Click on Load Workspace...
- 4. Browse to: C:\ProgramData\Honeywell\Entis\Experion MultiScreen Files
- 5. Select a WDL file
  - a. Verify that all windows fit the desired screen configuration as dictated by the hardware of the customer.
- 10.5.2.2 Customize the SafeView Windows

The WDL files included with ENTIS are preconfigured to display certain Experion or ENTIS pages in each "window". This can be changed to any page:

- Use the >> button to make window active/ focus on respective window title bar. Note: Only one of the windows will have output focus.
- 2. On the Command Tool Bar
  - a. Use ENTIS and Experion menu's and open any page (eg Alarm, ENTIS Group View etc)

To Hide unwanted Windows, click on Hide Place Holder. E.g. to Go back to

from 4 to 3 Windows.

10.5.2.3 Exit Multi Screens

- 1. From Experion Station Select the Menu Station -> Exit.
- 2. From SafeView application menu -> Exit.

Note: Exiting SafeView will reset the customized page selections to the default screens installed with ENTIS.

## 10.6 Remove old tanks (and SCADA points) from Experion

- 1. Open Configuration Studio.
- 2. Select the ENTIS server you are working on.
- 3. In the left pane click on Control Strategy.
- On the right side, under Equipment.
   a. Click on Build Equipment.



- b. Quick builder tab will open.
- 5. In the top toolbar click on **Upload.**

🕸 Configuration Studio				
File Edit View Tools Windows Help				
🕹 🔲 🖹 🗙 🖴 🖲 🖬 🝸 🥭 🕭 🗄 🕮				
Configuration Explorer 🔃 DESKTOP-L8LH4OF - Quick Builder				
All items	Equipment			
DESKTOP-L8LH40F       Image: Channels       Image	Name	Upload         Server Potals         Server Potals         Server Type:         Experion PKS         Scope         Ø All kens in Project         O Selected items Only         All Hardware on Server         Ø All Nervinse on Server         Summary         Upload All items	? × Show Optiona>> OK Cancel	Assoc
All items				
금통 SCADA Controllers				
Te Assets				
EFM Configuration				
Controller Integration				
	<b>*</b>			

a. Select All items in project.

#### b. Click **OK**. 6. Wait for **Upload successful** popup.

Results		$\times$
Upload successful.		
For further details, double c	lick on files below:	
File	Location	^
ServerUpload.XML	C:\ProgramData\Honeywell\Qui	
🗿 CIUController.eqt.xml	C:\ProgramData\HoneyweII\Qui	
📓 CIUController.typ.xml	C:\ProgramData\HoneyweII\Qui	
🖉 ControllerClU.eqt.xml	C:\ProgramData\HoneyweII\Qui	
🖉 ControllerClU.typ.xml	C:\ProgramData\HoneyweII\Qui	
資 Tank.eqt.xml	C:\ProgramData\HoneyweII\Qui	× .
		011
	L	UK

a. Close this popup7. On the left side, Select Equipment.

- 8. On the right side, find the tanks and equipment no longer needed
  - a. Right click on the tanks you want to remove and select **delete**, or by pressing the delete icon from the toolbar.

🌣 Configuration Studio				
File Edit View Tools Windows Help				
i 🏭   🔜   🖻 🗙   🦴 🗐 🖺   🍸   🥔 🖉   🛃 🏚				
💼 Configuration Explorer 🗊 DESKTOP-L8LH4OF - Quick Builder				
All items	Equipme	ent		
E. BESKTOP-L8LH4OF	Name			
Channels	T335			
Controllers	T336			
	T337			
	T338			
Stations	T339			
Servers	T340			
	T341			
Recycle Bin	T342			
	T343			
	T344			
	T345	Add Item		
	Details		sociated Items	Relatio
	Name:	Copy		
		Duplicate		
	Descrip			
	Associa	Delete		
	Templa	Kename	_	
	Equipm	Select All		
	E Comr	Invert Selection		
	Labe	Compare		
	Channel n	ame		
	Controlle	r name		
	Tank nam	e		
All items				
SCADA Controllers				

