

Honeywell

DynAMo
Metrics & Reporting
Installation Guide

M&R120-IG

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Preface

About this document

This document explains how to install and configure the DynAMo Metrics & Reporting application in your site.

Contacting Honeywell Support

For information on contacting Honeywell Support, visit <https://www.honeywellprocess.com/en-US/contact-us/customer-support-contacts/Pages/default.aspx>.

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- Send an email to security@honeywell.com.

-OR-

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1. Introduction

1.1 About DynAMo Metrics & Reporting

Metrics & Reporting is a software application that collects alarm and event data from various data sources, and presents the data in the form of intuitive reports to help you gain valuable insight into your plant's performance. The application also helps you to visually compare your alarm metrics against industry standards, and identify the deviations in seconds.

1.2 Components of Metrics & Reporting

Overview

Metrics & Reporting is a collection of software components that work together as one application. The components of Metrics & Reporting are classified into:

- **Basic components** – These components are just enough to provide the basic features of Metrics & Reporting.
- **Client components** – These components are used by end-users to access the features provided by basic components.
- **Cross-domain components** – These are optional components. They allow you to access and analyze plant-level alarm/event data from the enterprise-level Business Network (L4) across the firewall.

Basic components

These components provide the basic features of Metrics & Reporting. The basic components of Metrics & Reporting are:

Table 1: Basic components of Metrics & Reporting

| Component | Description |
|-----------|---|
| Core | Hosts the Metrics & Reporting application (as a website) on the Process Control Network (L3) |
| Database | Contains the configuration data and the event data. |
| Archiver | Parses collected data, post-processes parsed data, and archives it in a database |
| Collector | Collects alarm and event data from event data sources Note: You can install Metrics & Reporting Collector on L2 network also. |

1. Introduction

1.2. Components of Metrics & Reporting

The basic components are installed on the Process Control Network (L3) of each plant. The scope of alarm/event data that can be analyzed using these components is limited to the plant where they are installed.

Users from that plant's (Process Control) network can access:

- The Metrics & Reporting application via web browsers
- The live alarm and event messages via the Metrics & Reporting Viewer

Depending on the volume of your alarm data, capacity of your hardware, and various other factors, you can install all the basic components on a single computer or across (two or more) computers.

Client components

These components are used by the end-users to access the Metrics & Reporting features. These client components are:

Table 2: Client components of Metrics & Reporting

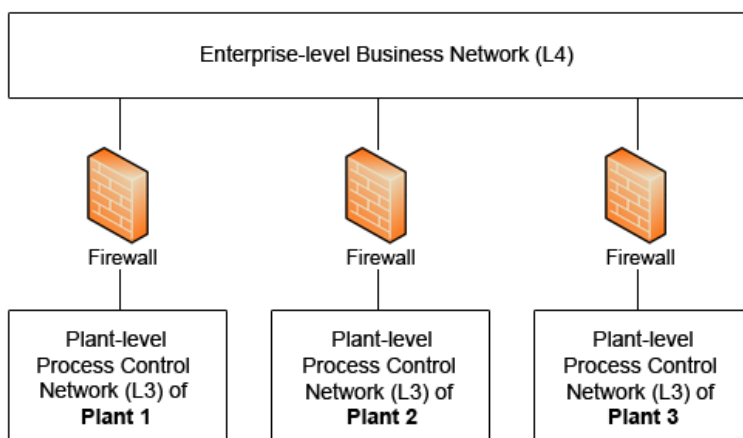
| Component | Description |
|--|---|
| -None- (Web browser for remote clients) | Since the Metrics & Reporting application is hosted on a web server, it can be accessed just like any other website. Authorized users can access the application using their web browsers (eg. Internet Explorer). |
| Viewer | Displays live (real-time) alarm & event data as they are collected |

Cross-domain components

These are optional components. They allow you to access and analyze plant-level alarm/event data across firewall from the enterprise-level Business Network (L4).

The following illustration shows the network layers critical to Metrics & Reporting in a typical enterprise.

Figure 1: Network layers in an enterprise



Consider an enterprise with 3 plants – **Plant 1**, **Plant 2**, and **Plant 3**. Users from the Process Control Network (L3) of **Plant 1** can use Metrics & Reporting to access and analyze **Plant 1**'s data only. Similarly, users from **Plant 2** and **Plant 3** can access the respective plant's data only. However, users from the business network (L4) can access the alarm/event data corresponding to any of the three plants.

Some components of Metrics & Reporting must be installed only on your enterprise-level Business Network (L4), to enable your Business Network users to access and analyze any of your plant's (alarm and event) data. These components are called cross-domain components.




ATTENTION:

Cross-domain components are optional components. You must install them only if you need cross-domain access, that is, if you want to access plant-level data from your enterprise(L4) network.

1. Introduction
1.2. Components of Metrics & Reporting

The cross-domain components are:

Table 3: Cross-domain components of Metrics & Reporting

| Component | Description |
|---------------------|--|
| Core Web & Core App | <p>Hosts the Metrics & Reporting application (as a website) on the Business Network (L4)</p> <p>Acts as a proxy for the Core server installed in any of your plants' Process Control Network (L3). On receiving any request from the remote (web) clients, this server internally redirects the request to appropriate L3 Core Server, receives the response, and sends this response back to the remote client.</p> <hr/> <p> ATTENTION: You must always install these two components on the same computer.</p> |
| Database | Contains the configuration and scheduling data of Metrics & Reporting |

Similar to the basic components, you can install the cross-domain components on a single computer or across two computers depending on the volume of your alarm data, capacity of your hardware, and various other factors.

2. Deployment methods

2.1 Overview

This section explains where you must install each component of Metrics & Reporting within your enterprise's computer network.

2.2 Standard deployment method

Overview

The components of Metrics & Reporting are designed to support many deployment methods. This section explains the simplest deployment method, referred to as the standard deployment method.

In this method, the Metrics & Reporting components are installed as follows:

Table 4: Standard deployment method

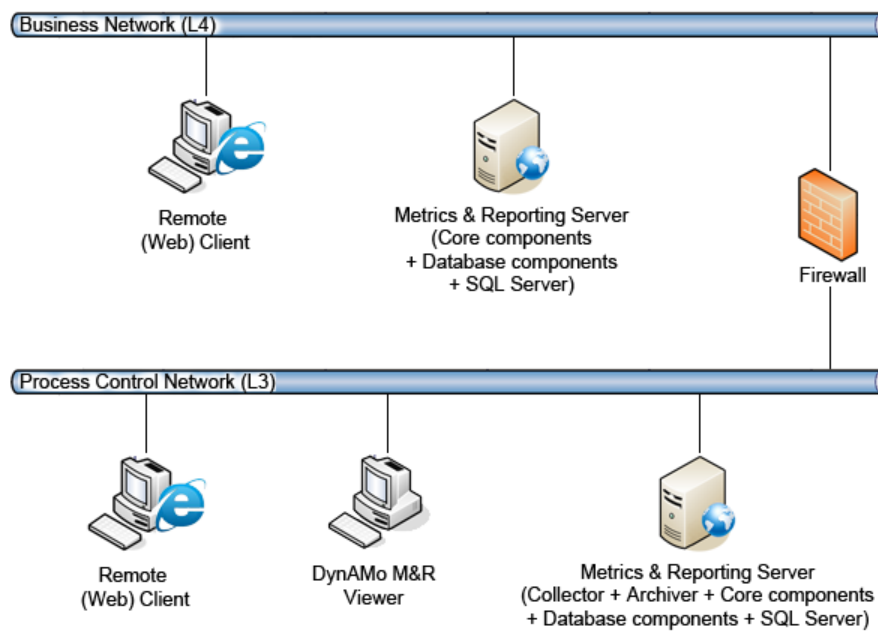
| Network | Components to be installed | Description |
|--|---|---|
| Process Control Network (typically called L3) | <ul style="list-style-type: none">• Core• Database• Collector• Archiver• Viewer | These components can be installed either on the same computer or on different computers or in combinations. Refer to the sample topologies provided in the next section. |
| Business Network (typically called L4) | <ul style="list-style-type: none">• Core Web• Core App• Database | These are optional components; they are required only you need cross-domain access. |

Sample topologies

This section provides examples of the possible topologies for deploying the basic Metrics & Reporting components.

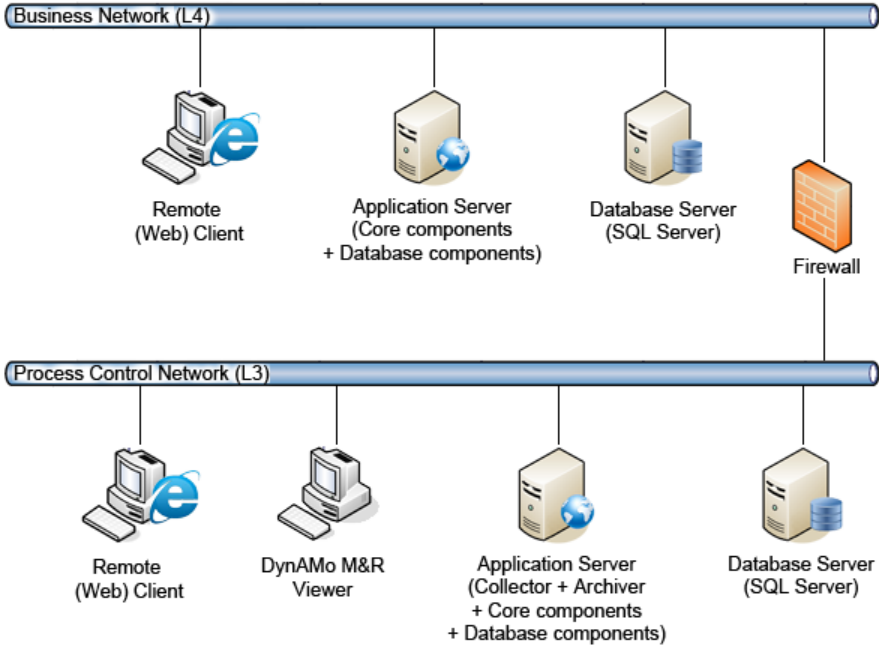
Single-server topology

Figure 2: Single-server topology



Two-server topology

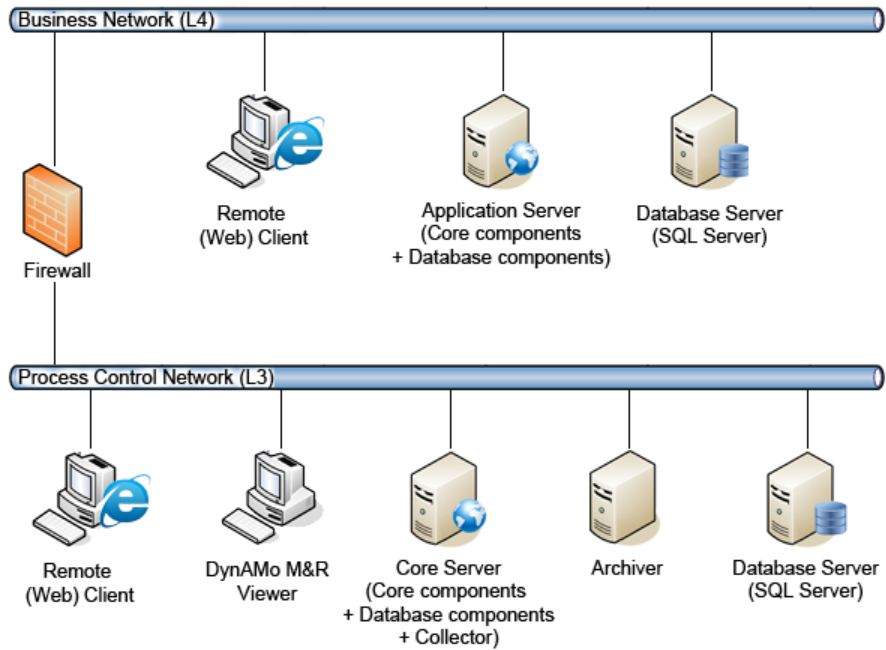
Figure 3: Two-server topology



2. Deployment methods
2.2. Standard deployment method

Three-server topology

Figure 4: Three-server topology



2.3 Special deployment methods

Overview

The standard deployment method may not be possible in all sites due to some site-specific constraints like hardware restrictions and IT security policies. Some sites require special deployment methods as explained in this section.

