



P2000

Security Management System

Metasys® System

Extended Architecture

Integration

PRELIMINARY

P2000

Security Management System

Metasys® System Extended Architecture Integration

Version 3.11 and higher, September, 2011

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This equipment must not be modified for any reason and it must be installed as stated in the Manufacturer's instruction.

If this shipment (or any part thereof) is supplied as second-hand equipment, equipment for sale outside the European Economic Area or as spare parts for either a single unit or system, it is not covered by the Directives.

TABLE OF CONTENTS

Chapter 1: Introduction

About This Manual	1-1
Manual Summary	1-1
Technical Support	1-2
Qualification for Use	1-2
Note on Other Manufacturer's Documentation	1-2
Manual Conventions	1-2
Key Terms	1-3
Software Requirements	1-4
Clock Synchronization	1-5
Regional Time Zone Synchronization	1-5
ASP.NET Verification (IIS Version 7.0 or Later)	1-5
Metasys System Extended Architecture Integration Overview	1-7
P2000 Objects Architecture	1-7
Quick Setup	1-20

Chapter 2: P2000 Host Configuration

Registering the P2000 Server with a Site Director	2-1
Message Forwarding	2-7
Configuring P2000 for Message Forwarding to the ADS Repository	2-8

Chapter 3: Operations

Getting Started	3-1
Output Point Control	3-6
Door Control	3-8
Interlocks	3-11
Alarm and Event Management	3-15
Overview	3-15
Limitations	3-16
Alarm and Event Forwarding	3-16
Metasys Events in the P2000 Alarm Monitor	3-16
Managing P2000 Alarms from the Metasys System Extended Architecture	3-16
Viewing P2000 Status Changes with a Metasys Graphic	3-21
Binding a Symbol to a P2000 Object	3-21
Viewing Forwarded Messages from P2000 in the Metasys ADS Repository	3-24
Panel Status (EnumSet 505 - Object Status)	A-1
Door Status - Default Attribute (EnumSet 1359)	A-2
Door/Terminal Status - Status Attribute (EnumSet 505 - Object Status)	A-2
Input Status (EnumSet 505 - Object Status)	A-3
Output Status - Default Attribute (EnumSet 614 - Reset Set)	A-3
Output Status - Status Attribute (EnumSet 505 - Object Status)	A-4

PRELIMINARY

INTRODUCTION

ABOUT THIS MANUAL

This document details the information concerning the P2000 Security Management System (SMS) integration with the building management components designed for the Metasys® system extended architecture. Use this document as a supplement to the P2000 documentation. For detailed information on the Metasys system extended architecture, please refer to the latest documentation provided by Johnson Controls®.

NOTE

This document assumes that the P2000 software is installed on a standalone server and not on a computer designated as the Site Director. Also, the Metasys screens in this manual were captured from both Release 4.1 and Release 3.0. Metasys screens from other versions may differ.

MANUAL SUMMARY

- **Chapter 1: Introduction** defines the key terms and conventions used throughout the manual, and provides an introduction to the P2000 SMS and Metasys system extended architecture integration.
- **Chapter 2: P2000 Host Configuration** contains instructions on how to configure the P2000 server for integration with the Metasys system extended architecture.
- **Chapter 3: Operations** describes how to browse P2000 objects and issue commands using the Metasys system extended architecture Web interface.
- **Appendix A: Enumeration Sets** displays the assigned enumeration sets and attribute values for displaying the current status of P2000 components, such as panels, portals (doors), inputs, and outputs.

Technical Support

Technical assistance is provided to Johnson Controls authorized dealer representatives from 5 a.m. PST to 5 p.m. PST Monday through Friday. System users can get answers to operator questions by calling the local Johnson Controls sales/service office.

The authorized dealer representatives can also provide you with information on the maintenance contracts and the on-site field service.

Qualification for Use

Users of the Metasys system extended architecture must complete appropriate training and obtain certification prior to using this integration feature.

Note on Other Manufacturer's Documentation

Johnson Controls does not duplicate documentation of other equipment manufacturers. When necessary, as in some installation procedures, we provide documentation that supplements other manufacturer's documentation. When unpacking your equipment, **keep all original manufacturer documentation for future reference.**

Manual Conventions

The following items used throughout this manual indicate special circumstances, exceptions, important points regarding the equipment or personal safety, or emphasize a particular point.

NOTE

Notes indicate important points or exceptions to the information provided in the main text.

IMPORTANT

Important messages remind you that certain actions, if not performed exactly as stated, may cause damage to equipment or make your system non-operational.

KEY TERMS

ADS – Application and Data Server. Application server software that coordinates user access to multiple NAEs/NIEs and archives system data. The ADS is a Metasys server that consists of two components. The first component is the Application and Data Server software that supports the relational database management system for storing collected trend data, audit trail messages, and event messages. The second component is the Web server software that provides user interface access to data and routes commands to the Metasys system. This component may include the Site Director function.

ADX – extended Application and Data Server, ADS software with extended concurrent user access and a larger database. The extended Application and Data Server (ADX) supports the Microsoft® SQL Server® software and requires a server computer platform. The ADX is a version of the ADS Metasys server that has extended capabilities for historical data archiving and extends the multi-user Web access capabilities of the system. The ADX supports the Microsoft SQL Server relational database management system for storing collected trend data, audit trail messages, and event messages. This relational database is also used to store configuration information for site security and trend studies and other features.

NAE – Network Automation Engine, Web-enabled, Ethernet-based supervisory controller that monitors and supervises networks of field-level building automation devices that typically control Heating, Ventilating, and Air Conditioning (HVAC) equipment, lighting, security, and building access. The NAE provides features including alarm and event management, trending, archiving, energy management, data exchange, scheduling, dial features, and password protection through its embedded Web-based User Interface (UI). Different models and options support various communications protocols including N2 Bus, BACnet®, and LONWORKS® network devices. This component may include the Site Director function.

NIE – Network Integration Engine, Web-enabled supervisory controller for integration of N1 Networks. The NIE is a specialized version of the NAE and is designed to provide for the migration of N1 networks into the Metasys system extended architecture. The NIE uses the same UI as the NAE, except that connectivity with LONWORKS, BACnet, and N2 networks is not available in the NIE.

SOAP – Simple Object Access Protocol, a lightweight protocol intended for exchanging structured information in a decentralized, distributed environment. SOAP uses XML technologies to define an extensible messaging framework, which provides a message construct that can be exchanged over a variety of underlying protocols. The framework has been designed to be independent of any particular programming model and other implementation specific semantics.

Web Service – Collections of functions that allow data exchange among different software applications over networks. Web services are invoked using a standard protocol such as SOAP, an Extensible Markup Language (XML)-based protocol. For example, the GetDeviceList Web method retrieves a list of all devices on the Metasys system extended architecture from the Site Director, without requiring Metasys system user interface access.

SOFTWARE REQUIREMENTS

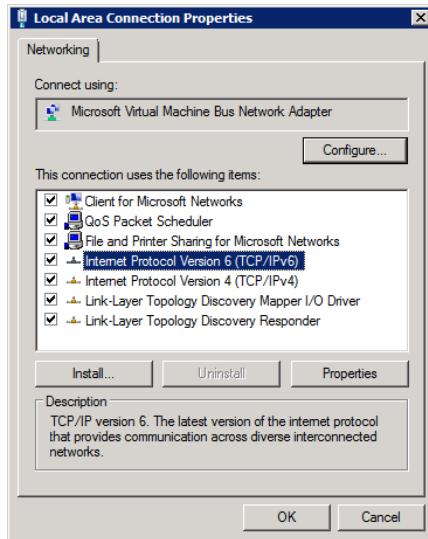
P2000 supports the following Metasys System Extended Architecture versions:

- Version 5.2, 5.1, 5.0, and 4.1

For the P2000 SMS and Metasys system extended architecture integration to function properly, install and configure all software applications required for the P2000 server according to the instructions in the *P2000 Server/Workstation Software Installation Manual*.

Then perform the following actions:

- Verify the clocks and regional time zones of the P2000 server and the Metasys ADS/ADX server are synchronized (see “Clock Synchronization” on page 1-5 and “Regional Time Zone Synchronization” on page 1-5).
- Verify you can ping the P2000 server **by name** from the Metasys ADS/ADX server. In addition, verify you can ping the Metasys ADS/ADX server **by name** from the P2000 server. If unsuccessful, consult the network manager at the site for assistance.
- Verify ASP.NET settings according to “ASP.NET Verification (IIS Version 7.0 or Later)” on page 1-5.
- Verify that you can log on to the Metasys system extended architecture from a client computer. Refer to the Metasys documentation for assistance.
- Verify that Internet Protocol Version 6 (TCP/IPv6) is enabled on the P2000 server. Refer to the Microsoft Windows® documentation for information on enabling this protocol.



NOTE

*If using the S321-IP Interface Service on a P2000 computer running Microsoft Windows XP®, then you must configure Windows IIS service (if installed) to **not** start.*

Clock Synchronization

The P2000 Metasys system extended architecture integration requires clock synchronization between the P2000 server and the ADS/ADX server. P2000 and ADS/ADX servers that are not clock synchronized will have intermittent or no communications between them. If there are multiple network time servers on site, verify that both P2000 and ADS/ADX servers reference the same network time server.

For more information on modifying the computer clock or using a network time server to synchronize the computer's clock, refer to the Microsoft Windows user documentation or online help.