The following popup message will appear:

🛦 Deleting Equipment			
The following associated items are about to be deleted. Do you wish to continue?			
🛢 Family : Point (31 items)			^
ItemName			1
T345_AALB			
T345_AALF			
T345_CDObs			
T345_Common			
T345_DAL			
T345_FlowTOV			
T345_GAL			
T345_GOV			
T345_GSV			~
	OK	Cancel	

#### b. Press OK.

### 9. Select the Recycle Bin, Select everything with Ctrl-A.

- 10. In the top Toolbar click **Download**.
  - a. Select Selected Items only radio button.

Download				? )	×
Scope All item Selecter Items of	ns relevant to sele ed items only changed since las	ected server t download			
Selected	Item Name	Server Type	Server Name	Edit Options	
	DefaultServer	Experion PKS	DESKTOP-L8LH4OF	Edit options	
Summary DefaultServer: 1 item: [1 Deleted item 1 Eq	: n] uipmentInstance				
Compare					
Compare dow	nload against Exp	erion server config	uration	Compare	
			Download	Cancel	

b. Click Download.

c. Wait for **Upload successful** popup.

Results		×
Download Successful.		
For further details, double	e click on files below:	
File	Location	
🗿 Tank.eqt.xml	C:\ProgramData\Honeywell\Qui	
🕎 Tank.typ.xml	C:\ProgramData\HoneyweII\Qui	
📝 QBDB (1).pnt	C:\ProgramData\Honeywell\Qui	
		ОК

Press OK.

# **10.7 Settings Required in Experion**

## 10.7.1 Events in Experion

- 1. In Experion station go to menu configure  $\rightarrow$  system hardware Server wide settings.
- 2. Uncheck **Disable writes via the Network API** check box in Server Wide Settings.



The checkbox must be unchecked to be able to see ENTIS events in Experion station.

📎 Station - Default - Security(sysCtgSecurity.htm)						- 8 ×
STATION EDIT VIEW CONTROL ACTION CONFI						
	🔐 🛍   ▲ ♥ ✓ X   O Q   Zoom 10 F± -   Cor	mand				•
= System Configuration						
	Server Wide Settings					
	GENERAL OPC OPTIONS	SECURITY	SUMMARY DISPLAYS	IKB/OEP/OTP SETTINGS	HISTORY BACKFILL	
+ General	Minimum security level					
<ul> <li>System Hardware</li> </ul>	To enable and disable bardware:	tum,				
Connections	to enable and disable hardware.	Supv •				
SCADA Controllers	To enable and disable points:	Supv 👻 📵				
Electronic Flow Measurement	To change any Station's Console:	Mngr 👻 📵				
System Interfaces	To change any Station's/Console's Asset Profile:	Mnar - A				
Flex Stations	- /					
Printers						
Redundant Server	System Security options					
OPC Integrator	Check both the Operators AND the Stations a	sset assignment for acces	s to a given asset			
Sever Wide Settings	Disable writes via the Network API 🛛 📵					
System Management Servers	Enable advanced parameter security					
PHD Server	Enable writes from mobile devices  📵					
+ Alarm & Event Management	Allow controls with modified security levels for	m Station scripts				
+ Operational Security						
+ History						
+ Reports						
+ Schedules						
+ Trend & Group Displays						
+ Applications						
+ Application Development						
+ Server Scripting						
	20 4		Tastias lissans LICENS			
	30-Aug-19 11:00	OU REVIEWCIUBLD04	resung idense LICENS	C HOULICENSE for interna	ar testing - 30-Aug-19 11:00	

#### 10.7.2 Alarm sounds and levels on station

- 1. Navigate to CONFIGURE/Alarm & Event Management/Alarms.
  - a. On the ALARM ENABLE tab, verify the ENTISASSET has a checkmark next to it (note, had to go back and enable a second time for sounds to work).
  - b. On the Alarm APPEARANCE tab, check the Use these colors for points on displays box. Colors can be Edit as needed.
  - c. On the ALARM PROCESSING tab, verify that Enable alarms server-wide is checked.
    - i. Station alarms **Audible active time** and **Audible re-alarm time** may be edited as needed.
- 2. Navigate to Configure/System Hardware/Flex Stations.
  - a. Click on the Station(s) listed under Flex station (e.g. Server Station, etc).
  - b. On the GENERAL tab under Audible alarm section.
    - i. Check/activate for Activate for alarms.
      - 1. Low priority, High priority, Urgent priority and

Critical priority.