Collector on Level 2 Network (L2)

Use the following deployment method if you want to install the Collector on the Level 2 network (L2):

Table 5: Deploying Collector on Level 2 Network (L2)

| Network | Components to be installed | Description |
|------------------------------|---|--|
| L2 – Level 2 Network | <ul style="list-style-type: none">Collector | - |
| L3 - Process Control Network | <ul style="list-style-type: none">ArchiverDatabaseCoreViewer | On the L3 network, these components can be installed either on the same computer or on different computers or in combinations |
| L4 - Business Network | <ul style="list-style-type: none">Core WebCore AppDatabase | These are optional components; they are required only you need cross-domain access. You must install these components on a single computer on the L4 network. |

Basic components in Demilitarized Zone (L3.5)

Use this deployment method only if:

- you are migrating from DynAMo Metrics & Reporting Release 110.x
- you have already deployed Metrics & Reporting components in Demilitarized Zone (L3.5)

Install the Metrics & Reporting components as follows:

Table 6: Deploying basic components in Demilitarized Zone (L3.5)

| Network | Components to be installed | Description |
|------------------------------|---|--|
| L3 - Process Control Network | <ul style="list-style-type: none">• Collector | - |
| L3.5 - Demilitarized Zone | <ul style="list-style-type: none">• Archiver• Database• Core• Viewer | On the L3.5 network, these components can be installed either on the same computer or on different computers or in combinations |
| L4 - Business Network | <ul style="list-style-type: none">• Core Web• Core App• Database | These are optional components; they are required only you need cross-domain access. You must install these components on a single computer on the L4 network. |

3. System requirements

3.1 Hardware requirements

The hardware required for hosting the Metrics & Reporting components depends on three important factors:

- Number of Tags
- Average Event Rate
- Number of concurrent users accessing the system

Based on these 3 variables, sites can be categorized into three types:

| | Small system | Medium system | Large system |
|-------------------------------------|--------------|---------------|--------------|
| Number of tags | 10,000 | 25,000 | 75,000 |
| Avg Event Rate (events per hour) | 15,000 | 45,000 | 75,000 |
| Number of concurrent users | 10 | 20 | 40 |

The following table lists the minimum and recommended hardware specifications for installing Metrics & Reporting components.

Table 7: Hardware requirements for Metrics & Reporting

| Deployment method | Metrics & Reporting Components | Supported hardware | | | | | |
|----------------------------------|--|---------------------|---------------------|---------|-------------|-----------|-------------|
| | | Processor | | RAM | | Hard disk | |
| | | Minimum | Recommended | Minimum | Recommended | Minimum | Recommended |
| Single-box (for small system) | Box #1 Archiver + Core + Database Server | 3 Quad Core 2GHz | 3 Quad Core 2GHz | 24GB | 48GB | 320GB | 500GB |

3. System requirements
 3.1. Hardware requirements

| Deployment method | Metrics & Reporting Components | Supported hardware | | | | | |
|---------------------------------|----------------------------------|---------------------|---------------------|---------|-------------|-----------|-------------|
| | | Processor | | RAM | | Hard disk | |
| | | Minimum | Recommended | Minimum | Recommended | Minimum | Recommended |
| Two-box (for medium system) | Box #1 Archiver + Core Server | 3 Quad Core 2GHz | 4 Quad Core 2GHz | 36GB | 58GB | 320GB | 320GB |
| | Box #2 Database Server | 3 Quad Core 2GHz | 3 Quad Core 2GHz | 24GB | 24GB | 500GB | 1TB |
| Three-box (for large system) | Box #1 Archiver | 4 Quad Core 2GHz | 4 Quad Core 2GHz | 48GB | 64GB | 320GB | 320GB |
| | Box #2 Core Server | 2 Quad Core 2GHz | 4 Quad Core 2GHz | 16GB | 24GB | 320GB | 320GB |
| | Box #3 Database Server | 3 Quad Core 2GHz | 4 Quad Core 2GHz | 24GB | 32GB | 750GB | 2TB |

Notes:

Minimum requirements are for viewing up to 6 months' data

Recommended hardware requirements are for viewing 2 years' data

3.2 Software requirements

Following are the software requirements for the Metrics & Reporting components:

Table 8: Software requirements for Metrics & Reporting

| Supported software | Basic components | | | | Cross-domain components | | Client components | | |
|--|------------------|----------|----------|-----------|-------------------------|----------|-------------------|-------------------------|-------------------------------|
| | Core | Database | Archiver | Collector | Core Web & Core App | Database | Viewer | Remote client - Desktop | Remote client – Mobile device |
| Windows 2012 R2 Server Standard Edition x64 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | |
| Windows 2012 Server Standard Edition x64 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | |
| Windows 2008 R2 Server Standard Edition x64 SP1 or later | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | |
| Windows 8.1 Professional x86/x64 | | | | ✓ | | | ✓ | ✓ | |
| Windows 8 Professional x86/x64 | | | | ✓ | | | ✓ | ✓ | |
| Windows 7 x86/x64 SP1 | | | | ✓ | | | ✓ | ✓ | |
| SQL Server 2014 Standard Edition x64 | | ✓ | | | | ✓ | | | |
| SQL Server 2012 Standard Edition x64 | | ✓ | | | | ✓ | | | |
| SQL Server 2008 R2 | | ✓ | | | | ✓ | | | |

3. System requirements
 3.2. Software requirements

| Supported software | Basic components | | | | Cross-domain components | | Client components | | |
|---|------------------|----------|----------|-----------|-------------------------|----------|-------------------|-------------------------|-------------------------------|
| | Core | Database | Archiver | Collector | Core Web & Core App | Database | Viewer | Remote client - Desktop | Remote client – Mobile device |
| Standard Edition x64 SP2 | | | | | | | | | |
| IIS 7.5 / 8 / 8.5 | ✓ | | | | ✓ | | | | |
| Microsoft Excel 2013 | | | | | | | ✓ | ✓ | |
| Microsoft Excel 2010 SP1 x86 | | | | | | | ✓ | ✓ | |
| .NET Framework 4.5 (restart the computer after installing .NET framework) | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | |
| .NET Framework 3.5 (restart the computer after installing .NET framework) | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | |
| Internet Explorer 11 (32-bit) | | | | | | | | ✓ | |
| Microsoft Silverlight 5.5 | ✓ | | | | ✓ | | | | |
| Microsoft Data Access Components (MDAC) R2.8 | ✓ | | | | ✓ | | | | |
| VC++ Runtime (Redistributable) Release 2005 SP1 or R2008 SP1 | ✓ | | | | ✓ | | | | |
| MSXML Version 6.0 | ✓ | | | | | | | | |
| Apple iOS 8 | | | | | | | | | ✓ |

| Supported software | Basic components | | | | Cross-domain components | | Client components | | |
|--------------------|------------------|----------|----------|-----------|-------------------------|----------|-------------------|-------------------------|-------------------------------|
| | Core | Database | Archiver | Collector | Core Web & Core App | Database | Viewer | Remote client - Desktop | Remote client – Mobile device |
| Google Chrome | | | | | | | | | ✓ |
| Safari web browser | | | | | | | | | ✓ |

3.3 Security certificate requirements

SSL certificates are part of the standard security technology for establishing encrypted links between servers and clients. These links ensure that all data passed between computers remain private and integral.

For Metrics & Reporting, you can use an **X.509 SSL certificate** if you want to secure your event data by signing and encrypting the following communication channels:

1. *Cross-domain communications* – communications between Business Network (L4) and Process Control Networks (L3)



ATTENTION:

For cross-domain communication, you must install the security certificate on Core Metrics & Reporting server on L3.

2. *Intra-domain communications* – communications between the server and clients within a network (L3/L4).

You can acquire a certificate from any third-party vendor, and install it before installing Metrics & Reporting. The certificate might require periodic renewal.

Visit <https://technet.microsoft.com/en-us/library/cc731576.aspx> for instructions on installing SSL certificates.

4. Installing Metrics & Reporting

4.1 Overview

This chapter explains how to install the basic components of Metrics & Reporting.



ATTENTION:

Before installing any component of Metrics & Reporting, ensure that:

- Your user account:
 - Is a domain user
 - Has local admin privileges
 - Has write access to the Windows TEMP folder
 - Is a sysadmin for the database server
 - You have installed the latest:
 - Windows updates
 - Java 1.8 update 60 or higher (only on the Archiver computer)
 - You have disabled the following on your computer:
 - anti-virus software (if you need to restart your computer during the installation, remember to disable your anti-virus software again)
 - firewall
-

4.2 Workflow for upgrade

Upgrading on old hardware

If you want install Metrics & Reporting R120 on the existing set of computers that contain the old Metrics & Reporting, follow the workflow below:



ATTENTION:

While you install Metrics & Reporting R120 on the old hardware, event data will not be collected.

1. Uninstall all old Metrics & Reporting components.
2. Delete the **Honeywell.MES.DynAMo.DataModel.Core** database.
3. Install Metrics & Reporting R120 as explained in the subsequent sections.
4. Migrate the old data to new format as explained in the chapter “Migrating old data”.
5. Migrate your old rules files and post-processing scripts to the new format as explained in the chapter “Migrating old data”.

Upgrading with new hardware

If you want install Metrics & Reporting R120 on a fresh set of computers, follow the workflow below:

1. Install Metrics & Reporting R120 on a fresh (set of) computer(s) as explained in the subsequent sections (without stopping or uninstalling old Metrics & Reporting).



ATTENTION:

Ensure that the following databases do not exist on new target SQL Server instance:

- [Honeywell.MES.DynAMo.DataModel.Core](#)
- [Honeywell.MES.Core.Service.Security](#)
- [Honeywell.MES.Core.DataModel.SystemCatalogs](#)

-
2. Migrate the old data to new format as explained in the chapter “Migrating old data”.
 3. Migrate your old rules files and post-processing scripts to the new format as explained in the chapter “Migrating old data”.
 4. Uninstall the old Collector and Archiver components.

4.3 Installing prerequisites

Installing SQL Server



ATTENTION:

if you have purchased SQL Server along with DynAMo Metrics & Reporting from Honeywell, ignore this section and proceed to the next section.