Regional Time Zone Synchronization

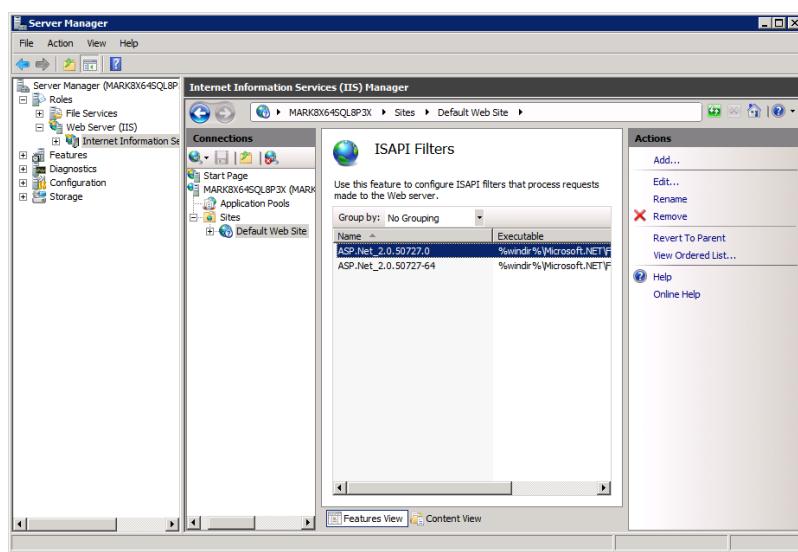
The P2000 Metasys system extended architecture option also requires regional time zone synchronization between the P2000 server and the ADS/ADX server. For example, if the P2000 server's time zone is set to Pacific Time and the ADS/ADX server is set to Central Time, the servers will be unable to communicate. In this case, both servers should be changed to Pacific Time or Central Time.

For more information on modifying the server's time zone setting, refer to the Microsoft Windows user documentation or online help.

ASP.NET Verification (IIS Version 7.0 or Later)

Verify that the **ASP.Net_2.0 ISAPI** filters are added in IIS Manager for **v2.0.xxxxx**. To do this:

1. Launch Windows Server Manager on the P2000 server.
2. In the left pane under Server Manager, expand **Roles and Web Server (IIS)**.
3. Select **Internet Information Services (IIS) Manager**.
4. In the **Connections** pane, expand **[server name]** and **Sites**.
5. Select **Default Web Site**.
6. In the Default Web Site Home pane, double-click **ISAPI Filters**. A list of filters appears.

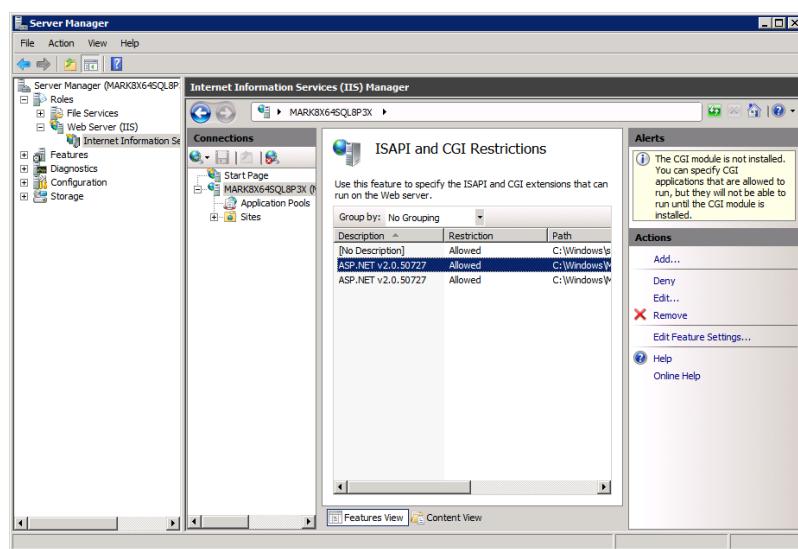


7. Verify that the following filters are listed:
 - ASP.NET_2.xxxxx.0
 - ASP.NET_2.xxxxx.64
8. Add the required filters, if necessary.

For information on how to add ISAPI filters in IIS, refer to the Microsoft Windows documentation.

Then, verify that the **ASP.NETv2.0.xxxxx** ISAPI and CGI Restrictions are set to **Allowed**. To do this:

1. Launch Windows Server Manager on the P2000 server.
2. In the left pane under Server Manager, expand **Roles** and **Web Server (IIS)**.
3. Select **Internet Information Services (IIS) Manager**.
4. In the **Connections** pane, select **[server name]**.
5. In the **[server name] Home** pane, double-click **ISAPI and CGI Restrictions**.



6. Set the required extensions to **Allowed**, if necessary.

For information on how to modify this setting, refer to the Microsoft Windows documentation.

METASYS SYSTEM EXTENDED ARCHITECTURE INTEGRATION OVERVIEW

The P2000 Metasys system extended architecture integration enables the P2000 SMS to be integrated with building management components designed for Metasys system extended architecture using Web Services technology. These Web Services are implemented on the Windows Server platform using .NET technology. The integration enables users to view objects in the P2000 security management system from a single user interface, along with all other building systems controlled by the Metasys system extended architecture.

Through this integration, the P2000 system can expose *HostEngine* and *Panels* objects to the Metasys system extended architecture user interface, allowing clients to browse through the P2000 object tree with the purpose to read object attributes, change object attributes which are “writable,” and send commands to objects for readers and output points.

P2000 Objects Architecture

The objects exposed by the P2000 through the Metasys system extended architecture are organized into a hierarchical tree. A *folder* object is used to contain (or group) a number of objects of the same type. The root of the P2000 object tree is the folder object *P2000*.

The top-level objects (*HostEngine* and *Panels*) are exposed under the *P2000* folder. *Panels* is a folder object. It contains multiple portal objects with multiple inputs and outputs. See Figure 1-1.