- c. Click on Assignment tab.
  - i. Give ENTIS Asset Full access.
    - 1. This enabled alarming even when logged oper on the Station.
- 3. Navigate to STATION/Connection Properties...

- a. Click on the Notifications tab.
  - i. Use PC speaker should likely be enabled/checked.
  - ii. Choose a sound file for each of the four priority types. (Critical should already have a sound assigned: Urgent, High, Low).

(Obtain your own wav file sounds as desired).

- 1. Urgent = Carhorn.wav.
- 2. High = Chord.wav.
- 3. Low = Verification.wav.
- 4. (Set these however you choose, but note that movement alarms are low priority).
- iii. Save the changes.

# **10.8**Configuring Historization settings for real time trending

For Historization of ENTIS, as part of Default History configuration, the configuration is done for 24 parameters per tank. These are the identified analog data points for measured and calculated data.

By default 2000 Experion points can be Historized. This needs to be altered based on the number of tanks in the site.

To extend the number of points based on number of the following steps must be performed **before running ENTIS configuration tool:** 



Perform the Historization configuration before running the ENTIS Configuration tool and creating Scada points in Experion.

- 1. Set Experion to database mode
  - a. Run the Start-Stop Experion PKS Server Application
  - b. Select the Database only radio button



Figure 12: Set Experion to Database Only mode

- 2. In the Command Prompt:
  - a. Run "sysbld -PRESERVE -FULL" the command
  - b. Do not change any options until the **Slow History** option comes
  - c. Enter the number of history points based on Tanks (# of tanks \* 24). Eg. 100 Tanks \* 24 = 2400

#### Example:

The number of Points have been increased to 2500 in the below sequence

```
Microsoft Windows [Version 10.0.14393]
(c) 2016 Microsoft Corporation. All rights reserved.
C:\Users\Admin>sysbld -PRESERVE -FULL
Server 16800 points data base building
         System status is OFF-LINE
         Memory is being initialised
PRESERVE - Database contents will be preserved.
RELEASE -
           942
Are you sure you want to rebuild your database ? (Y/N)
y
Do you want to rebuild EVERYTHING ? (Y/N)
Slow history is configured to historise 2000 points.
  Enter required number of point parameters
    ( 1 to 500000 are allowed, or <return> to leave unchanged)
2500
C:\Users\Admin>
```

4. The ENTIS configuration tool can be can now be run to migrate the databases and create the Experion SCADA points



Storage is in disk, care must be taken on the number of History parameters/interval of capture.