On the computer where you plan to install the database components (of Metrics & Reporting), install Microsoft SQL Server by referring to the Microsoft documentation. Select the following features while installing SQL Server:

4. Installing Metrics & Reporting

4.4. Common pre-install steps for all components

Table 9: SQL Server installation options

| Page in the SQL Server installation wizard | Tasks to be performed |
|--|---|
| Feature Selection | Select the following features: <ul style="list-style-type: none">• Database Engine Services• Client Tools Connectivity• Client Tools Backwards Compatibility• Management Tools – Basic• Management Tools – Complete |
| Instance Configuration | Click Default instance or Named instance . For named instance, type instance name and instance ID. |
| Server Configuration | To ensure that the SQL services start automatically whenever you restart the server, set the Startup Type to Automatic for the following SQL services: <ul style="list-style-type: none">• SQL Server Database Engine• SQL Server Browser Click Use the Same account for SQL Server services to select the account name from the drop-down list and click OK . |
| Database Engine Configuration | Choose any one of the authentication modes. Click Add Current User . Only this user has complete access to the database engine. |

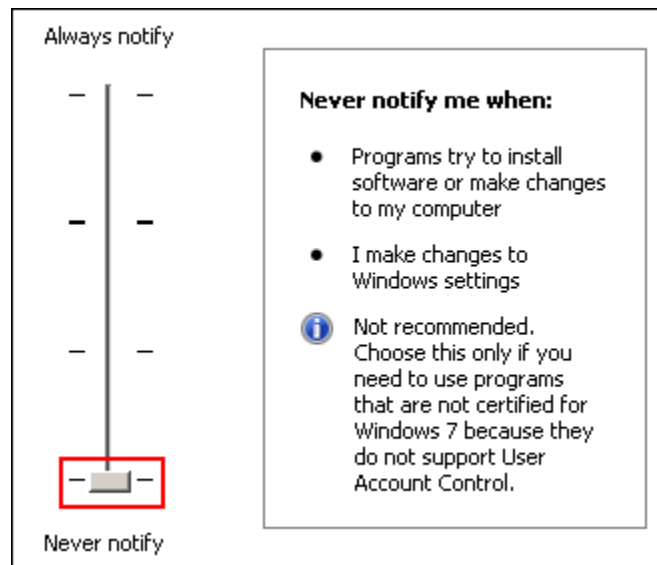
4.4 Common pre-install steps for all components

This section explains the procedures that you must perform before installing any of the components of Metrics & Reporting.

Turning off User Account Control

Browse to **Control Panel > User Accounts > User Accounts > Change User Account Control Settings** and move the slider to **Never Notify** as shown in the following figure:

Figure 5: Turning off User Account Control (UAC)

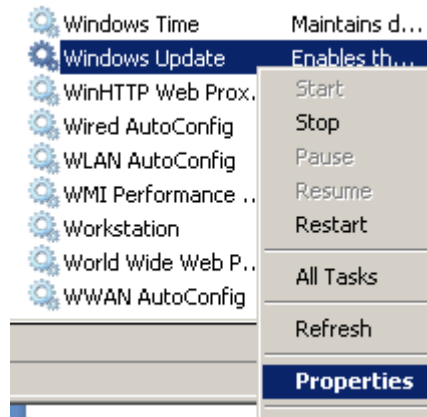


Restart the computer after turning off UAC.

Disabling Windows Update

Browse to **Control Panel > System and Security > Administrative Tools > Services**, open the **Properties** window of the **Windows Update** service, and set the **Startup Type** to **Disabled**.

Figure 6: Disabling Windows Update



ATTENTION:

- If the Windows Update service is already running, stop it.
 - You can re-enable Windows Update after the completion of Metrics & Reporting installation.
-

4.5 Pre-install steps for Core component

This section explains the procedures that you must perform before installing the Core component of Metrics & Reporting.

Installing security certificates

If you want to use an SSL certificate to secure all communications between your Metrics & Reporting components, install your SSL certificate as explained in the section Security certificate requirements on page 25.

Creating a non-default website

By default, the Metrics & Reporting is hosted on the default website (that uses port 80) on your IIS web server. If your computer already hosts another web site or web application that uses the default port (80), then you must create a non-default website that runs on a port number other than 80.



ATTENTION:

If you want to host Metrics & Reporting on your default website (port 80), ignore this procedure and proceed to the next section.

To create a non-default website:

| Step | Action |
|------|--|
| 1 | Insert the DynAMo R120.1 - Metrics & Reporting Installation Media and browse to the root folder. |
| 2 | Run the Prerequisite Checker Utility that is present in the following location within the installation media: \\PreInstallChecker\Honeywell.Intuition.PreInstallChecker.exe The utility validates whether the prerequisites are available on your computer. The Intuition Environment Setup window appears and reports whether each prerequisite is available or missing. If all prerequisites are available, close the Intuition Environment Setup window and continue with the installation. -OR- If one or more prerequisites are missing: a) Click Repair All to fix the errors. b) Restart the computer. <i>If the missing prerequisites cannot be installed/configured automatically, an error message appears. Close the installer, correct the errors manually before continuing with this procedure.</i> |
| 3 | Choose Start > Administrative Tools > Internet Information Services (IIS) Manager . The Internet Information Services (IIS) Manager dialog box appears. |
| 4 | Expand the node that represents your computer. |
| 5 | Right-click Sites and choose Add Web Site . The Add Web Site dialog box appears. |

4. Installing Metrics & Reporting

4.5. Pre-install steps for Core component

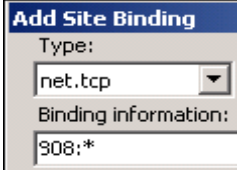
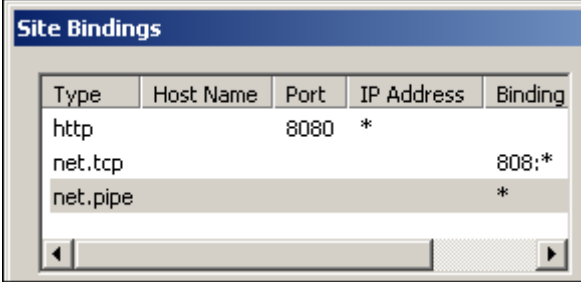
| Step | Action |
|------|--------|
|------|--------|

The screenshot shows the 'Add Web Site' dialog box. It has several sections: 'Site name' with a text box containing 'MESF' and an 'Application pool' dropdown set to 'MESF'; 'Content Directory' with a 'Physical path' text box containing 'C:\inetpub\wwwroot\MESF\' and a 'Pass-through authentication' checkbox; and 'Binding' with a 'Type' dropdown set to 'http', an 'IP address' dropdown set to 'All Unassigned', and a 'Port' text box containing '8080'.

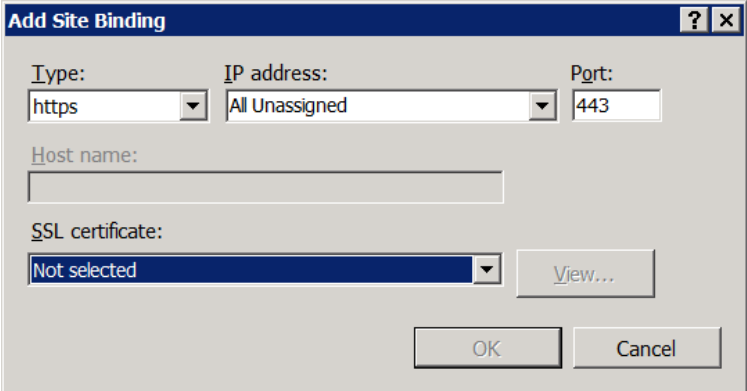
- 6 In the **Site Name** box, type a name for the non-default website.
- 7 In the **Physical Path** box, type the path to the folder where the files for the website must be stored. If the folder does not exist, create it.
- 8 In the **Port** box, type a port number for your website.
The recommended port number is **8080**. However, if you have already created another website that listens to port 8080, type a different port number.
- 9 Click **OK** to close the dialog box and return to the the **Internet Information Services (IIS) Manager** window
The non-default website is created and listed under **Sites**.
- 10 Create a **net.tcp** binding as follows:
 - a) Right-click the non-default website that you created, and click **Edit Bindings**.
 - b) The **Site Bindings** dialog appears.

The screenshot shows the 'Site Bindings' dialog box with a table of bindings. The table has five columns: Type, Host Name, Port, IP Address, and Binding. The data is as follows:

| Type | Host Name | Port | IP Address | Binding |
|----------|-----------|------|------------|---------|
| http | | 8080 | * | |
| net.tcp | | 8080 | * | 8080:* |
| net.pipe | | * | * | * |

| Step | Action |
|------|---|
| | <p>c) Click Add. The Add Site Binding dialog box appears.</p>  |
| | <p>d) In the Type drop-down list, select net.tcp.</p> <p>e) In the Binding Information box, type 908:*.</p> <p>f) Click OK.</p> |
| 11 | <p>If you want to use the HTTPS protocol, create a binding for https protocol as follows:</p> <p>a) Right-click the non-default website that you created, and click Edit Bindings.</p> <p>b) The Site Bindings dialog appears.</p>  |
| | <p>c) Click Add. The Add Site Binding dialog box appears.</p> |

4. Installing Metrics & Reporting
4.5. Pre-install steps for Core component

| Step | Action |
|------|--|
| |  |

- d) In the **Type** drop-down list, click **https**.
- e) In the **Port** box, type **443**.
- f) In the **SSL certificate** drop-down list, select your security certificate.
- g) Click **OK**.

Configuring Secure Socket Layer (SSL)

Restrict non-https access on your website as explained in the following procedure:



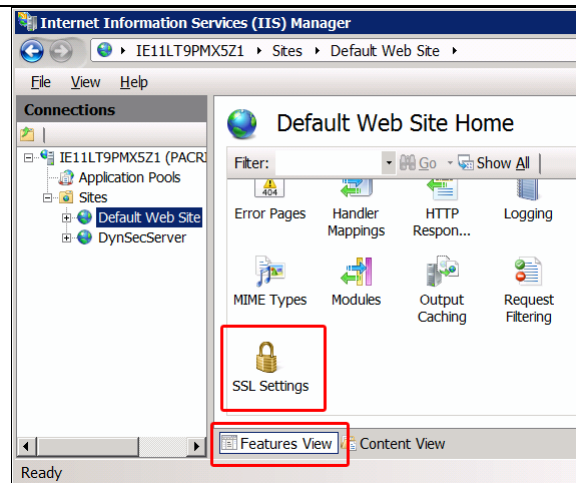
ATTENTION:

If you are not using an SSL certificate to secure the communication between the Metrics & Reporting components, ignore this procedure and proceed to the next section.

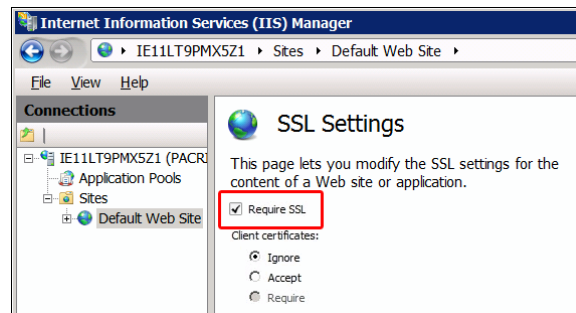
| Step | Action |
|------|--|
| 1 | Choose Start > Administrative Tools > Internet Information Services (IIS) Manager . The Internet Information Services (IIS) Manager dialog box appears. |
| 2 | Expand the tree and click the website (default or non-default) that you plan to use for hosting the Metrics & Reporting application. |

4. Installing Metrics & Reporting
4.5. Pre-install steps for Core component

Step **Action**



- 3 In the **Features View**, double-click **SSL Settings**.
The **SSL Settings** page appears.