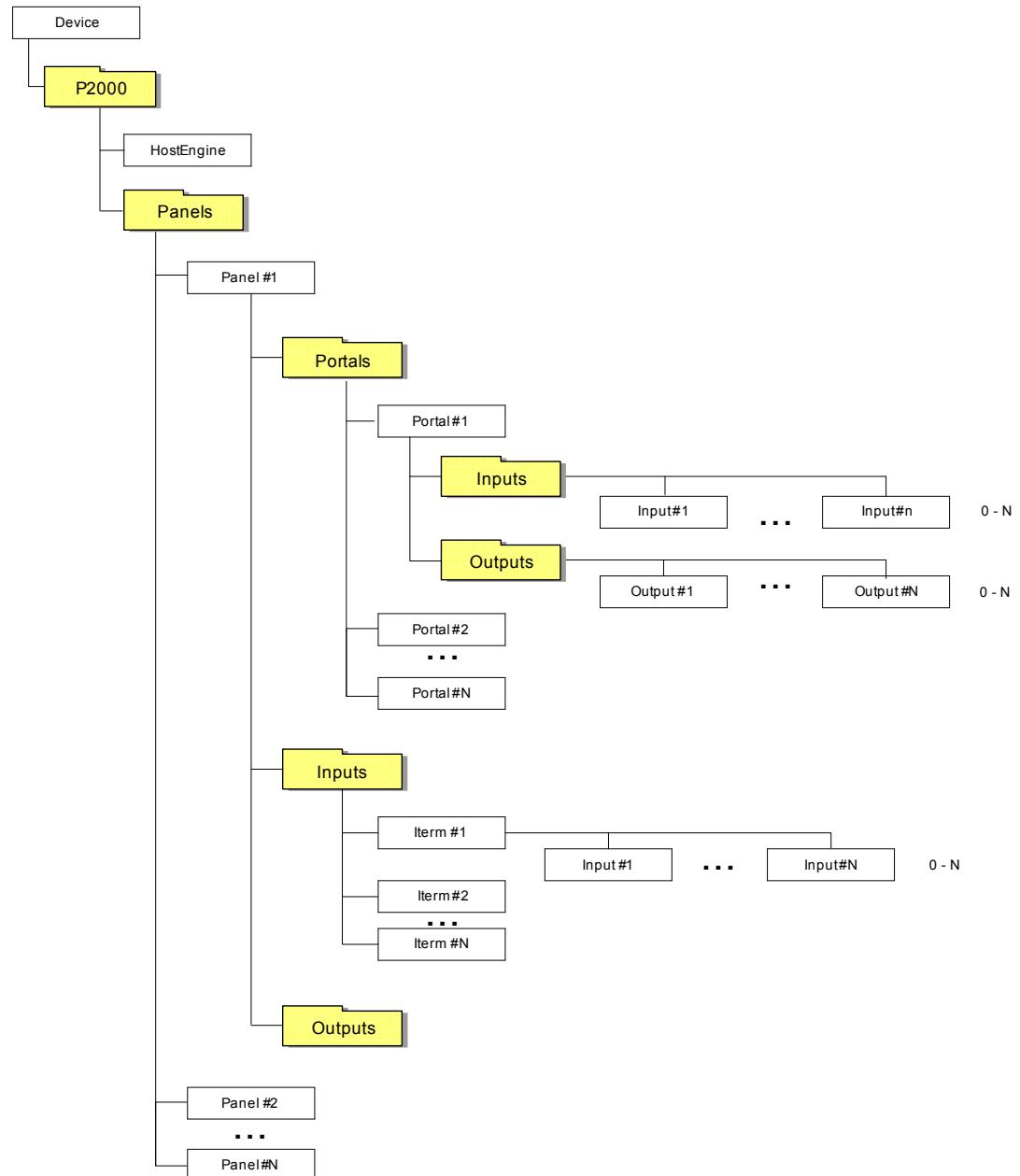


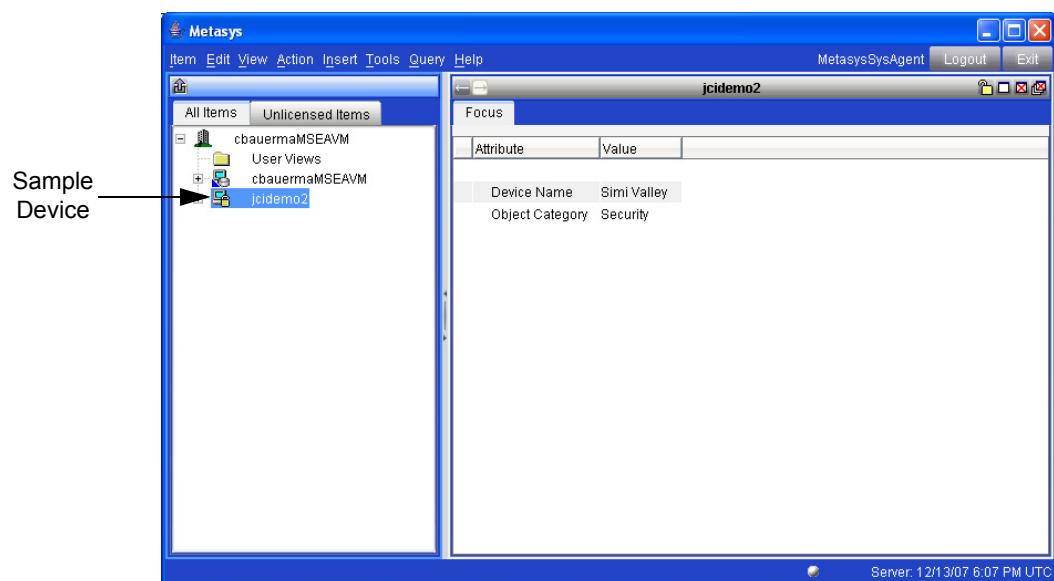
Figure 1-1: P2000 Object Architecture in Metasys System Extended Architecture

Following is the legend to the objects in Figure 1-1:

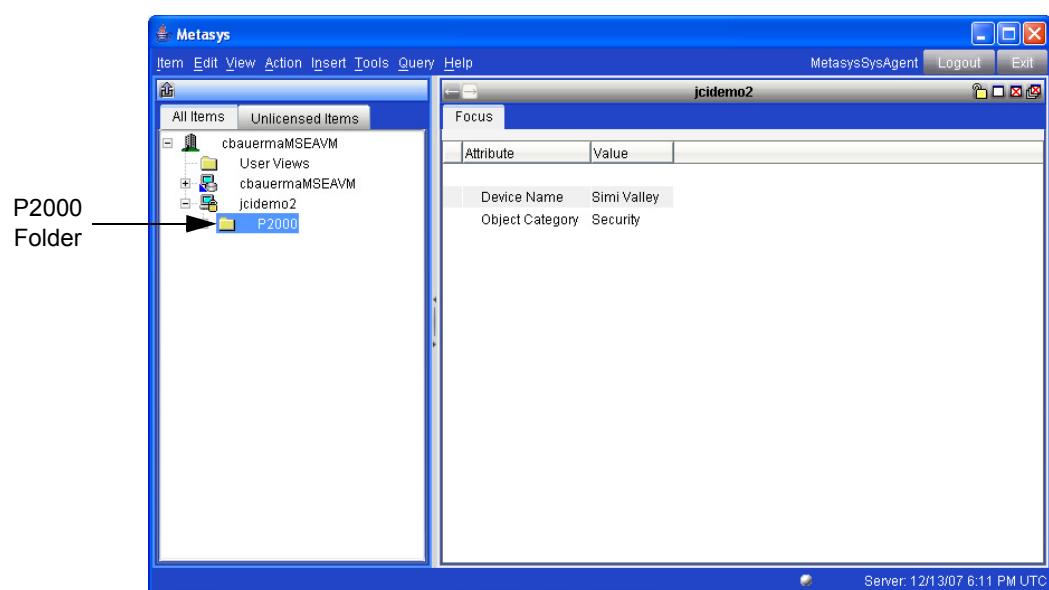
Device – A device registered to the Metasys system extended architecture.

Table 1-1: Device Attributes

Attribute	Description	Data Type	Options/Range
Device Name	Name of the P2000 site.	String	64
Object Category	Always set to Security category.	Enumeration	



P2000 – This folder contains all P2000 objects.



HostEngine – Each *P2000* object contains a single *HostEngine* object. All *HostEngine* attributes are shown in a single Focus object view.

Table 1-2: HostEngine Attributes

Attribute	Description	Data Type	Options/Range
Comms Server	Name of the P2000 site.	String	64
UTC Offset	Shows the offset to Universal Time. The value is obtained from the .NET TimeZone class.	Integer	+12 to -12
Object Category	Always set to Security category.	Enumeration	

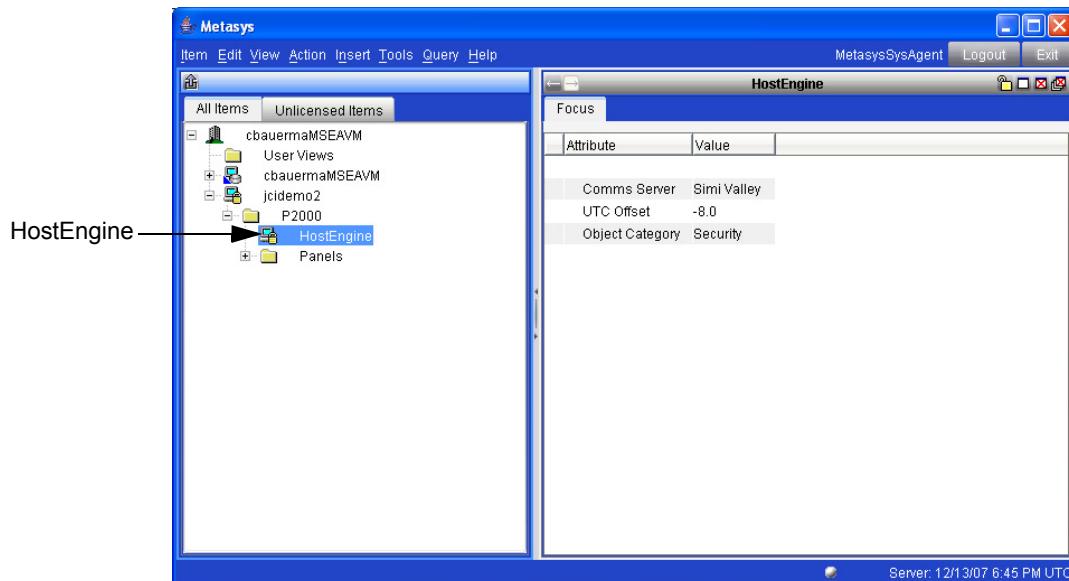
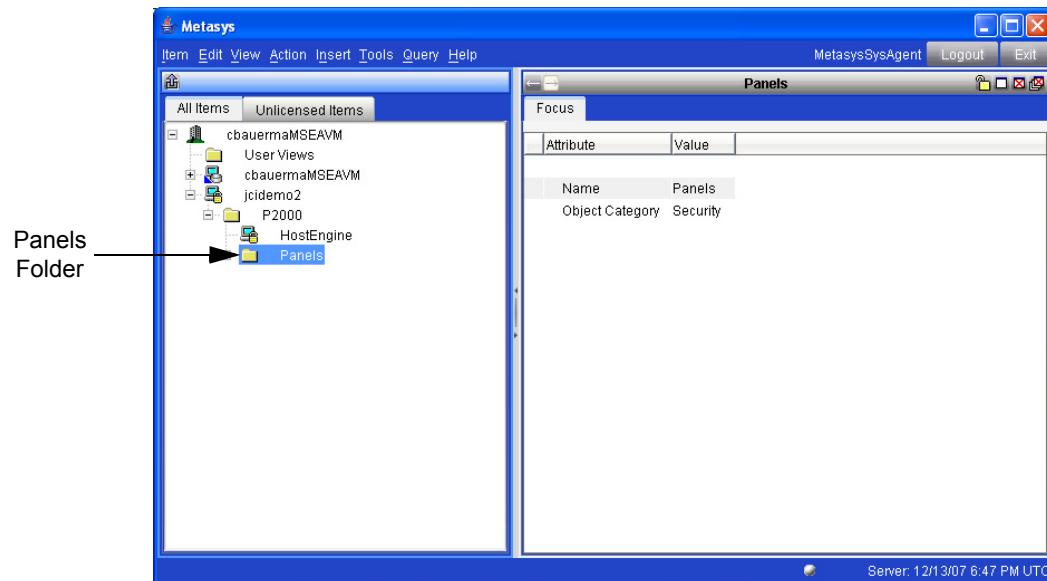


Table 1-3: HostEngine Commands

Command	Description
Unlock All Doors	Unlocks all doors controlled by the P2000 host until a command is issued to lock the doors. There are no parameters. This command will set UnlockAllAttributes to true.
Lock All Doors	Locks all doors controlled by the P2000 host until a command is issued to unlock the doors. There are no parameters.