5. Change/delete the History parameters/interval in the Experion Station under History->History Assignment

ed History Assignment						_		
	FAS	THISTORY	STANDARD HISTORY	EXTENDED H	ISTORY	E	XCEPTION HISTORY	HISTORY OFFSETS
+ General		in Configuration	Gating Options	DifD Outlines				
System Hardware	Ent	Polet same	Gaing Options	PHD Options				
Alarm & Event Management	1.40	Point name	any parameter	1.60				
Operational Security		Point ID	Paramete	er Rate	Offse	st.	Description	Gating configure
History	1	TKR42_MovingStatus	PV	1 minute	· 0 second		The Tank level moving at	atus alarm 🛛 🔴 🛓
History Assignment	2	TKR42_Common	AvailableRoom	1 minute	▼ 0 seconds	•	Common data or remaini	ng Entils Pro confirm tank rec
listery Archiving	3	TKR42_Common	AvailabieTOV	1 minute	▼ 0 seconds	•	Common data or remaini	ng Entils Pro confirm tank rec 🔍
History Intervals	4	TKR42_Common	cn.	1 minute	• 0 seconds	•	Common data or remains	ng Entis Pro confirm tank rec 🔍
Reports	5	TKR42 Common	DisplacerPosition	1 minute	<ul> <li>0 seconds</li> </ul>	•	Common data or remaini	ng Enläs Pro confirm fank rec 🔍
Sche dulos	6	TKR42_Common	MassVap	1 minute	• 0 seconds	•	Common data or remaining	ng Enlis Pro confirm tank rec 🧶
Tunnel & Canan Disedance	7	TKR42 Common	I. NSV	1 minute	• 0 seconds	•	Common data or remaini	n o Entis Pro confirm tank rec 🔍
rieno a Giosp Displays		TKR42_Common	TNSW	1 minute	+ 0 seconds	•	Common data or remaini	ng Entis Pro confirm tank rec
Applications		TKR42 DObs	PV	1 minuto	• 0 seconds	•	The product density	
Application Development	10	[TKR42_ProductLevel	PV	1 minuto	• 0 seconds	•	The product level in the to	ek 🔮
Server Scripting	11	[TKR42_ProductLavel2	In PV	1 minute	+ 0 seconds	•	The product level in the ta	ak e
	12	[TKR42_ProductTemp	PV International	1 minute	· O seconds		The product temperature	
	13	TKR42_VapeosetPres	s pro PV	1 minute	• U second		The product vapor press.	
	14	TVD42_Vaprobre form	P Del PY	1 minute	- D second		The product vapor tempe	rature
	15	[INVINE_WARECOVER	and F.V	1 1 minute	• la secura		The water level in the tax	
			( e	Select parameters from Enter parameter as teo	n liist t			
	244	Exist same	Parameter nam	e 1 minuto	· O second		4.44	9

Figure 13: History Assignment

# **11 MIGRATING CIU 888 DATABASE**

ENTIS Database is created using CIU 888 Service Tool to perform a database export and then using the ENTIS Configuration Tool, migrated to ENTIS.

Please refer to the CIU Service Tool guide on required setup and instructions for creating and maintain a proper site configuration database.

Perform the following steps to migrate the CIU 888 database for ENTIS.

## **11.1 Migration using ENTIS Configuration tool**

Perform the following steps to start the Configuration Tool:

1. Choose Start > All Programs > Honeywell Entis Right click on Configuration Tool

The ENTIS Configuration Tool will appear

Honeywell	E	NTIS Confi	guration	Tool			—	o x
			Upload (	CIU 888 Data Upload Files	base files to m × Clear List	igrate		
								0 of 8

#### 2. Press Upload Files.

3. Browse to the folder holding the CIU 888 .mdb files using the file dialog and select the CIU 888 .mdb you need to migrate.

Honeywell   ENTIS Configuration Tool			- a x
	Upload CIU 888 D	atabase files to migrate	Dof8
	🔁 Open	· · · · · · · · · · · · · · · · · · ·	
	← → ✓ ↑ 🖡 > This PC > Desktop > Mdb	✓ ບ Search Mdb A	
	Organize * New folder	s · 🖬 🔞	
	Nandeesh Trus FC Decktop Docurtorsa Docurosa Docurtorsa Docu	s'iteDb_2mdb SiteDb_3mdb SiteDb_4mdb Stability.mdb	
			al Migrate

4. Select the CIU 888 file(s) and press Open.

Honeywell   ENTIS Configuration Tool			– a ×			
Upload CIU 888 Database files to migrate						
dev1 mdb ×	SiteDb 1 mdb	SiteDb 2 mdb	SiteDb 3 mdb			
Sitename: dev1 Number of tanks: 3 Is redundant: No Unique: • Units: • IP addresses: • Tank and CIU names: •	$\bigcirc$	$\bigcirc$	$\bigcirc$			
Valid	Loading	Loading	Loading			
SiteDb_4.mdb ×	Stability.mdb ×	Stability2.mdb ×	Stability3.mdb ×			
			Migrate			