- 4 Select the **Require SSL** check box.
5 On the right pane, click **Apply**.
-

4.6 Installing Metrics & Reporting components

This section explains how to install the Metrics & Reporting components on your computer(s). This procedure covers the installation procedure for all Metrics & Reporting components.






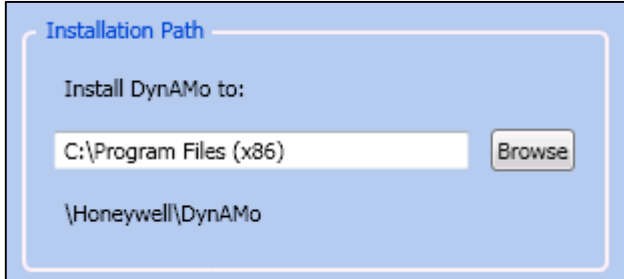

ATTENTION:

- The installation wizard displays or hides some of its screens/pages depending on the features you choose to install.

If one of the screens/pages do not appear as explained in the procedure, ignore that step and proceed with the next step.

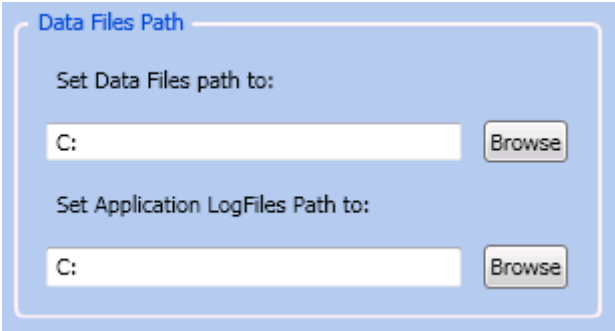
To install Metrics & Reporting components:

| Step | Action |
|------|--|
| 1 | Insert the DynAMo Metrics & Reporting installation media and browse to the root folder. |
| |  ATTENTION: To install the basic components, use the DynAMo R120.1 - Metrics & Reporting Installation Media . -OR- To install the cross-domain components, use the DynAMo R120.1 - Metrics & Reporting Cross Domain Media . |
| 2 | Right-click the setup.exe file and choose Run as Administrator . The DynAMo Metrics & Reporting installation wizard appears. |
| |  ATTENTION: If required, you can copy the contents of the Metrics & Reporting installation media to your local computer and install it. However, you cannot run Metrics & Reporting setup from a shared folder on another computer. |
| 3 | Click Next . The License Agreement page appears. |
| 4 | Click I accept the terms in the License agreement , and then click Next . The Deployment Features Selection page appears. |
| 5 | Select the components that you want to install and click Next . |

| Step | Action |
|---|--|
|  | <p>ATTENTION</p> <p>The Database feature can only be installed remotely. So, you must select to install the Database feature along with the Core feature.</p> <p>This is applicable for Basic components as well as Cross-domain components.</p> <p>If you select Archiver components or Database components, the wizard displays the to Install SQL 2012 SP2 check box.</p> <ul style="list-style-type: none">• To install SQL Server, select this check box.• If you already have SQL Server installed on this computer or on a separate database server, do not select this check box. <p>The Feature and Options selection page appears.</p> <div data-bbox="526 907 1146 1184"></div> |
| 6 | <p>Under Installation Path, the Install DynAMo to box displays the default installation folder. To install to a different folder, click Browse and select the alternate installation folder.</p> |
|  | <p>ATTENTION:</p> <p>If you have chosen to install SQL Server, the wizard always installs SQL Server at the default installation folder (C:\Program Files (x86)\Microsoft SQL Server) even if you provide a different (custom) folder for installation.</p> |

4. Installing Metrics & Reporting

4.6. Installing Metrics & Reporting components

| Step | Action |
|------|---|
| 7 |  <p>Under Data Files Path:</p> <ol style="list-style-type: none">The Set Data Files path to box displays the default folder where DynAMo stores its working data files. To use a different folder for this purpose, click Browse and select the alternate data folder.The Set Application Log Files Path to box displays the default folder where DynAMo stores its log files. To use a different folder for this purpose, click Browse and select the alternate log file folder. |
| 8 | <p>Click Next.</p> <p>The installation wizard validates whether the prerequisites are available on your computer. The Intuition Environment Setup window appears and reports whether each prerequisite is available or missing.</p> <p>If all prerequisites are available, close the Intuition Environment Setup window and continue with the installation.</p> <p>-OR-</p> <p>If one or more prerequisites are missing:</p> <ol style="list-style-type: none">Click Repair All to fix the errors.Restart the computer.Start the DynAMo Metrics & Reporting installation wizard again. <p><i>If the missing prerequisites cannot be installed/configured automatically, an error message appears. Close the installer, correct the errors manually and try installing DynAMo Metrics & Reporting again.</i></p> |
| 9 | <p>The Restore Configuration files page appears.</p> <p><i>For a fresh installation of Metrics & Reporting, ignore this page and click Next.</i></p> <p>-OR-</p> |

| Step | Action |
|------|--|
| | <i>If you are migrating</i> from an earlier version of Metrics & Reporting: a) Under Migration , click Browse and select the folder that contains your old configuration files. b) Click Next . |
| 10 | The Account Information page appears. |

The screenshot shows a blue-themed web form with two sections. The first section, titled "SQL Server Details", contains a dropdown menu for "SQL Server Name" with the value "WIN7-64BIT-C01" selected. Below it is a note: "Note: Enter the SQL Server name to be used during installation. Logged in credentials must have database administrator access to SQL Server in order to create new databases and tables." The second section, titled "Login Information for Application Services", contains two text input fields: "Domain\User Name" with the value "Domain\ServiceAccount" and "Account Password" with a masked password of ten dots. Below these fields is another note: "Note: Enter account and password information that will be used for running Honeywell DynAMo Services."

- In the **SQL Server Name** drop-down list, click or type the host name of the SQL Server computer.
- In the **Database Instance** box, type the name of the database instance that you want to create. The default name is **DynArchive**.



ATTENTION:




The Database Instance box appears only when you install from the **DynAMo R120.1 - Metrics & Reporting Installation Media**.


- In the **Domain\User Name** and **Account Password** fields, type the user name and the password of the runtime user account.

After installation, the components of Metrics & Reporting run using this runtime user account.

4. Installing Metrics & Reporting

4.6. Installing Metrics & Reporting components

| Step | Action |
|------|--|
| |  ATTENTION: During installation, the runtime user account must have interactive logon permission. However, if required, you can remove this permission after completing the installation. |
| | d) Click Next . |
| 11 | The Web Site Selection page appears. a) In the Website selection drop-down list, click the website (default or non-default) for hosting the Metrics & Reporting application. Wait till the Net.Tcp Binding Information box displays the correct net.tcp port configured for the selected website. b) Click Next . |
| 12 | The MES Email Dispatcher – Mail Configuration page appears. Specify the information required by DynAMo Metrics & Reporting for sending automated email notifications: a) In the Sender's Email ID box, type the email ID that must be displayed as the sender's email ID in email notification messages. b) In the Default Email ID box, type the email ID that must be displayed as the "reply to" email ID in email notification messages. c) In the Server Name box, type the name of the SMTP email server that you want to use for sending email notification. In the Port Number box, type the SMTP port number of the above server. |
| 13 | The Archiver and Web Server Information page appears. <hr/>  ATTENTION: This page appears only when you install using the DynAMo R120.1 - Metrics & Reporting Cross Domain Media . <hr/> a) Under DynAMo Intuition Web Server details , type the host name of the L3 Core server and the port number of the website (default or non-default) that hosts the Metrics & Reporting application. <hr/>  ATTENTION: If you are using HTTPS, you must type the fully qualified name of the DynAMo Core server, as configured in the SSL certificate. |

| Step | Action |
|------|--|
| | b) Under DynAMo Archiver details , type the port number the Archiver must use for collecting alarm and event data. The default port number is 9001 . Do not use any other port number. |
| 14 | The Summary page appears and displays the list of features you have selected for installation. If you have chosen to install SQL Server 2012, the wizard prompts for the SQL Server media. Insert the SQL Server 2012 media and click Next . The wizard installs SQL Server. |
| 15 | When the installation is completed, insert the Metrics & Reporting media once again and click Install . The wizard installs the Metrics & Reporting database components on your computer. When the installation completes, a confirmation message appears. |
| 16 | Click OK to close the installation wizard. |
| |  ATTENTION: To ensure that Metrics & Reporting operates as expected: |
| | <ul style="list-style-type: none">• Access to application binaries and configuration should be restricted and no system administrator shall make any modifications directly or indirectly on it.• The database administrator should not perform any data manipulation directly on the application database. |

4.7 Post-install steps


Verifying the Installation

The installation of the Metrics & Reporting is complete. Validate the installation as explained in the following steps:

| Step | Action |
|------|--|
| 1 | Open Microsoft Internet Explorer. |
| 2 | Browse to the <a href="http://<server_name>/Default.aspx">http://<server_name>/Default.aspx web page where <server_name> is the host name of the Metrics & Reporting core server. Specify your Windows domain user name and password when prompted to logon. |
| 3 | Verify whether the Honeywell Applications page appears after you login. |

Configuring firewall to allow communication

Configure your Windows firewalls to allow communication through the following ports:

| Server | Port | Data Direction | Description |
|-------------------|-----------------|--------------------|--|
| Core | 80 (for http) | Inbound | For hosting the Metrics & Reporting application When remote clients access any Metrics & Reporting screen from their browsers, this port receives the http request.  ATTENTION: <ul style="list-style-type: none"> If you have hosted Metrics & Reporting on a non-default website that uses a different TCP port instead of port 80 (for http) or 443 (for https), you must configure firewall to allow communication through that port. If you are using cross-domain access, you must also configure your physical firewall to allow cross-domain communications through this port. |
| | 443 (for https) | | |
| | 25 | | |
| | 449 or custom | Outbound & inbound | To communicate with core server on Business Network (L4) |
| Cross domain Core | 449 (or custom) | Outbound & inbound | To communicate with core server(s) on each Process Control Network (L3) |
| Collector | 8541 | Outbound & inbound | To communicate with the Archiver computer |
| Archiver | 8540 | Outbound & inbound | To communicate with the Viewer computer(s) |
| | 8541 | Outbound & inbound | To communicate with the Collector computer |

| Server | Port | Data Direction | Description |
|--|------|--------------------|--|
| Viewer | 8540 | Outbound & inbound | To communicate with the Archiver computer |
| | 8543 | Outbound & inbound | To communicate with the Health Monitor service |
| Email server (typically the same as Core server) | 25 | Outbound | To communicate with the core server |

For instructions on configuring Windows Firewall, visit the following webpage:


[http://msdn.microsoft.com/en-us/library/hh168549\(v=nav.70\).aspx](http://msdn.microsoft.com/en-us/library/hh168549(v=nav.70).aspx).