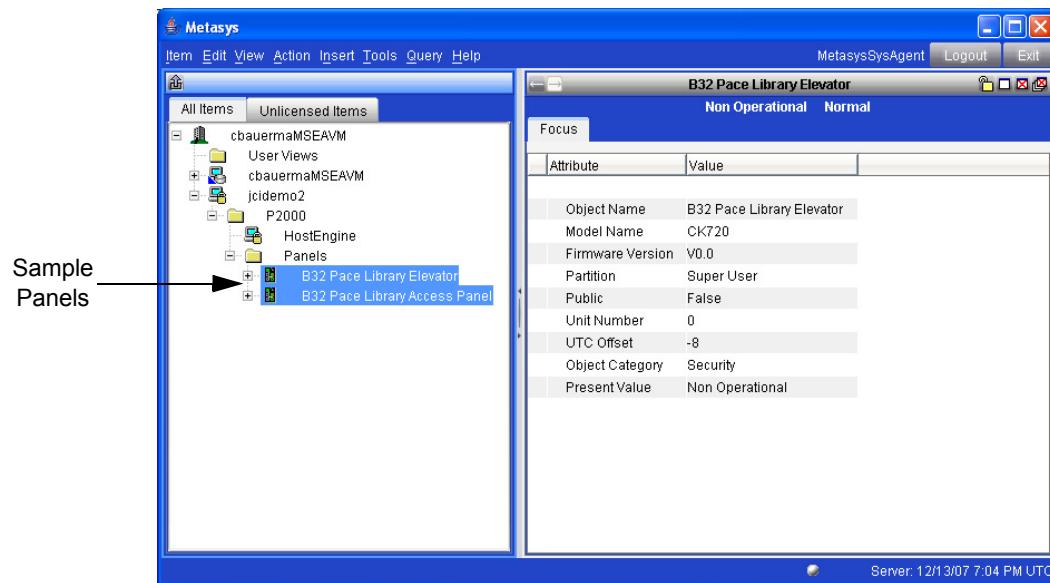
Panels – This folder contains all *Panel* objects.



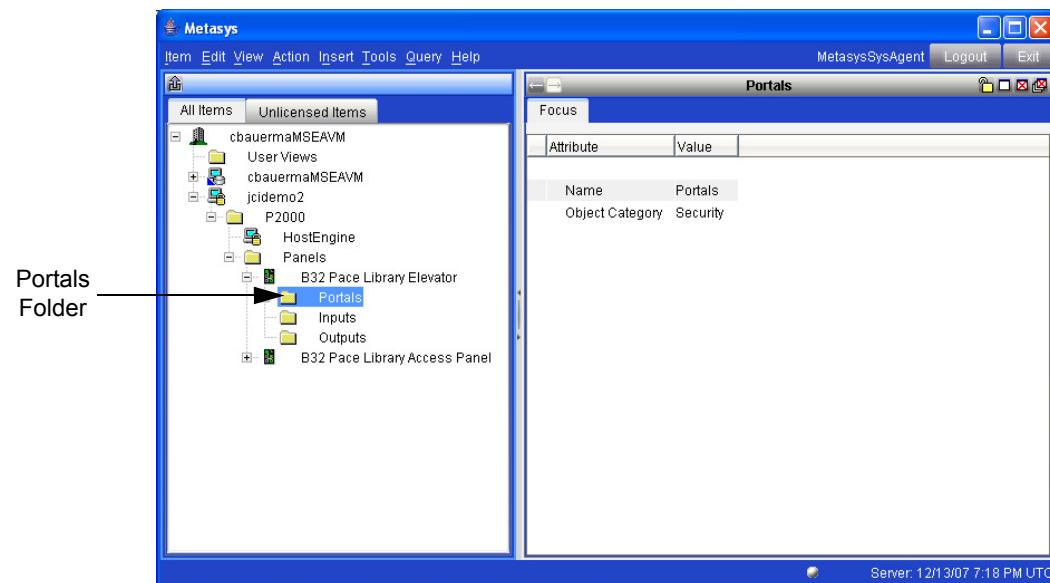
Panel – *Panel* objects are contained inside the **Panels** folder. The *Panel* object contains three types of objects: *Portal*, *Input Point* and *Output Point* objects.

Table 1-4: Panel Attributes

Attribute	Description	Data Type	Options/Range
Object Name	The name of the object (panel).	String	64
Model Name	Panel model name.	String	64
Firmware Version	Panel firmware version.	String	64
Partition	The partition to which the panel is assigned.	String	64
Public	Whether the panel is assigned public access (that is, if it can be seen by all P2000 workstations).	Boolean	True or False
Unit Number	Panel unit number.	Unsigned	1-16
UTC Offset	Shows the offset to Universal Time.	Integer	+12 to -12
Object Category	Always set to Security category.	Enumeration	
Present Value	Current panel operational status.	Enumeration	Normal, Trouble, Unreliable, Offline



Portals – This folder contains the *Portal* objects associated with the parent panel.



Portal – This is a collection of portals and the input and output objects associated with each portal. The **Inputs** folder contains the *Input* objects; the **Output** folder contains the *Output* objects.

Table 1-5: Portal Attributes

Attribute	Description	Data Type	Options/Range
Object Name	Name assigned to the portal.	String	64

Table 1-5: Portal Attributes

Attribute	Description	Data Type	Options/Range
Status	Status of the portal.	Enumeration	Normal, Alarm, Unreliable, Overridden, Disabled, Offline
Present Value	Present value of the portal.	Enumeration	Online, Offline, Unlocked, Locked, Disabled, Overridden, Unknown
Partition	The partition to which the portal is assigned.	String	64
Parent Panel	Name of the panel to which the portal is attached.	String	64
Terminal Index	Terminal number associated with the panel.	Number	1-64
Object Category	Always set to Security category.	Enumeration	

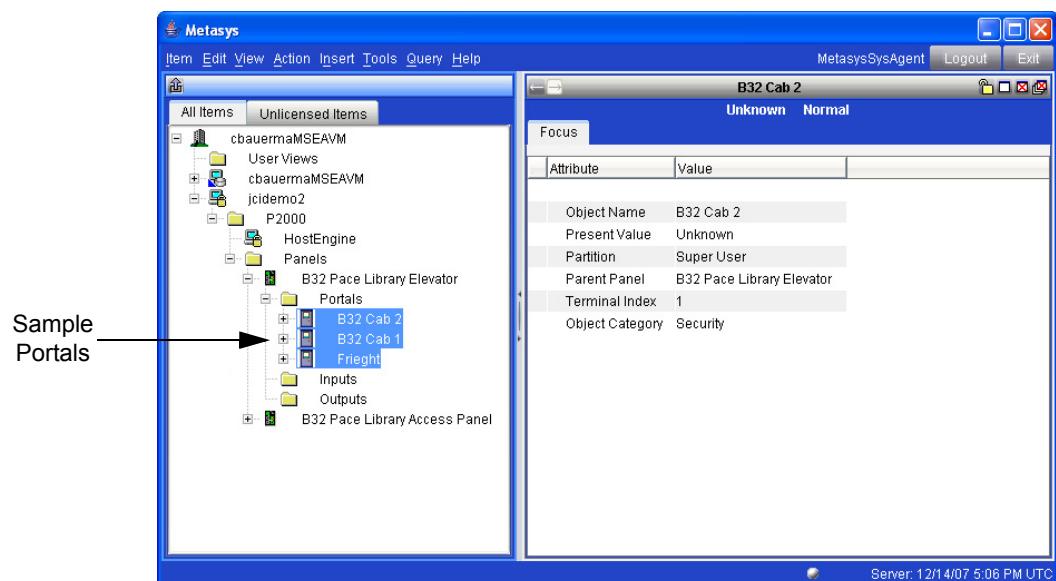
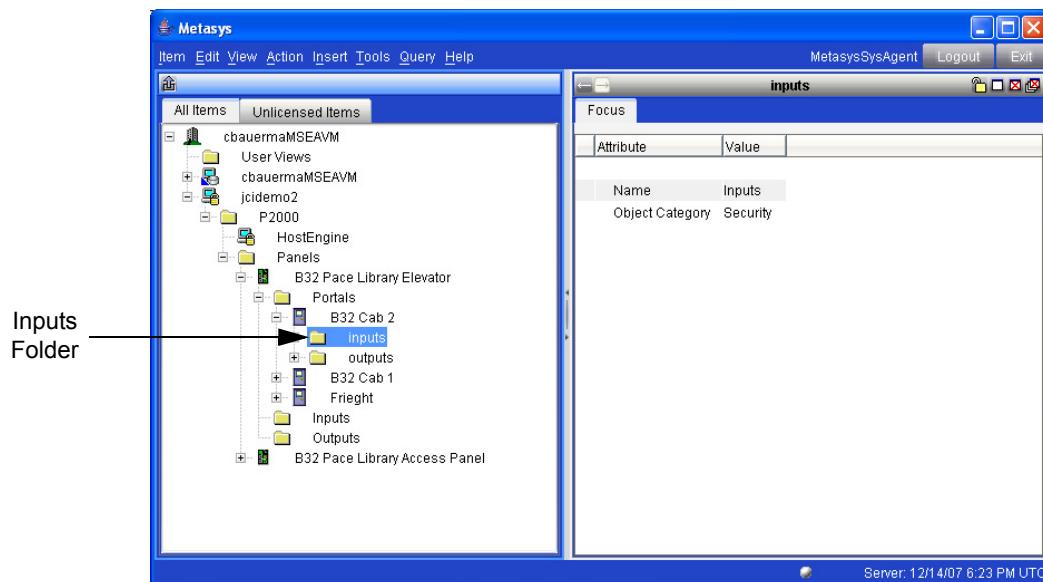


Table 1-6: Portal Commands

Command	Description
Unlock	Unlocks the selected door (portal) for n seconds/minutes according to the door's Access Time setting (excluding doors controlled by the S321-IP) or the door's Unlock door setting (doors controlled by the S321-IP only). The Unlock door setting can only be configured in minutes (default = 1 minute), whereas the Access Time can be set in seconds (default = 5 seconds).
Door Timed Unlock	Unlocks door for n minutes.
Lock	Locks door until a unlock command is issued.

Inputs (via portal associated with panel) – This folder contains all *Input Point* objects associated with their parent portal. For *Input Point* objects associated with a panel, see page 1-18.