5. When all files are successfully loaded the **Migrate and Configure** buttons will be enabled.
| Honeywell   ENTIS Configuration Tool   |  |   | - • ×   |
|--|--|---|---|
|  | Upload CIU 888 C   | Database files to migrate<br>es X Clear List  | 7 of 8  |
| SiteDb_1.mdb ×   | SiteDb_2.mdb ×   | SiteDb_3.mdb  | SiteDb_4.mdb ×  |
| Sitename: Sitedb.1<br>Number of tanks: 75<br>Is redundant: Yes<br>Unique: •<br>Unique: •<br>He addrosses: •<br>Tank and CIU names: • | Sitename: Sitodb.2<br>Number of tanks: 75<br>As redundant: Yes<br>Unique: ●<br>Unite: ●<br>P addresses: ●<br>Tank and CIU names: ● | Sitemar: Sitedb.3.<br>Number of tanks: 75<br>Is redundant: Yos<br>Unique: ●<br>Units: ●<br>IP addresses: ●<br>Tank and CiU names: ● | Sitemanres Sitedb4<br>Number of tanks: 75<br>Is redundant: Yes<br>Unique:<br>Paddresses: •<br>Tank and CIU names: • |
| Stability.mdb $\times$   | Stability2.mdb ×   | Stability3.mdb ×  |   |
|  |  |   |   |
|  |  |   | Migrate   |

## 6. Press the Migrate button.

Honeywell   ENTIS Config	juration Tool		_	
	Upload CIU 888 Datal	base files to migrate × Clear List		
				3 of 4
Sitename: TestSite_2 Number of tanks: 10 Is redundant: Yes Unique: ✓ Units: ✓ IP addresses: ✓ Tank and CIU names: ✓	Busy creating E	Sitename: TestSite_3 Number of tanks: 10 Is redundant: Yes Unique: ✓ Units: ✓ IP addresses: ✓ NTIS database, names: ✓		Å
Valid				
TestSite_4.mdb				- -
			Migr	ate

7. When the next screen appears, the ENTIS database is ready and you will be asked if you also want to create Experion point files.

Honeywell   ENTIS Con	figuration Tool					×
	Upload CIU 888	Database files to mig	grate		2 of 4	+
	Confirmatio	n	×			-
TestSite_3.mdb	ENTIS databas Do you want to No	e successfully created. create Experion point file Yes Sitename: I Number of Is redundar Unique: v	es? lestSite_2 tanks: 10 nt: Yes	×		
IP addresses: √		IP addresse	es:√			
Tank and CIU names		Tank and C	III.nomoo /			•
				Migra	ate	

- a. Press No if:
  - i. Points have been created before for this version of ENTIS and nothing has changed in the CIU regarding tank names or the number of tanks.
- b. Press Yes if:
  - i. This is the first time migrating
  - ii. A new major ENTIS version was installed
  - iii. Language selection was changed
  - iv. Tank names or number of tanks on site has changed



If there are previously created ENTIS Experion Points, any programmable Alarm settings for those points will be lost after this operation.

Honeywell   ENTIS Configura	tion Tool		_	
Upl	oad CIU 888 Datab	ase files to migrate		
				2 of 4
B	usy creating Expe	erion point files		
		Sitename: TestSite_2		