Removing the HPSInstall user account

During the installation, the installation wizard automatically creates a local Windows user account named **HPSInstall**. You can delete this user account.

Configuring Metrics & Reporting on L3

From any computer on the Process Control Network (L3), perform the configuring tasks explained in the topic “Configuration tasks in Metrics & Reporting” in the Metrics & Reporting Help Center.

You can access the help center by clicking the  icon from any Metrics & Reporting screen.

5. Setting up cross-domain access

5.1 Overview

You must enable cross-domain access if you want to access plant-level data from your Business (L4) Network. This chapter explains how to enable cross-domain access in Metrics & Reporting.

5.2 Installing cross-domain components

You can install all the three cross-domain components on one computer or across two computers depending on various factors such as the volume of data, hardware specifications used, and so on.

On the Business Network, install the cross-domain components of Metrics & Reporting. The installation procedures for cross-domain components are similar to the procedures for the basic components explained in the [previous chapter](#).

5.3 Configuring cross-domain access

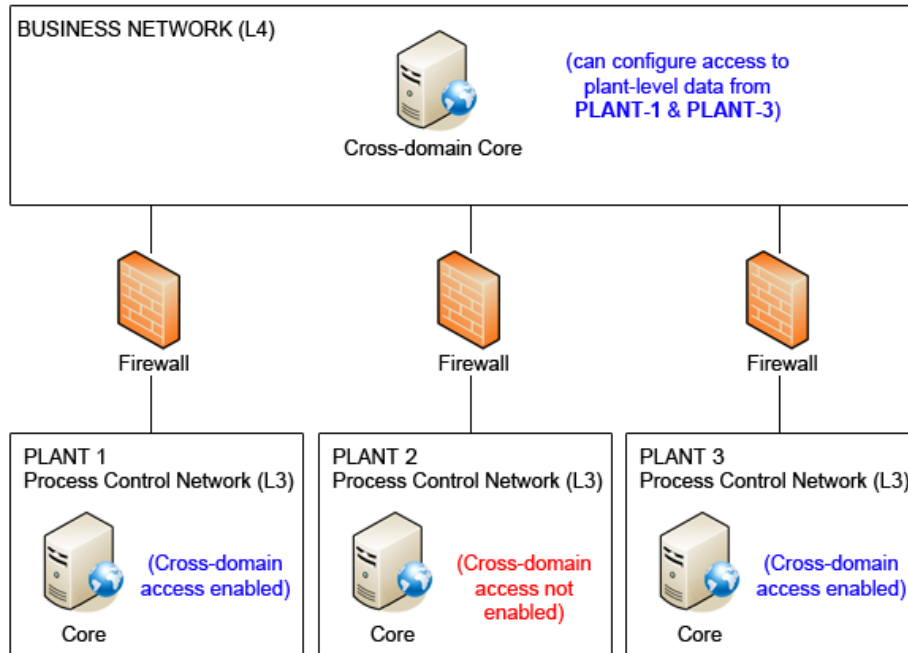
Overview

Configuration of cross-domain access involves the following steps:

| Task to be performed | Computer on which to perform the task | Network where the computer resides |
|--|--|--|
| Enabling cross-domain access | Core server | Process Control Network (L3) of each plant |
| Configuring access to plant level-data | Any computer (accesses the Core Web server on the Business Network via web browser) | Business Network (L4) |

The following illustration provides an overview of the cross-domain configuration:

Figure 7: Cross-domain access configuration



Enabling cross-domain access

If you want to allow your Business Network (L4) users to access and analyze your plant's alarm and event data, you must enable cross-domain access on the Core Metrics & Reporting server of that plant.



ATTENTION:

Execute this procedure on the Core server that you have deployed in the Process Control Network (L3) of each of your plants.

5. Setting up cross-domain access
5.3. Configuring cross-domain access

To enable cross-domain access:

| Step | Action |
|------|--|
| 1 | On the Core server, right-click Start > All Programs > Honeywell > DynAMo > Utils > Honeywell Cross Domain Config Utility and choose Run as Administrator . The Cross Domain Access Configuration dialog box appears. |



ATTENTION:

On Windows 2012 Server, run the **Honeywell Cross Domain Config Utility** application.

- 2 Click **Yes, Allow Access**.

Ⓐ Yes, Allow Access

IIS Web Site Name: DynAMoL4Extensions (Provide a new web site name here, not any existing one)

Port Number: 449

L4 Server IP Address: 192.32.23.23

Security Mode: HTTP HTTPS (Recommended)

Select SSL Certificate: CN=IE11LTCVNS5Z1.global.ds.honeywell.com



ATTENTION:

Any time in future, you can disable cross-domain access for this server by opening this **Cross Domain Access Configuration** dialog box, clicking **No, Deny Access**, and then clicking **Apply Changes**.

- 3 In the **IIS Web Site Name** box, type a new website name.
When you run the utility, a new IIS website is created with this name.
If you type the name of an existing IIS website, the utility deletes the website and creates a new website with the same name.
- 4 In the **Port Number** box, type the port number for accessing the website.

The firewall on the Process Control Network (L3) of the plant must be configured to allow communications through that port. The communication

| Step | Action |
|------|---|
| 5 | <p>In the L4 Server IP Address box, type the IP address of the DynAMo Business Network Core Server that you will set up on the Business Network (L4).</p> <p>Only this server can access the DynAMo Metrics & Reporting data from L4.</p> |
| 6 | <p>Under Security Mode, select one of the following options:</p> <ul style="list-style-type: none">• HTTP – enables cross-domain access without security• HTTPS – enables cross-domain access through Secure Socket Layer (SSL). All cross-domain communications are encrypted and transmitted through SSL. <p>Click Select SSL Certificate and select the security certificate file that you installed earlier.</p> |
| 7 | <p>Click Apply Changes.</p> <p>The utility saves the configuration information you provided.</p> |

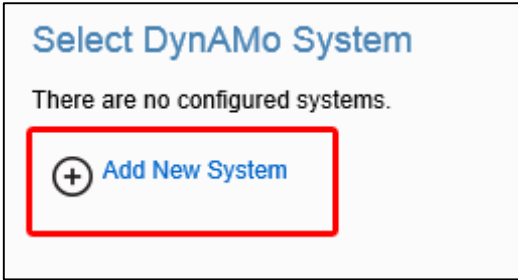
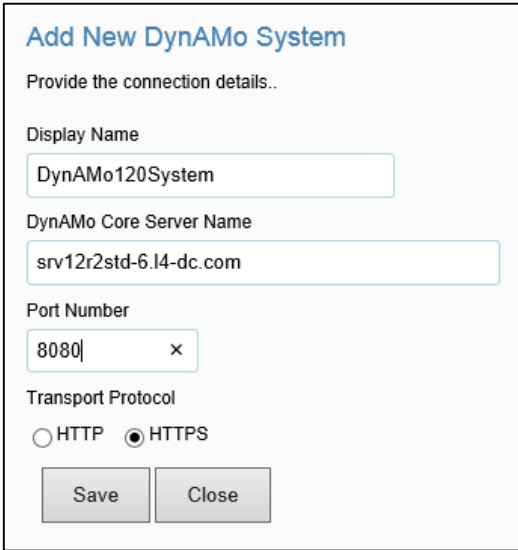
Configuring access to plant-level data

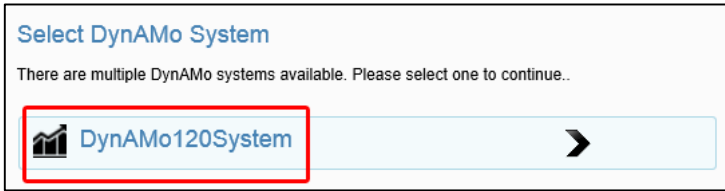
You must configure your Core server on the Business Network (L4), so that, it can recognize connect to and access data from the Core server in each of your plants (L3).

To configure the access:

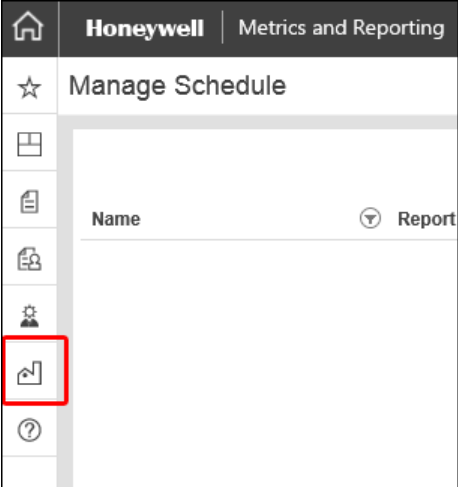
| Step | Action |
|------|---|
| 1 | <p>From any remote computer on your Business Network (L4), access the Metrics & Reporting application using the following URL:</p> <p><a href="http://<L4_core_server>:<port_no>/default.aspx">http://<L4_core_server>:<port_no>/default.aspx</p> <p>where:</p> <ul style="list-style-type: none">• <L4_core_server> - host name DynAMo Business Network Core Server• <port_no> - port number of the website that hosts the DynAMo Business Network Core Web Servers |
| 2 | <p>In the Honeywell Applications page, click Metrics and Reporting.</p> <p>The Select DynAMo System page appears.</p> |

5. Setting up cross-domain access
5.3. Configuring cross-domain access

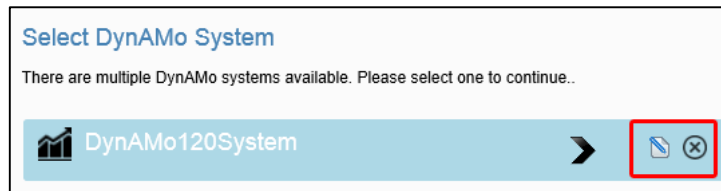
| Step | Action |
|------|--|
| 3 |  <p>Click Add New System. The Add New DynAMo System page appears.</p> |
| 4 |  <p>In the Display Name box, type a descriptive name to refer to the plant network that you want to connect to.</p> |
| 5 | <p>In the DynAMo Core Server Name box, type the fully qualified name of the L3 Core server on the plant network. Fully qualified name is the name of the computer in the following format: host_name.domain_name.com</p> |
| 6 | <p>In the Port Number box, type the port number on which the Core server is hosted on the plant (L3) network.</p> |

| Step | Action |
|------|--|
| 7 | <p>Under Transport Security, click the protocol to be used for all cross-domain communication (between L4 and L3 networks).</p> <p>The available options are HTTP or HTTPS.</p> <p>This selection must match the cross-domain configuration settings of that plant. (Cross-domain configuration is performed on each plant's L3 network as explained in the section "Enabling cross-domain access" on page 45).</p> |
| 8 | <p>Click Save to save the information that you provided, and click Close to exit the Select Instance page.</p> |
| 9 | <p>Similarly, you can configure access to any number of plant networks.</p> <p>Henceforth, whenever you access Metrics & Reporting, all the plants that you configured are listed on the home page as shown in the following figure:</p> <div data-bbox="527 892 1247 1081" data-label="Image"></div> |
| | <p>Click one of the plants in the list to open the Metrics & Reporting dashboard and view that plants alarm data.</p> <ul style="list-style-type: none">To return back to the Select DynAMo System screen, click the Select DynAMo System icon on the navigation pane. |

5. Setting up cross-domain access
5.3. Configuring cross-domain access


| Step | Action |
|------|---|
| |  |

- You can modify or delete the configuration by clicking the respective icons when you move your mouse over that system.