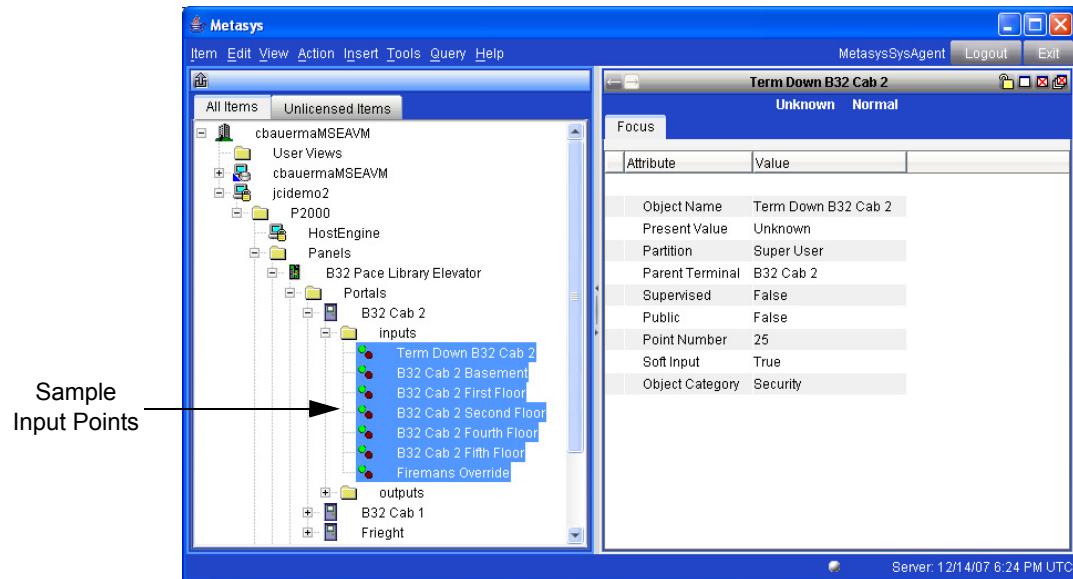
Input Point (via portal associated with panel) – The *Input Point* objects are contained inside the **Inputs** folder.

Table 1-7: Input Point Attributes

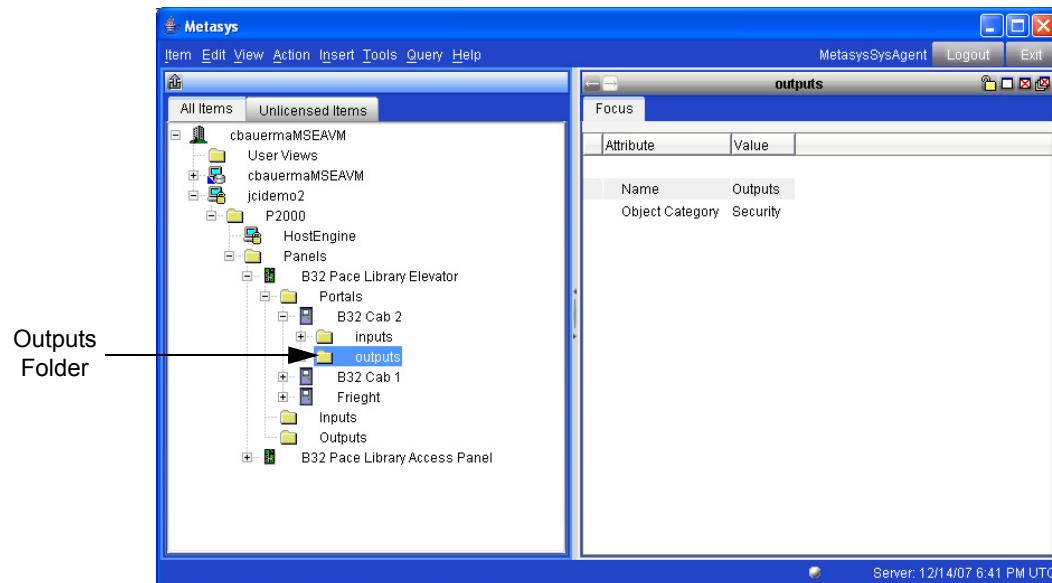
Attribute	Description	Data Type	Options/Range
Object Name	Name of the input point.	String	64
Status	Status of the input point.	Enumeration	Normal, Alarm, Unreliable, Disabled

Table 1-7: Input Point Attributes

Attribute	Description	Data Type	Options/Range
Present Value	Present value of the input point.	Enumeration	Set, Reset, Open, Short, Secure, Suppressed, Unknown
Partition	The partition to which the input point is assigned.	String	64
Parent Terminal	Name of the terminal with which the input point is associated.	String	64
Supervised	Supervised type of input point.	Boolean	True or False
Public	If set to True , the input point is visible from other partitions.	Boolean	True or False
Point Number	Input point number.	Unsigned	1-25
Soft Input	Indicates whether input is a soft input point.	Boolean	True or False
Object Category	Always set to Security category.	Enumeration	



Outputs (via portal associated with panel) – This folder contains all *Output Point* objects associated with their parent portal.



Output Point (via portal associated with panel) – The *Output Point* objects are contained inside the **Outputs** folder.

Table I-8: Output Point Attributes

Attribute	Description	Data Type	Options/Range
Object Name	Name of the output point.	String	64
Present Value	Value of the output point.	Enumeration	Set, Reset, Fault
Partition	The partition to which the output point is assigned.	String	64
Public	If set to True , the output point is visible from other partitions.	Boolean	True or False
Parent Terminal	Name of the terminal with which the output point is associated.	String	64
Point Number	Output point number.	Unsigned	1-25
Object Category	Always set to Security category.	Enumeration	

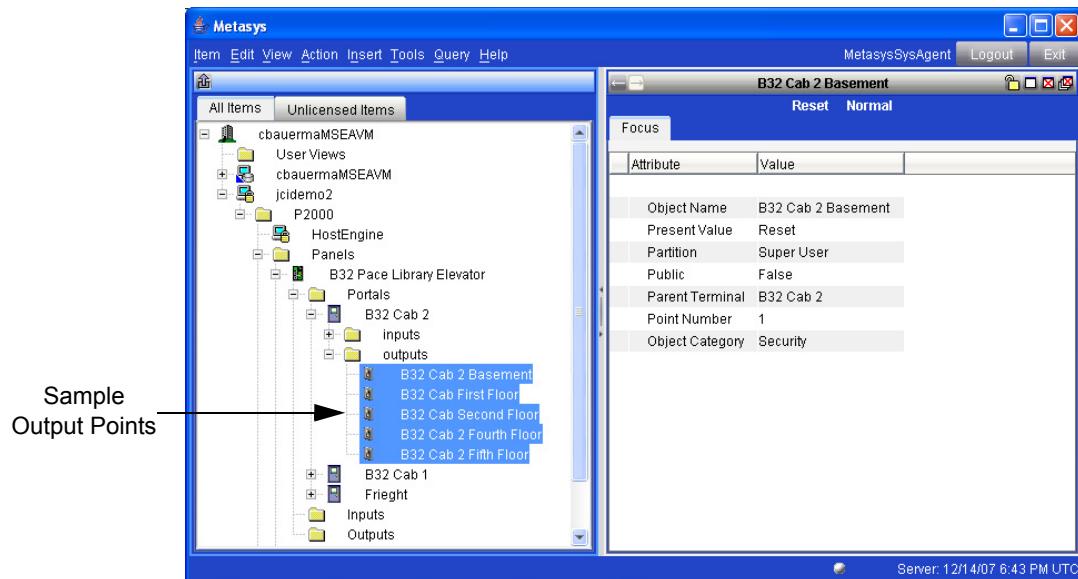
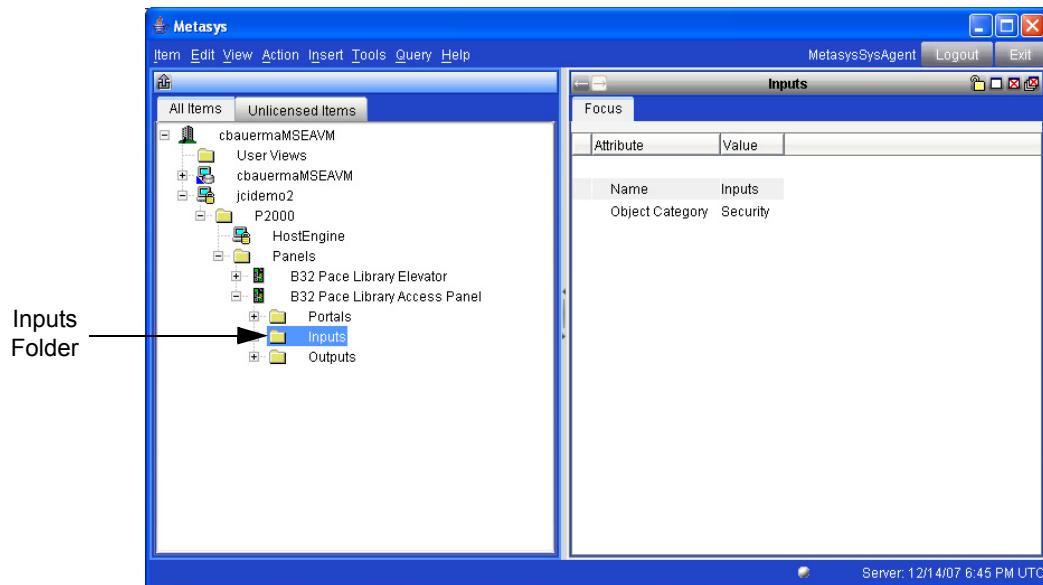