12. For each tank in the system a screen like the one below will appear and automatically disappear.

C:\Program	Files (x86)\Honeywell\Expe	rion PKS\Se	rver\run\pntbld.exe					
PARAM	T081 cWaterLe	vel	PNT T081_cl	WaterLevel	PointReference	FROMRELPNT		-
PARAM	T081 cWaterVo	1 PNT	T081 cWaterVol	PointReference	FROMRELPNT			
PARAM	T081 cProduct	DRef	PNT T081_c	ProductDRef	PointReference	FROMRELPNT		
PARAM	T081 FlowTOV	PNT	T081_FlowTOV	PointReference	FROMRELPNT			
PARAM	T081 GOV	PNT	T081_GOV	PointReference	FROMRELPNT			
PARAM	T081 GSV	PNT	T081_GSV	PointReference	FROMRELPNT			
PARAM	T081 MassLiq	PNT	T081_MassLiq	PointReference	FROMRELPNT			
PARAM	T081 TGSV	PNT	T081_TGSV	PointReference	FROMRELPNT			
PARAM	T081 TotalMas	s PNT	T081 TotalMass	PointReference	FROMRELPNT			
PARAM	T081 TOV	PNT	T081_TOV	PointReference	FROMRELPNT			
PARAM	T081 GAL	PNT	T081 GAL	PointReference	FROMRELPNT			
PARAM	T081 TCAL	PNT	T081_TCAL	PointReference	FROMRELPNT			
PARAM	T081 AALB	PNT	T081 AALB	PointReference	FROMRELPNT			
PARAM	T081 AALF	PNT	T081_AALF	PointReference	FROMRELPNT			
PARAM	T081 MovingSt	atus	PNT T081 M	ovingStatus	PointReference	FROMRELPNT		
PARAM	T081 DAL	PNT	T081_DAL	PointReference	FROMRELPNT			
Pass 2								
AREA	T081_TCAL Ent	isAsset						
AREA	T081_AALF Ent	isAsset						
AREA	T081_AALB Ent	isAsset						
AREA	T081_MovingSt	atus Ent:	isAsset					
AREA	T081_Common E	ntisAsse	t					
AREA	T081_CDObs En	tisAsset						
AREA	T081_cProduct	Level En	tisAsset					
AREA	T081_ProductL	evel2 En	tisAsset					
AREA	T081_cProduct	Temp Ent:	isAsset					
AREA	T081_cVapRoom	Press En	tisAsset					



Do not close the ENTIS Configuration Tool while the point files get generated.

13. When all point files have successfully been created, the following screen appears.

Honeywell   ENTIS Configu	uration Tool		-	
ι	Upload CIU 888 Data	abase files to migrate X Clear List		2-64
	Success	×		2 of 4
TestSite_3.mdb	Success		×	
	Experion point files a	successfully created.		
Sitename: TestSite_3		Sitename: TestSite_2		
Number of tanks: 10		Number of tanks: 10		
Is redundant: Yes		Is redundant: Yes		
Unique: V		Unique: V		
ID addresses: V		ID addresses: /		
Tank and Oll names /		Tank and Cill pamage /		-
			Mig	prate

Point file creation time varies depending on the size of the database.

14. Press OK.

15. The application can now be closed by clicking **X** in the upper right corner.

## 11.2Sites where Experion channels and controllers are already present

Special care needs to be taken when there are already controllers and channels configured (for devices and equipment not relating to ENTIS) prior to installing and configuring ENTIS. Controllers defined in Experion must be assigned an Item number, this could conflict with the automatically assigned ENTIS controller numbers.



ENTIS database migration must be done prior to any other channels and controllers creation in Experion Configuration Studio (Quickbuilder)

ENTIS does not read where the available item numbers start and immediately uses item numbers RTU00001 to RTU00008 (for up to 8 CIUs) to create channels and controllers for the CIUs configured in the system. These item numbers should be unused in order for ENTIS migration to work without any workarounds.

If prior work was done in Experion and these item numbers are no longer

available, then a workaround will have to be performed using Experion Configuration Studio to manually create channels and controllers for ENTIS.

Using Experion Configuration Studio, create the following manually:

- 1. Upload all items in the server to Configuration Studio
- 2. Under Channels create:
  - a. Channel: CHAUSE1
  - b. Description: Entis Channel
  - c. Item number: CHN000<X>
    - Replace "<X>" with the first available Channel number
- 3. Under Controllers create (for each CIU that does not exist):
  - a. Name: <CIU name> Replace <CIU name> with the given name for each CIU
  - b. Controller Channel Name: CHAUSE1
  - c. Item number: RTU0000<X> Replace "<X>" with the first available item number
- 4. Download the configuration changes onto your Experion server

# 12Configuring Secure Communication over OPC UA

ENTIS supports secure communication with the CIU888 over OPC UA using self-signed certificates. To enable secure communication, the **Security Mode** and **Security Level** settings of the CIU888 OPC Server must be configured with values other than **None**. When the configuration is complete and sent to the CIU, the site database can be migrated to ENTIS with the ENTIS Configuration Tool.