Configuring Metrics & Reporting on L4

From any computer on the Business Network (L4), configuring the user accounts for your users as explained in the topic “Configuring user accounts” in the Metrics & Reporting Help Center.

You can access the help center by clicking the  icon from any Metrics & Reporting screen.

6. Setting up client components

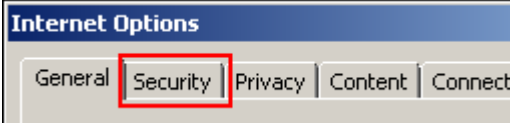

6.1 Configuring remote clients

Setting the screen resolution

Metrics & Reporting is designed to be viewed with a screen resolution of **1920 pixels x 1080 pixels**. It is recommended that you set the screen resolution of your computer to match this.

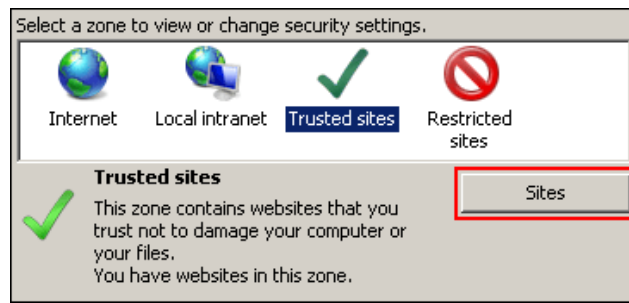
Configuring Trusted Site settings

This section explains how to add the host name of the L3 Core server (for computers on L3) or L4 Core Web server (for computers on L4) to the list of trusted websites so that the security settings of your browser do not hinder the execution of the Metrics & Reporting scripts.

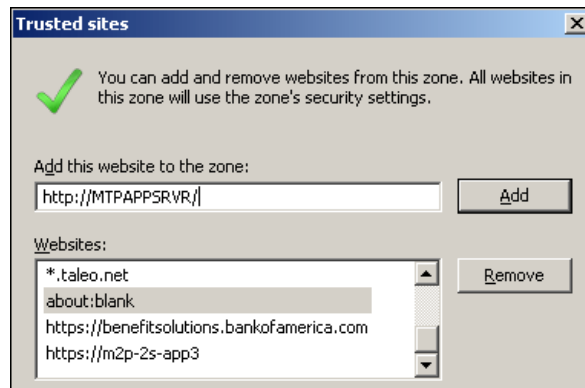
| Step | Action |
|------|--|
| 1 | Open Microsoft Internet Explorer. |
| 2 | Click the Tools button, and choose Internet Options . The Internet Options dialog box appears. |
| |  |
| 3 | Click the Security tab, and then click Trusted sites . |
| |  |
| 4 | Click Sites . |

6. Setting up client components
6.1. Configuring remote clients

| Step | Action |
|------|--------|
|------|--------|



The **Trusted sites** dialog box appears and displays the list of trusted sites.



- 5 Add your DynAMo server to the list as follows:
 - a) In the **Add this website to the zone** box, type **http://<App_Server>/** where **<App_Server>** is the fully-qualified name (FQN) of the L3 Core server or L4 Core Web server as applicable.
 - a) Click **Add** to add the URL to the **Websites** list.
 - 6 Add **about:blank** to the trusted sites list as follows:
 - a) In the **Add this website to the zone** box, type **about:blank**.
 - b) Click **Add** to add the URL to the **Websites** list.
 - 7 Click **Close** to close the **Trusted sites** dialog box.
 - 8 Click **OK** to close the **Internet Options** dialog box.
-

7. Migrating old data

7.1 Overview

If you are migrating from an earlier release of DynAMo Metrics & Reporting, you must follow the procedures explained in this chapter to migrate your existing data to Metrics & Reporting R120.

7.2 Pre-migration steps

Verifying the prerequisites

Before you migrate your old data, ensure that:

- The new Archiver computer has SQL Server client components installed (This is not required if SQL Server already exists on this computer)
- Your old and new database servers have the same “Collation” setting
- You have enough free hard disk space on the database server computer (typically, more than three times the size of your old Metrics & Reporting database).

Stopping the new Metrics & Reporting services

Stop the following Windows services on the Collector & Archiver computer(s):

- Collector
- Archiver
- Archiver interface
- Analyzer

7.3 Migration

Migrating old data

This section explains how to migrate your old data to the new Metrics & Reporting database format.






ATTENTION:

- To migrate your old data, your Windows user account must have **sysadmin** privileges for both the old & new database servers.
 - Before migration, you must create a fresh database instance on the new database server. This database instances must have the same **Collation** settings as the old Metrics & Reporting database.
 - You can only migrate the event data that was collected during the last ten years.
-

To migrate your old data:

| Step | Action |
|------|---|
| 1 | On the Archiver computer, run the following application: <installation_path>\Honeywell\DynAMo\Utilities\DataBaseMigrationUtility\Honeywell.DynAMo.Migration.exe The Honeywell DynAMo Migration Utility wizard appears and displays the Select Action page. |
| 2 | Click Database Migration and click Next . The database connection page appears. |

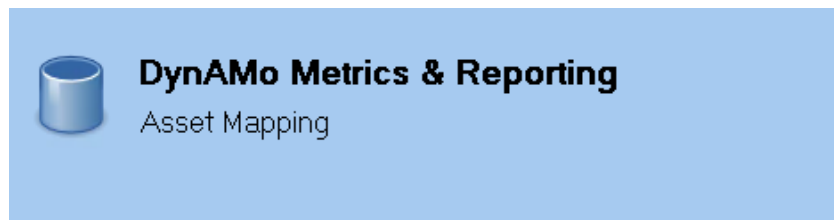
| Step | Action |
|------|---|
| 3 | <p data-bbox="540 510 1284 533">Specify the following to connect to SQL server source database(older version):</p> <p data-bbox="540 548 850 569">Select or Enter DataBase Server name:</p> <p data-bbox="605 575 1333 642"> IE11-AMS-JAYESH <input type="button" value="Refresh"/></p> <p data-bbox="540 657 842 678">Enter information to login to the server:</p> <p data-bbox="605 690 1198 768"> <input checked="" type="radio"/> Windows Authentication <input type="radio"/> SQL Server Authentication</p> <p data-bbox="695 743 1118 768">Username: <input type="text"/></p> <p data-bbox="695 800 1333 825">Password: <input type="text"/> <input type="button" value="Test Connection"/></p> <p data-bbox="695 848 902 873"><input checked="" type="checkbox"/> Check Migration Data</p> <p data-bbox="548 884 823 905">Select the database on the server:</p> <p data-bbox="597 919 1333 987"> AEArchive <input type="button" value="Verify Data"/></p> <p data-bbox="526 1016 992 1039">Connect to your database server as follows:</p> <ol data-bbox="526 1056 1344 1276" style="list-style-type: none"><li data-bbox="526 1056 1308 1108">a) In the Select or Enter DataBase Server name drop-down list, select your database server.<li data-bbox="526 1119 1344 1171">b) Specify the authentication method by clicking Windows Authentication or SQL Server Authentication.<li data-bbox="526 1182 1344 1234">c) In the Username and Password boxes, type the login details to connect to your database server.<li data-bbox="526 1245 826 1276">d) Click Test Connection. <p data-bbox="573 1308 1344 1381">The wizard validates your user name and password. If the authentication fails, an error message appears. Type the correct user name and password and try again.</p> <p data-bbox="444 1409 1344 1461">4 Select the Check Migration Data check box, if you want the wizard to report the number of records found in your old data before starting the migration.</p> <p data-bbox="444 1486 1281 1539">5 In the Select the database on the server drop-down list, click the new Metrics & Reporting database instance.</p> <p data-bbox="444 1564 716 1587">6 Click Verify Data.</p> <p data-bbox="526 1602 1344 1675">If the user account you specified does not have the permission to access the database, an error message appears. Get the required permission from your database administrator and try again.</p> <p data-bbox="526 1692 1344 1715">If the Check Migration Data check box is selected, a message box appears</p> |

7. Migrating old data
7.3. Migration

| Step | Action |
|------|--------|
|------|--------|

and reports the number of records found in your old data. If the value in the **Total Combinations** field is more than 600,000, check with Honeywell Support before proceeding with the migration.

- 7 Click **Next**.
The **Asset Mapping** page appears.



| Include | Plant | Site |
|-------------------------------------|----------|------|
| <input checked="" type="checkbox"/> | Plant1 | |
| <input checked="" type="checkbox"/> | OFFSHORE | |
| <input checked="" type="checkbox"/> | ONSHORE | |
| <input checked="" type="checkbox"/> | ONSHORE1 | |

- 8 Metrics & Reporting R120 allows to configure your asset hierarchy in the Enterprise > Site > Plant format, whereas the older versions of Metrics & Reporting supported only Plant configuration.
- The **Asset Mapping** page allows you to map the plants in your old configuration data against their parent sites in the new Metrics & Reporting database.
- The **Plant** column lists all the plant names available in your old data. Against each plant name, type the name of the site in the **Site** column.






ATTENTION:

When you configure sites later, remember to use the same site names as specified in the rules files.

If you do not want to migrate any of the plants, clear the check box in the **Include** column for that plant.

- 9 Click **OK**.
The **Custom filter mapping** page appears.
-

| Step | Action | | | | | | | | | | | | | | | | | | |
|---------------|---|---------------|---------|-------|---------|-------|---------|-------|---------|-------|---------|-------|---------|-------|---------|-------|---------|-------|---------|
| | <div data-bbox="522 493 1248 676"></div> <table border="1" data-bbox="527 686 1237 984"><thead><tr><th>AttributeName</th><th>Mapname</th></tr></thead><tbody><tr><td>User1</td><td>Filter1</td></tr><tr><td>User2</td><td>Filter2</td></tr><tr><td>User3</td><td>Filter3</td></tr><tr><td>User4</td><td>Custom1</td></tr><tr><td>User5</td><td>Custom2</td></tr><tr><td>User6</td><td>Custom3</td></tr><tr><td>User7</td><td>Custom4</td></tr><tr><td>User8</td><td>Custom5</td></tr></tbody></table> | AttributeName | Mapname | User1 | Filter1 | User2 | Filter2 | User3 | Filter3 | User4 | Custom1 | User5 | Custom2 | User6 | Custom3 | User7 | Custom4 | User8 | Custom5 |
| AttributeName | Mapname | | | | | | | | | | | | | | | | | | |
| User1 | Filter1 | | | | | | | | | | | | | | | | | | |
| User2 | Filter2 | | | | | | | | | | | | | | | | | | |
| User3 | Filter3 | | | | | | | | | | | | | | | | | | |
| User4 | Custom1 | | | | | | | | | | | | | | | | | | |
| User5 | Custom2 | | | | | | | | | | | | | | | | | | |
| User6 | Custom3 | | | | | | | | | | | | | | | | | | |
| User7 | Custom4 | | | | | | | | | | | | | | | | | | |
| User8 | Custom5 | | | | | | | | | | | | | | | | | | |
| 10 | <p>The custom filtering attributes that you created in the older versions of Metrics & Reporting are not supported anymore. Metrics & Reporting R120 supports only 8 attributes for the event messages - 3 filter attributes and 5 custom attributes.</p> <p>The Custom filter mapping page allows you to map your old custom attributes against the new pre-defined attributes.</p> <p>The Attribute name column lists all the custom attributes available in your old data. Against each custom attribute, click the corresponding new pre-defined attribute in the drop-down list under the Mapname column.</p> <p>If you do not specify the new mapping attribute for one or more custom attributes, the migration wizard ignores these custom attributes and does not migrate them to the new database.</p> <div data-bbox="522 1402 591 1470"></div> <p>ATTENTION: The migration wizard deletes your old custom fields. Note down your old custom fields if you want to refer to them in future.</p> | | | | | | | | | | | | | | | | | | |
| 11 | <p>Click Migrate.</p> <p>The wizard migrates your old data to the new database format, and reports the success or failure.</p> <p>The time taken for migration is proportional to the volume of your old data. While migration is in progress, you can continue to migrate your old rules files and post-processing scripts as explained in the next section.</p> | | | | | | | | | | | | | | | | | | |

| Step | Action |
|---|--|
|  | <p>ATTENTION:</p> <p>If migration fails, perform the following tasks and try again:</p> <ul style="list-style-type: none"> • Set the Time out duration for SQL Server to a higher value. • Set the recovery model of your old DynArchive database to Simple. |