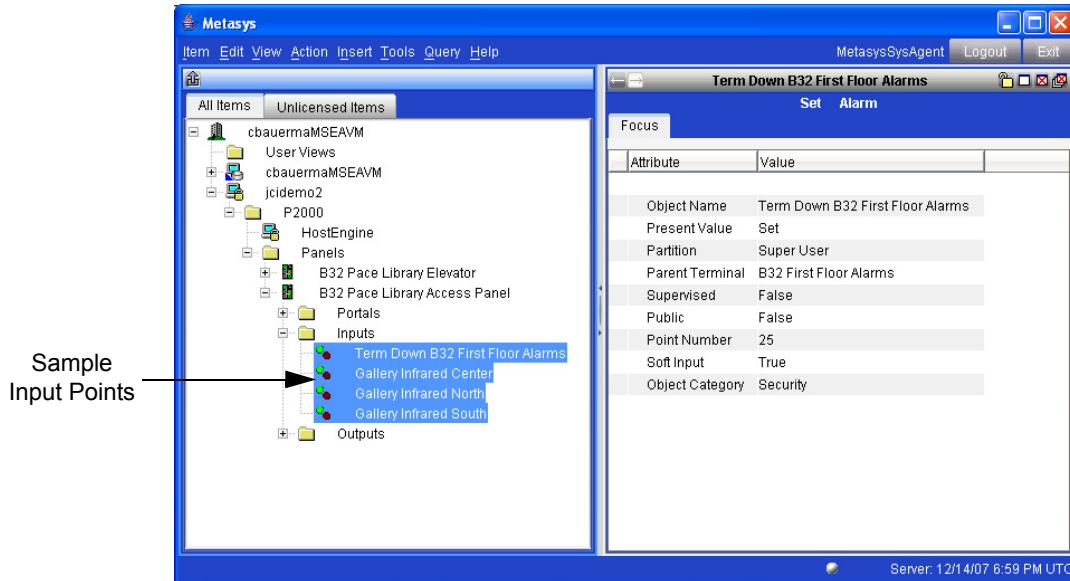
Table 1-9: Output Point Commands

Command	Description
Reset	Sets the relay to its default, non-energized state (Normally Open or Normally Closed, depending on how the relay is wired).
Set	Changes the relay to its energized state (open or closed, depending on how the relay is wired). If the relay is wired as Normally Open (NO), sending the Set command closes the relay contacts. If the relay is wired as Normally Closed (NC), sending the Set command opens the relay contacts.

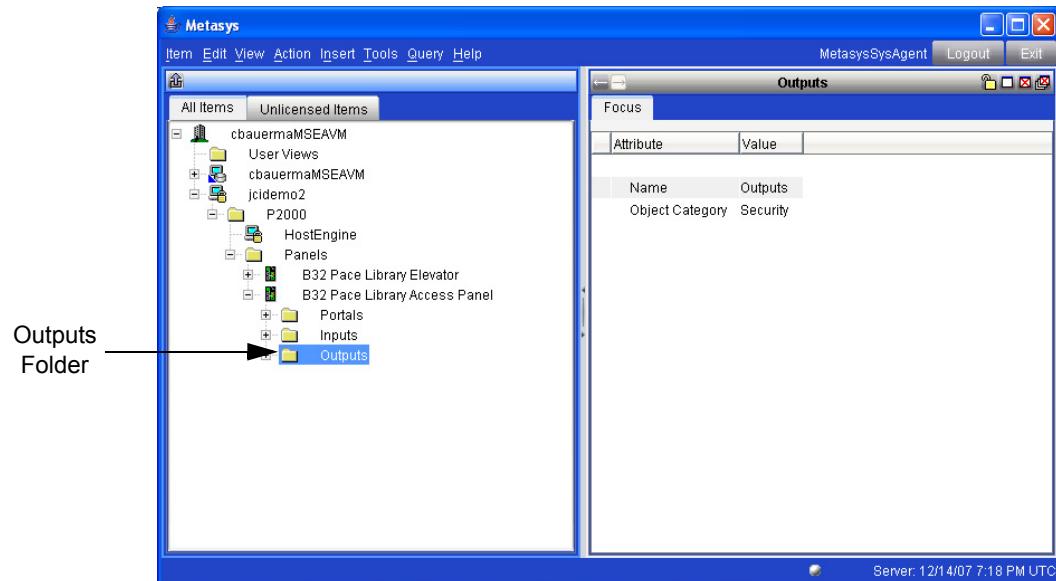
Inputs – This folder contains all *Input Point* objects associated with their parent panel.



Input Point – *Input Point* objects associated with panels are listed under the selected panel's **Inputs** folder. For information on *Input Point* attributes, see Table 1-7 on page 1-14.



Outputs – Reserved for future use.



QUICK SETUP

Figure 1-2 provides a quick reference to the configuration process required for the P2000 and Metasys System Extended Architecture integration. For detailed instructions on installing and configuring Metasys devices, refer to the Metasys documentation. For specific P2000 integration configuration instructions, see “Chapter 2: P2000 Host Configuration” in this manual.

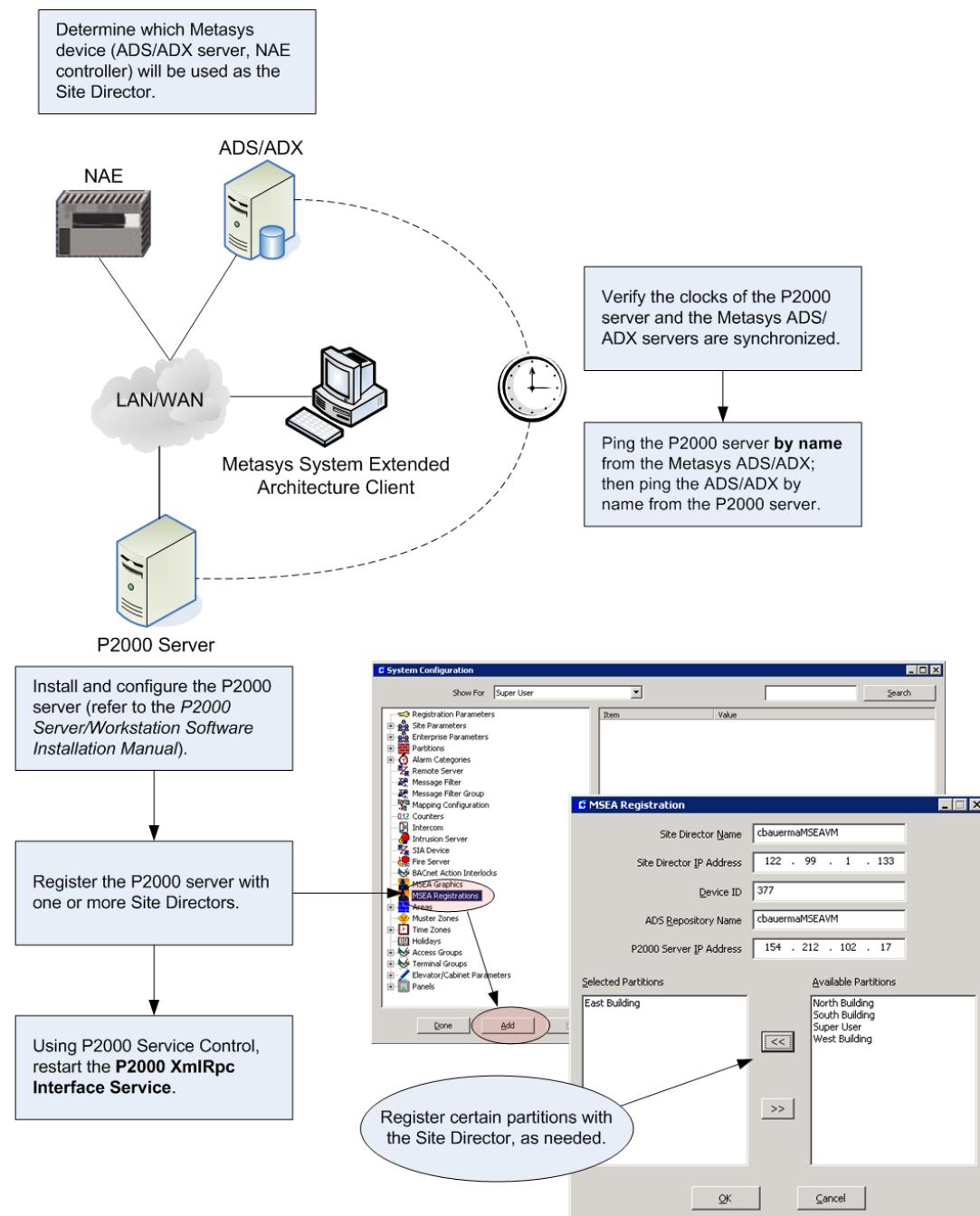


Figure 1-2: Quick Reference of Configuration Steps

P2000 HOST CONFIGURATION

This chapter describes how to prepare the P2000 server for integration with the Metasys system extended architecture. P2000 prerequisites and software must be installed on the P2000 server before continuing with the following instructions. Refer to the *P2000 Server/Workstation Software Installation Manual* for assistance.

REGISTERING THE P2000 SERVER WITH A SITE DIRECTOR

To expose P2000 objects to the Metasys system extended architecture, you must register the P2000 server with a Metasys Site Director (ADS/ADX server or NAE controller) by adding a MSEA Registration definition on the P2000 host software's System Configuration window. P2000 enables you to create multiple MSEA Registration definitions, so you can register the P2000 server with multiple Site Directors (see Figure 2-1).

NOTE

If using an NAE controller as the Site Director, contact Johnson Controls® Technical Support for assistance.