ENTIS automatically generates a self-signed certificate to communicate with the CIU888. For ENTIS to successfully establish secure communication with the CIU888, the ENTIS self-signed certificate and the CIU888 server certificate need to be trusted by each other. This can be done with the following steps:



Administrator rights are required to access the directory where the certificates are located

- Trusting the OPC server certificate on the ENTIS server machine:

   a. Move the certificate from
  - C:\Program Files (x86)\Honeywell\Entis\Communication\OPCUA\Certificate s\EntisOPCUAClient\pki\rejected\certs to C:\Program Files (x86)\Honeywell\Entis\Communication\OPCUA\Certificate s\EntisOPCUAClient\pki\trusted\certs
- 2. Trusting the OPC client certificate on the CIU:
  - a. Login to the CIU888 Web portal and navigate to the **CONFIGURE** tab.
  - b. Click on **Manage Certificates** under the OPC UA Self Signed Certificates header. The ENTIS self-signed certificate can be seen in the **Rejected Certificate** section.

CIU888			
CIU 888			
Name	Value	1	sW&M?
Configured mode	Non redundant	1	۹٥
License status	LICENSE_OK		
Update License	View License	End Commissioning	
Modbus TLS Certificate			
Generate C SR	Download Certificate		
OPC UA CA Signed Certificate			_
Download Server Certificate	Upload Certificate	Generate C SR	
OPC UA Self Signed Certificate	Upload Certificate	Manage Certificat	
Dominoud Server Certificate	opious certificate	Manage Certificate	•

CIU888		
CIU 888		
Name	Value	IsW&M?
Configured mode	Non redundant	No
License status	LICENSE_OK	
Opdate License	View License	
Modbus TLS Certificate Manag	ge Certificate	
Generate CSR Reject	ted Certificate	Approved Certificate
• Enti	sOPCUAClient_ie4lltbm9qpm3_8CA9A42C70DC33B3A0F2F646B1831	135F0360C71E.der
		<
OPC UA CA Signed Certificate		
Download Server Certificate		
OPC UA Self Signed Certificate	Download	Close
	Download	Close
Download Server Certificate	Upload Certificate	Manage Certificate
Global settings		

c. Select the certificate and move it to the **Approved Certificate** section.

CIU888		
CIU 888		
Name	Value	IsW&M?
Configured mode	Non redundant	No
License status	LICENSE_OK	
Update License	View License	
Modbus TLS Certificate Manage Certificat	e	
Generate CSR OPC UA CA Signed Certificate Download Server Certificate	Approved Certificate  O EntisOPCUACtient_le4llibr	n9qpm3_8CA9A42C70DC33B3A0F2F646B183135F0360C71E.der
OPC UA Self Signed Certificate	Download	Close
Download Server Certificate	Upload Certificate	Manage Certificate
Global settings		

d. Click on **Close** and when prompted for a restart, click on **Yes**.

Once the CIU restarts, ENTIS will communicate with the CIU securely over OPC.



For Cyber Security reasons, ENTIS client certificate is <u>valid for a</u> <u>period of 2 years</u>, after which a new certificate will be generated. During this time communication will be lost and Events logs will indicate that the certificate has expired. The new certificate must be approved in a similar way.

# **13 SETUP EVENT LOGGING SETTINGS**

In Experion station go to menu configure  $\rightarrow$  system hardware  $\rightarrow$  Server wide settings

Uncheck the Disable writes via the Network API check box in Server Wide Settings.



The checkbox must be unchecked to be able to see ENTIS events in Experion station.



# **14 INSTALLING THE ENTIS LICENSE**

License file should be named **ENTISR130.lic** and placed in the following path: C:\ProgramData\Honeywell\ENTIS\License.

The installer will create the folder, but the license file should be placed manually. The scanner will work only if there is valid license from the current build. When there is no valid license found in the path, ENTIS station will throw an error message as shown below.