Migrating rules files and post-processing scripts


In this release of Metrics & Reporting, following changes have been made to the rules files and the VBScript post-processing API:

Table 10: New features added to the rules files

| In earlier releases ... | In the current release ... |
|---|---|
| Assets were identified using 3 parameters: <ul style="list-style-type: none"> • Plant name • Area name • Unit name | Assets are identified using just one parameter that contains the hierarchy path of the asset in the following format: <site>\<plant >\<area>\<unit> (“\” is the separator) |
| You can add up to 10 user fields in the rules files | Only 8 fields are supported <ul style="list-style-type: none"> • 3 filter attributes • 5 custom attributes |
| You can define rules for renaming the message columns | You cannot define such rules |

To use your old rules files and post-processing scripts with the current release of Metrics & Reporting, you must migrate these files as follows:

| Step | Action |
|------|--|
| 1 | Open your old rules files in the old Rules Builder. |
| 2 | Remove the following mappings that are not supported in the current release: <ul style="list-style-type: none"> • User-defined fields (by choosing Tools > Map User Fields > Remove Named Field) • Mappings to custom attribute columns 6 to 10 • Area names • Unit names |

| Step | Action |
|------|---|
| 3 | Copy the rules files and post-processing scripts from your old Archiver computer to the new Archiver computer. |
| 4 | <p>On the (new) Archiver computer, update the copied rules file(s) (using the new Rules Builder) as follows:</p> <ul style="list-style-type: none"> • Modify the asset mappings to the new <site>\<plant>\<area>\<unit> format. • Add mappings for the 3 filter attributes and 5 custom attributes as required. <p>Refer to the topic “Configuring data collection” in the Metrics & Reporting help center. You can access the help center by clicking the  icon from any Metrics & Reporting screen.</p> |
| 5 | <p>In the VBScript post-processing files, remove all references to Plant, Area, Unit, and User fields.</p> <p>Refer to the topic “Configuring data processing” in the Metrics & Reporting help center.</p> |

Swapping the Collectors

Stop/Start the following Windows services:

- On the old Collector computer, stop the Collector service
- On the new Collector computer, start the Collector service

Performing delta migration

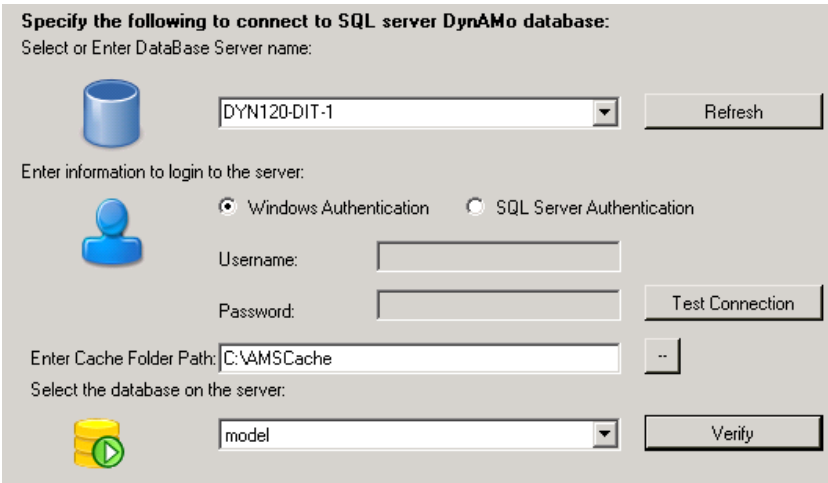
When the data was migrated to the new database format, the old Collector was still collecting new event messages. You must migrate this delta data to the new Metrics & Reporting database format.

To perform delta migration:

| Step | Action |
|------|--|
| 1 | <p>On the Archiver computer, run the following application: <installation_path>\Honeywell\DynAMo\Utilities\DataBaseMigrationUtility\Honeywell.DynAMo.Migration.exe.</p> <p>The Honeywell DynAMo Migration Utility wizard appears and displays the Select Action page.</p> |
| 2 | <p>Click Delta Migration and click Next.</p> <p>The Database Connection page appears.</p> |


7. Migrating old data

7.3. Migration

| Step | Action |
|------|---|
| |  |
| 3 | <p>Provide the required inputs as explained in the previous procedure and click Migrate.</p> <p>The wizard migrates the delta old data to the new database format, and reports the success or failure.</p> |

Configuring data collection

Configure the data collection channels as explained in the section “Configuring data collection” in the Metrics & Reporting help center.

You can access the help center by clicking the  icon from any Metrics & Reporting screen.

Finalizing data migration

After migrating the data, finalize the migration by executing the following procedure:



ATTENTION:

After you execute this procedure, you cannot perform delta migration again.

To finalize data migration:

| Step | Action |
|------|--|
| 1 | <p>On the Archiver computer, choose <installation_path>\Honeywell\DynAMo\Utilities\DataBaseMigrationUtility\Honeywell.DynAMo.Migration.exe.</p> <p>The Honeywell DynAMo Migration Utility wizard appears and displays the Select Action page.</p> |
| 2 | <p>Click Complete Migration and click Next.</p> <p>The Database Connection page appears.</p> |
| 3 | <p>Provide the required inputs as explained in the previous procedures and click Complete Migration.</p> <p>The wizard finalizes the migration and reports the success or failure.</p> |


7.4 Post-migration steps

Restarting the new Metrics & Reporting services

Start the following Windows services on the new Archiver computer:

- Archiver
- Archiver interface
- Analyzer


Configuring asset hierarchy

Configure the following assets as explained in the section “Configuring Assets” in the Metrics & Reporting help center (you can access the help center by clicking the  icon from any Metrics & Reporting screen.):

- Event stores
- Sites – Ensure that the site name matches the site name specified in the rules files. After you configure the sites, the plants associated with that site in the rules files appear automatically in the asset hierarchy.
- Operator positions

Configuring data archival

Configure the rules, post-processing scripts, and archiver channels as explained in the section “Configuring data archival” in the Metrics & Reporting help center.

You can access the help center by clicking the  icon from any Metrics & Reporting screen.

7. Migrating old data
7.4. Post-migration steps

Updating cache data

Synchronize the statistics data in the cache using the Data Manager Studio utility. For instructions, refer to the Help (F1) file for the Data Manager Studio utility.

This utility is present in the Archiver Computer at:

<installation_path>\Honeywell\DynAMo\Utilities\Data Manager Studio\Honeywell.Dynamo.AnalyzerService.DataManagerConsole.exe

Recent changes in calculations

In Metrics & Reporting R120, the calculations of metrics and KPIs have undergone changes.

| Feature/KPI | Behavior in R110 | Behavior in R120 |
|--|--|---|
| Dashboard (alarm performance category) and API report | - | Calculation of performance categories has changed. PREDICTIVE is removed in R120. |
| Peak alarm rate (hour) | The highest peak of the 10 mins is multiplied by 6. | It is calculated based on Hourly peak values. |
| Average standing alarm | This is based on selected scope and is cumulative. | This is calculated at Operator position level. |
| Top 20 action percentage | Calculated based on number of operators configured for the area. | Calculated based on new operator position concept. |
| Peak alarm rate (day) | The highest peak of the 10 mins is multiplied by 144. | It is calculated based on daily peak values. |
| % time <1 action % time 1-10 action % time >10 action % time <1 alarm % time 1-10 alarm % time >5 alarm | The KPIs are calculated for the selected scope which can plant, area or units and are the results are normalized for the number of operators configured for the scope. | Calculated based on Operator positions. |
| Operator count | Displays the number of configured operators assigned to the area. | This not applicable. |
| Chattering alarms | Shows the number of tags causing chattering alarms. Calculation is based on the asset selected. | Shows the number of occurrences of the chattering alarms. Calculation is based on the operator position selected. |

| Feature/KPI | Behavior in R110 | Behavior in R120 |
|---|--|--|
| Alarm flood | Calculation is based on the asset selected. | Calculation is based on the operator position selected. |
| Report - Standing alarm (at the moment) | Enable active alarms feature was available. | This feature is not available. Includes active alarms by default. |
| Report - Symptomatic analysis | Applies the filters on the first 10,000 of the events available for the specified time range, and performs Symptomatic analysis on the filtered results. | Applies the filters on the entire event data available for the specified time range, and performs Symptomatic analysis on the first 10,000 events in the filtered results. |
| Report - Tree map | Peak alarm rate is calculated for hour interval | Interval for Peak alarm rate is based on the Time period selected by User. |
| Top 20 action % Top 20 alarm % Top 10 Bad actor % | Calculation is based on the asset selected. | Calculation is based on the operator position selected. |
| Report -Standing alarm over Time | Considers only alarms annunciated within the requested time period. | Considers all standing alarms within the requested time period. |

8. Localizing Metrics & Reporting

8.1 Overview

You can localize the text displayed in the Metrics & Reporting screens.

The display names of the fields in the Metrics & Reporting screens are stored in resource files (DLL). During runtime, Metrics & Reporting dynamically reads the names from these resource files (DLL) and displays them in the screens.

These resource files are created using the Honeywell Intuition Localization Tool. This tool allows you to create/modify a localization source file (TTP). It also allows you to use this localization source file (TTP) to build a resource file (DLL).



ATTENTION:

You cannot localize the online help files.

Localization source files

Following are the localization source files (TTP) for the Metrics & Reporting screens:

- **<Installation_Path>\Honeywell\AMS\Localization\AMS.ttp**
- **<Installation_Path>\Honeywell\AMS\Localization\DLM.ttp**
- **<Installation_Path>\Honeywell\AMS\Localization\DLMTimeControl.ttp**
- **<Installation_Path>\Honeywell\AMS\Localization\ShiftTime.ttp**

Workflow for localization

To localize the display text strings present in the source (TTP) files, you must perform the following tasks for each file:

1. Modify the contents of the localization source (TTP) file
2. Build a resource (DLL) file
3. Deploy the resource (DLL) file on the Metrics & Reporting core server

8.2 Localizing the Metrics & Reporting screens

Prerequisites

Before you begin, you must:

- Install the **Honeywell MES Localization Tool**.
The installation files are available in the **Honeywell Intuition Localization Tool** folder within the **DynAMo R120.1 - Metrics & Reporting Installation Media**.
For installation instructions, refer to the *Honeywell Intuition Localization Tool Installation Guide* that is available in the **Documents** sub-folder.
- Remove the **Read-Only** property of the localization source (TTP) files.