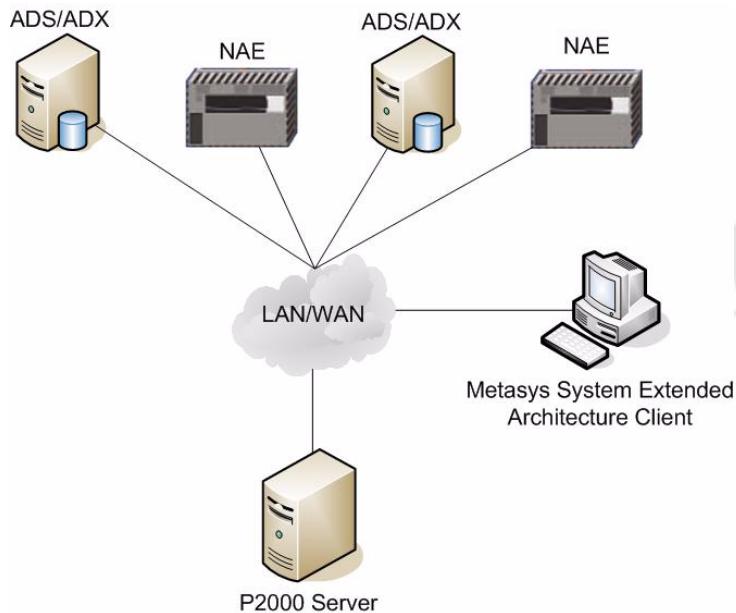


Figure 2-1: Registering the P2000 Server with Multiple Site Directors

IMPORTANT

If a NAE controller is used as the Site Director, the controller can only receive four events per second from the P2000 server. If more than four events are received per second, the NAE may erroneously indicate that the P2000 server is offline.

In addition, you may register certain partitions with a particular Site Director, so that only those P2000 objects associated with the selected partition(s) are visible from the Metasys system extended architecture (see Figure 2-2).

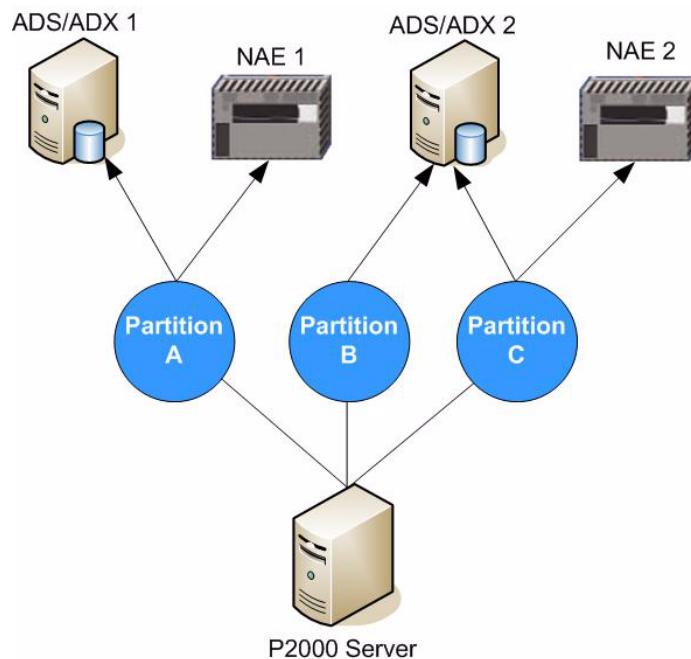


Figure 2-2: Registering P2000 Partitions with Multiple Site Directors

In the example in Figure 2-2:

- The P2000 objects associated with **Partition A** will only be visible from ADS/ADX 1 and NAE 1.
- The P2000 objects associated with **Partition B** will only be visible from ADS/ADX 2.
- The P2000 objects associated with **Partition C** will only be visible from ADS/ADX 2 and NAE 2.

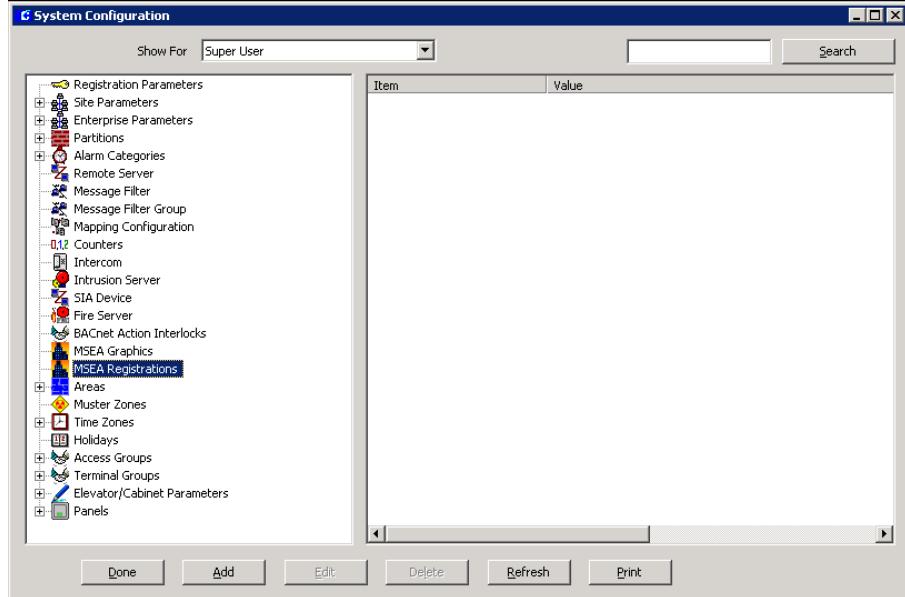
NOTE

The partition rule previously described has the following exceptions:

1. If you register the **Super User** partition to a particular Site Director, P2000 objects will be visible from **all partitions**, even from those that were not registered with the Site Director.
2. Any P2000 device, such as a panel or terminal, set to **Public** will be visible from **all partitions**, regardless of the ones registered to a particular Site Director.

► **To register a P2000 server with one or more Site Directors:**

1. Using the P2000 host software, from the menu bar, select **Config>System**, or click the **System Configuration** button on the toolbar (indicated by a wrench icon).
The System Configuration window appears.
2. In the left pane, select **MSEA Registrations**.



3. Click **Add**. The MSEA Registration dialog box appears.
4. Enter the appropriate information according to your site requirements. See Table 2-1 for a description of the MESA Registration fields.

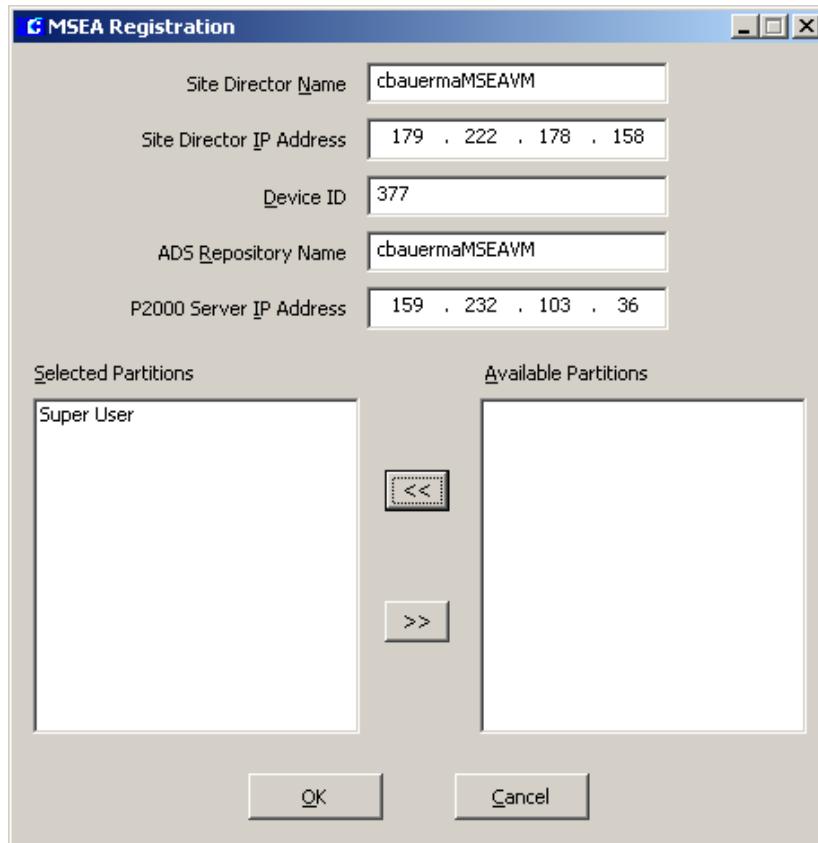


Table 2-1: MSEA Registration Field Definitions

Field	Description
Site Director Name	Enter the name of the server where the Site Director is installed (the server name of the ADS/ADX or the name of the NAE).
Site Director IP Address	Enter the IP address of the server where the Site Director is installed (the IP address of the ADS/ADX or the NAE).
Device ID	Enter 377 or contact Johnson Controls Technical Support for the Device ID used on the version of Metasys you are currently running.
ADS Repository Name	Enter the computer name of the Metasys ADS Repository ¹ .
P2000 Server IP Address	Enter the IP address of the P2000 server.