Installing the license is only required on the ENTIS server.

# **15 SETTING UP THE PRINTER**

## **15.1 Scheduled printer installation steps**

For print servers, running a 64-bit version of Windows, and supporting client computers running 32-bit versions of Windows, you must add x86-based drivers for each printer as well as the x64 bit.

You can add printer drivers that are up to 2 GB in size. You will not be able to back up printer drivers that are larger than 2 GB.

### Install printer drivers

Ensure that you download and install the client printer drivers on your machine before adding them to the print server. You must test the drivers before being installed on the production server. Perform the following steps to install printer drivers:

- 1. Open Print Management.
- 2. In the left pane, click **Print Servers**, click the applicable print server, and then right click on **Drivers**.
- 3. Click Add Driver.
- 4. The "Add Printer Driver wizard" opens. Click Next.
- 5. Pick the processor architecture for the driver x64, and click Next.
- 6. Click **Have disk** and locate the \*.inf file associated with the driver.
- 7. In the printer driver selection box, you will see the printer driver name. Click **Next**.
- 8. Before clicking on **Finish**, verify what type of driver you are installing on the server.
- 9. Repeat the same procedure for the x86 driver.
- 10. Set driver isolation by default it is set to "None". Change it to "Isolated" if you want this type of setup.

#### Note: Set desired printer as windows default.

### How to set default printer in Windows 10?

- 1. Open the Control Panel and go to the **Devices and Printers** section.
- 2. In the Printers section, right-click the printer you want to set up as the default. Select Set as the default printer.

### Note: Ensure that the paper tray is set to A4 paper size.

### How to set the paper size to A4?

- 1. Settings also to be done in print driver.
- 2. Click Start, point to Settings, and then click Printers.
- 3. Right-click the appropriate printer, and then click **Properties**.
- 4. Click the Paper tab, and then click the paper size you want to use in the **Paper Size box**.
- 5. Click **OK**, and then close the Printers folder.

### Note: Ensure print the test page on A4 paper.

### How to test the quality of paper?

- 1. Click on the Windows Start button.
- 2. Select Control Panel (or type "control panel" in the search bar).
- 3. Click View devices and printers.
- 4. Right click on the icon for your printer.
- 5. Select Printer Properties.
- 6. Click **Print Test Page**.

# **16 UNINSTALL ENTIS**

You must have system administrator privileges to uninstall ENTIS. Perform the following steps to uninstall ENTIS:

- 1. Open the Start menu.
- 2. Type "Control Panel".
- 3. Select Programs and Features to display Uninstall or change a program screen
- 4. Select ENTIS app from the list to uninstall.
- 5. Click the **Uninstall** button that appears.

Programs and Features	;					-	- 🗆	×
$\leftarrow \rightarrow \cdot \wedge \overline{0} $	← → v ↑ 🖸 > Control Panel > All Control Panel Items > Programs and Features v Č					√ Ō	Search Pr	. <i>р</i>
Control Panel Home	Uninstall or change a program	n						
View installed updates	To uninstall a program, select it from th	e list and then click Uninstall, Change, or Repair.						
💡 Turn Windows feature	s on or							
off	Organize 🔻 Uninstall						= •	?
	Name	Publisher	Installed On	Size	Version			^
	<b>i</b> ∰ ENTIS	Honeywell International Inc.	8/29/2019	203 MB	101.1.17.12			
	WICATEE Agent	McAfee, Inc.	7/2/2019	34.1 MB	5.0.6.220			
	Honeywell International Inc.	Product version: 101.1.17.12 Suppo Help link: http://www.Honeywel	rt link: http://w Size: 203 MB	ww.Honeywell	InternationalIn	com		

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For service-related questions, contact:

Technical Assistance Centre Phone: +31152701246 E-mail: <u>HFS-TAC-SUPPORT@honeywell.com</u>

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### For more information

To learn more about ENTIS, visit www.process.honeywell.co <u>m</u> Or contact your Honeywell Account Manager

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