Modifying the Localization Source File (TTP)

This section explains how to modify the default text strings present in a localization source file.

| Step | Action |
|------|--|
| 1 | Choose Start > All Programs > Honeywell > Localization Tool . The Localization Tool dialog box appears. |
| 2 | Choose File > Open . The Open dialog box appears. |
| 4 | Select the localization source file (TTP). |
| 5 | Click Open . The contents of the selected file are displayed in the Localization Tool dialog box. |
| 6 | Expand the tree view and click the youngest child node. The names of all the customizable Metrics & Reporting field names are listed in the grid along with their default display values. |
| 7 | Choose Language > Add Language . The Add Language dialog box appears. |
| 8 | Select the required language and click OK . In the tree, a new child node is created with the name of the selected language. |
| 9 | Click this new node. The following fields appear in the grid: |

8. Localizing Metrics & Reporting

8.2. Localizing the Metrics & Reporting screens

| Step | Action |
|------|--|
| | <ul style="list-style-type: none">• Name – Displays the name of the text.• Default Value – Displays the default display name of the text• <selected_language> – Allows you to specify a different name to be displayed in the Metrics & Reporting screens instead of the default value.• Localized – Allows you to indicate whether you have changed the value of the field or not. |
| 10 | In the <selected_language> field of each row in the grid, specify the localized version of the text strings. |
| 11 | Choose File > Save As and specify a new location.. The modified localization source file (TTP) is saved along with its resource file (TTR) at the specified location. |

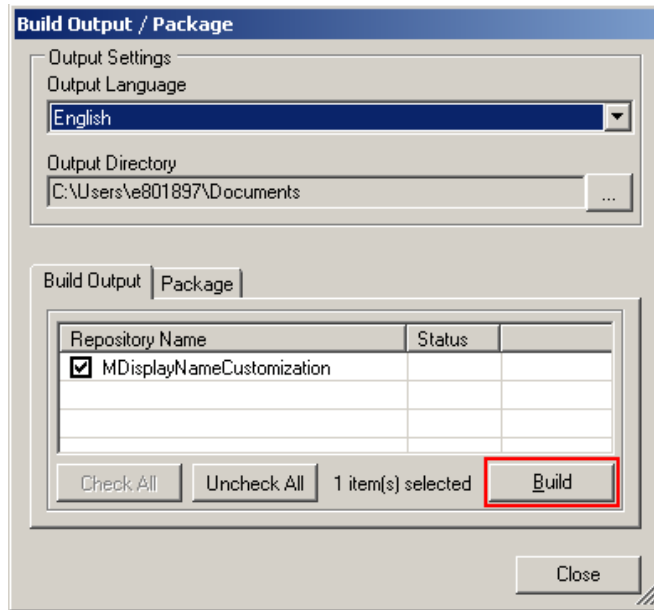
Building the Resource File (DLL)

This section explains how to build a resource file (DLL) from a localization source file (TTP).

| Step | Action |
|------|---|
| 1 | Open the localization tool by choosing Start > All Programs > Honeywell > Localization Tool . |
| 2 | Choose File > Open , select the localization source (TTP) file, and click Open . The Localization Tool dialog box displays the contents of the selected resource file. |
| 3 | Choose File > Build Output/Package . The Build Output/Package dialog box appears. |

Step

Action



- 4 With the default selections unchanged, click **Build**.

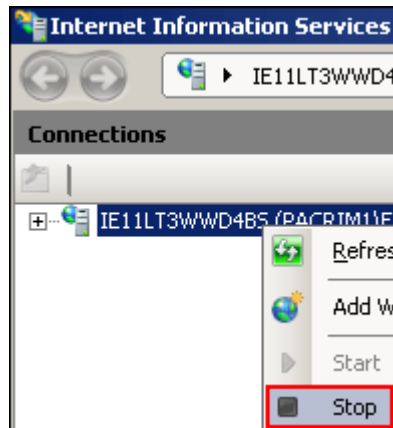
The resource file (DLL) is created in the **<language_suffix>** folder within the output directory. (The path of the output directory is displayed in the **Output Directory** field)

<language_suffix> is a two-letter code for the language that you selected. (eg. **de-DE** for German, **zh-CN** for Simplified Chinese)

Deploying a Resource File (DLL)

This section explains how to deploy a resource file (DLL) on the Metrics & Reporting core server, so that, Metrics & Reporting can dynamically read the new display names from the resource file (DLL) and display them in the screens.

| Step | Action |
|------|--|
| 1 | Stop the web server as follows: <ol style="list-style-type: none">Choose Start > Administrative Tools > Internet Information Services (IIS) Manager. The Internet Information Services (IIS) Manager dialog box appears.Right-click the root node and choose Stop. |



- 3 Copy the resource file (DLL) along with its parent directory (eg. **de-DE** for German, **zh-CN** for Simplified Chinese) to the appropriate deployment folder(s).

The deployment folder differs for the resource files (DLL) generated from each source (TTP) file.

- For **AMS.ttp**, the deployment folders for the resource file are:
 - <Installation_Path>\Honeywell\AMS\UX\WebUI\bin
 - <Installation_Path>\Honeywell\AMS\UX\MetricsWebAPI\bin
 - <Installation_Path>\Honeywell\AMS\DLM\UX\WebUI\bin
- For **DLM.ttp**, the deployment folders for the resource file are:
 - <Installation_Path>\Honeywell\AMS\DLM\UX\WebUI\bin
- For **DLMTimeControl.ttp**, the deployment folders for the resource file are:

| Step | Action |
|------|---|
| | <ul style="list-style-type: none">- <Installation_Path>\Honeywell\AMS\DLM\UX\WebUI\DLMTIMECONTROL\bin• For ShiftTime.ttp, the deployment folders for the resource file are:<ul style="list-style-type: none">- <Installation_Path>\Honeywell\AMS\Service\ShiftTimeService\1.0\bin |
| 4 | Start the web server again as follows: <ul style="list-style-type: none">a) Switch to the Internet Information Services (IIS) Manager dialog box.b) Right-click the root node and choose Start. |

8.3 Configuring remote clients

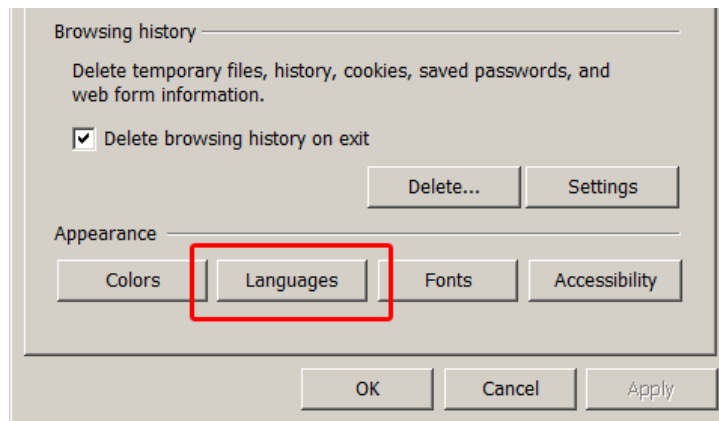
Overview

Remote users accessing Metrics & Reporting via web browsers can view the localized version of Metrics & Reporting only if they configure the language settings in their browser.

Configuring language settings in browser

To configure the language settings in Internet Explorer:

| Step | Action |
|------|--|
| 1 | In Internet Explorer, choose Tools > Internet Options . The Internet Options dialog box appears. |
| 2 | In the General tab, click Languages . |



The **Language Preference** dialog box appears.

8. Localizing Metrics & Reporting
8.3. Configuring remote clients

| Step | Action |
|------|--|
| 3 | Click Add , select the required language, and click OK . The selected language is added to the Language Preference list. |
| 4 | Click the language and move it to the top of the list by clicking the Move Up button. |

9. Uninstalling Metrics & Reporting

9.1 Overview

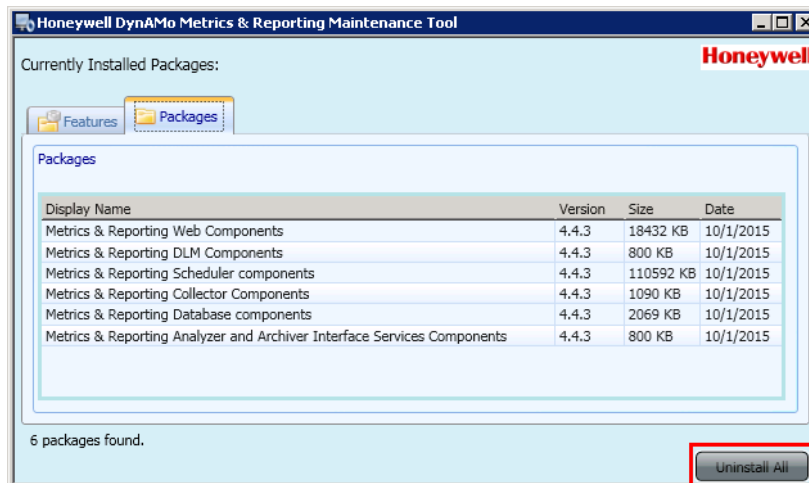
This chapter explains how to uninstall the Metrics & Reporting components.

9.2 Uninstalling the Metrics & Reporting components

Removing the program files

To remove the Metrics & Reporting program files:

| Step | Action |
|------|--|
| 1 | In the Windows Control Panel , click Uninstall a program . The Programs and Features dialog box appears. |
| 2 | Uninstall the Honeywell DynAMo Metrics & Reporting program as follows: a) Right-click Honeywell DynAMo Metrics & Reporting and click uninstall . The Honeywell DynAMo Metrics & Reporting Maintenance Tool dialog box appears. b) In the Packages tab, click Uninstall All . |



- c) The selected program is uninstalled.
- 3 Similarly, uninstall the following programs:

9. Uninstalling Metrics & Reporting

9.2. Uninstalling the Metrics & Reporting components

| Step | Action |
|------|--|
| | <ul style="list-style-type: none">• Honeywell Intuition• Honeywell Intuition Data Access Service - DynAMoDASInstance• Honeywell Intuition Data Access Service - DynAMoDASInstance Routing Configuration• Honeywell Intuition Operations Shift• Honeywell ULM License Server• Honeywell ULM Admin Tools• UniformanceSentinalCore• ULM License Client |



ATTENTION:

Depending on which Metrics & Reporting component you are uninstalling, one or more of the above components may not be listed on your computer.

Removing the registry entries

Remove the obsolete Metrics & Reporting registry entries as follows:

| Step | Action |
|------|---|
| 1 | Click Start > Run , type regedit , and click OK . The Registry Editor window appears. |
| 2 | Delete the following folder: Computer\HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Honeywell\DynAMo |

Deleting obsolete files

Delete the following obsolete Metrics & Reporting folders:

- **<installation_path>\Honeywell\DynAMo**
 - Your Windows **TEMP** folder
-



ATTENTION:

Before deleting, backup the configuration files of Archiver, Collector, and Viewer.

Honeywell

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