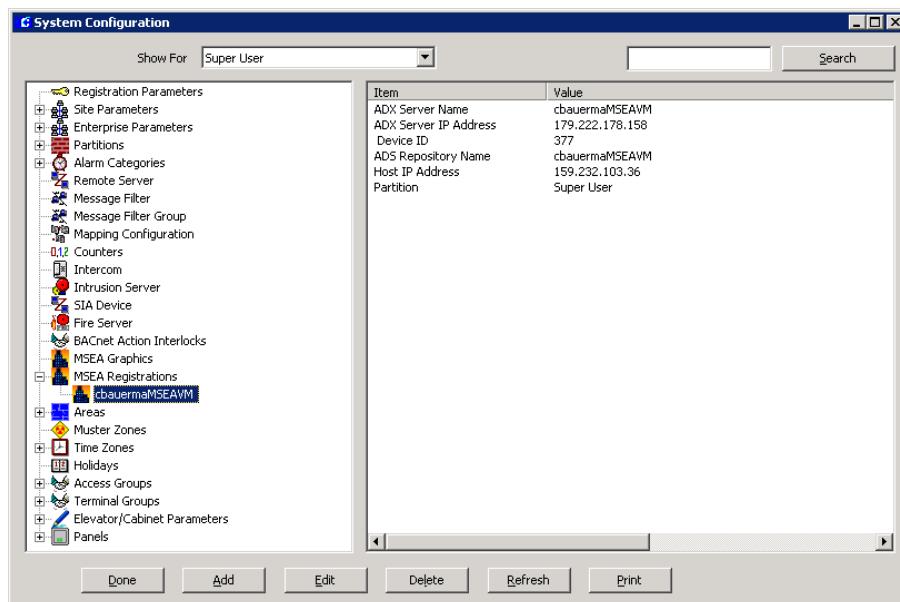
Table 2-1: MSEA Registration Field Definitions

Field	Description
Selected/Available Partitions	Select the partition(s) you wish to register with the Metasys Site Director. To assign partitions, simply select one or more in the Available Partitions box and click the left arrow button to move them to the Selected Partitions box. To remove partitions, select one or more in the Selected Partitions box and click the right arrow button to move them to the Available Partitions box.

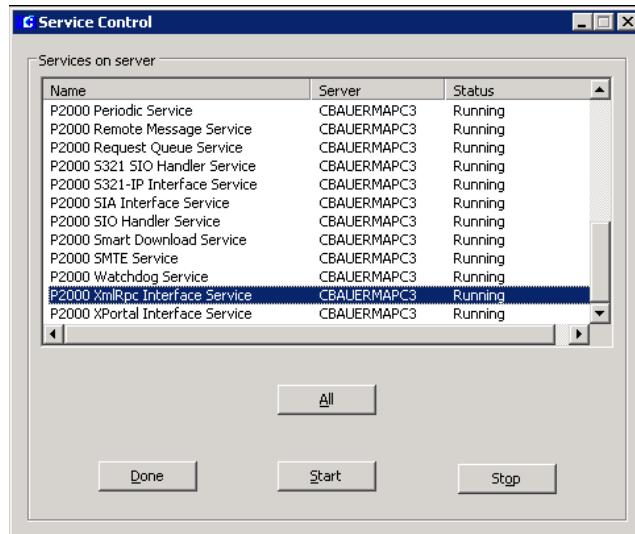
1. The ADS Repository stores messages forwarded by the P2000 system; however, an NAE device used as a Site Director cannot store these messages. If you have an NAE defined as a Site Director, to view messages forwarded from the P2000 system, you must define a valid ADS Repository name for the NAE device. See “Message Forwarding” on page 2-7 for more information.

5. Click **OK**.

The newly created MSEA Registration appears under MSEA Registrations in the left pane of the System Configuration window.

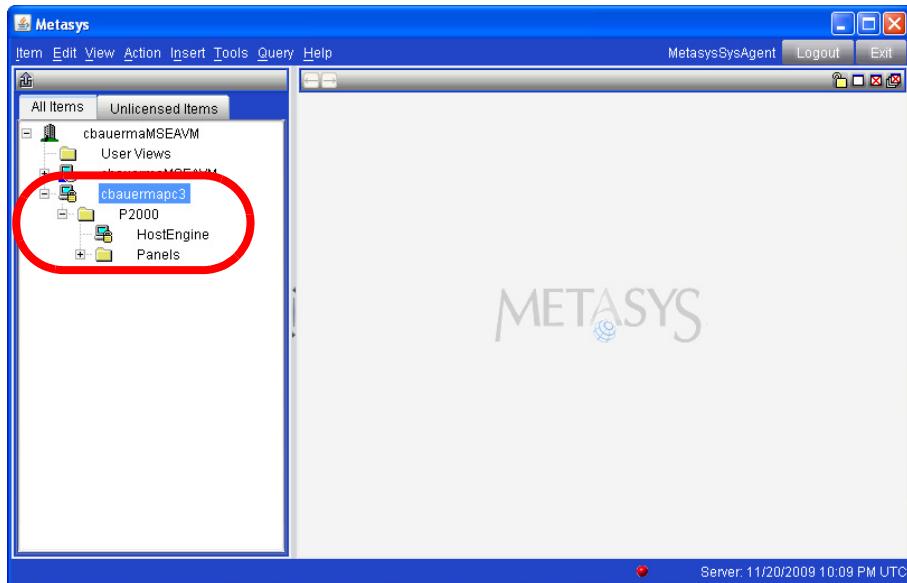


6. Repeat steps 1-5 for each Site Director with which you wish to register the P2000 server.
7. Click **Done** to close the System Configuration window.
8. From the P2000 Main menu, select **System>Service Control**. You may be prompted for a password. The Service Control dialog box opens.
9. Select the **P2000 XmlRpc Interface Service**.



10. Click **Stop**. Wait until the status is **Stopped**.
11. Click **Start**. The status should change to **Running**.
12. Click **Done**.

The P2000 should now appear as a device in the Metasys system extended architecture user interface for the associated Site Director. See “Chapter 3: Operations” for information on launching and logging into the Metasys system extended architecture user interface.



If the P2000 does **not** appear as a device, try the following troubleshooting tips one at a time:

- If running Metasys software Version 5.x, send the **Update All Items Cache** command.
- From the menu bar, select **Action>Refresh All Tabs**.

- Log out of the Metasys system extended architecture user interface and then log back in.
- Verify the clocks of the P2000 server and the Metasys ADS/ADX servers are synchronized (see “Clock Synchronization” on page 1-5).
- Verify you can ping the P2000 server **by name** from the Metasys ADS/ADX server. In addition, verify you can ping the Metasys ADS/ADX server **by name** from the P2000 server. If unsuccessful, consult the network manager at the site for assistance.
- Verify you have correctly configured the MSEA Registration settings. See Table 2-1.
- Restart the **P2000 XmlRpc Interface Service**.

MESSAGE FORWARDING

This feature enables you to view forwarded messages from the P2000 SMS in the Metasys ADS Repository according to the message filters defined in the P2000 software.

NOTE

The ADS Repository stores messages forwarded by the P2000 system; however, an NAE device used as a Site Director cannot store these messages. If you have an NAE defined as a Site Director, to view messages forwarded from the P2000 system, you must define a valid ADS Repository name for the NAE device.

Message forwarding also enables the Alarm pop-up window to appear on the Metasys Web Interface when a P2000 alarm is generated. For this window to appear during an alarm, the system must be configured to forward messages to the ADS Repository. If the window does not appear during an alarm and with message forwarding configured, install the latest P2000 service pack.

NOTE

Forwarding messages to the ADS/ADX server from the P2000 server requires sufficient archiving storage on the ADS/ADX server. The current limit of 100,000 messages can be reached in one week (7 working days) if the message throughput rate exceeds 10 messages per minute. Exceeding the limit might cause the ADS/ADX server to become unstable. Accordingly, adjust the configured rate via proper filtering to ensure that the ADS limit is not reached before a regular ADS/ADX maintenance activity is performed.

For more information on message forwarding, refer to the “Alarm and Event Management” section of the Metasys system Help.

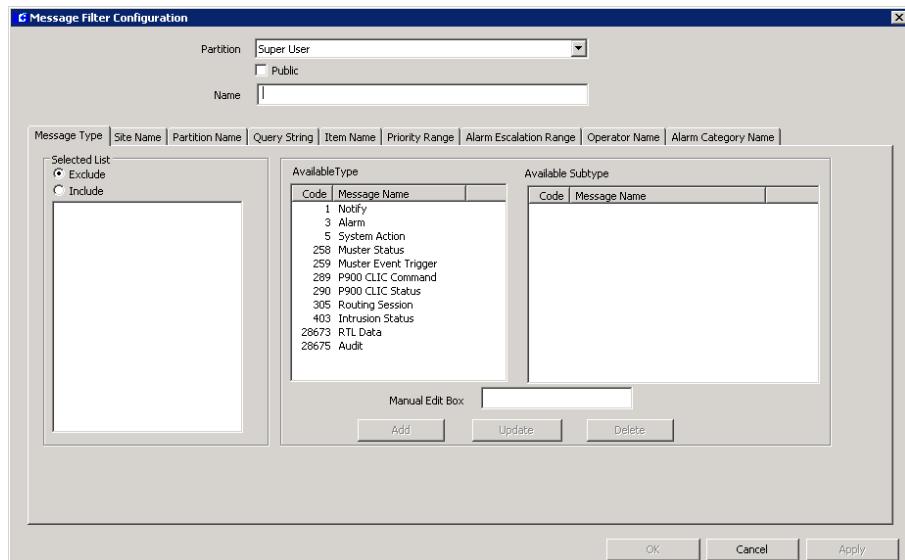
Configuring P2000 for Message Forwarding to the ADS Repository

Forwarding messages to the ADS Repository requires the following configuration:

- ADS message filter and message filter group defined in the P2000 software
- ADS Remote Server defined in P2000 with the transmit filter for ADS enabled

► To configure an ADS message filter in P2000:

1. From the P2000 Main menu, select **Config>System**. The System Configuration window appears.
2. Select the **Message Filter** icon and click **Add**. The Message Filter Configuration dialog box appears.



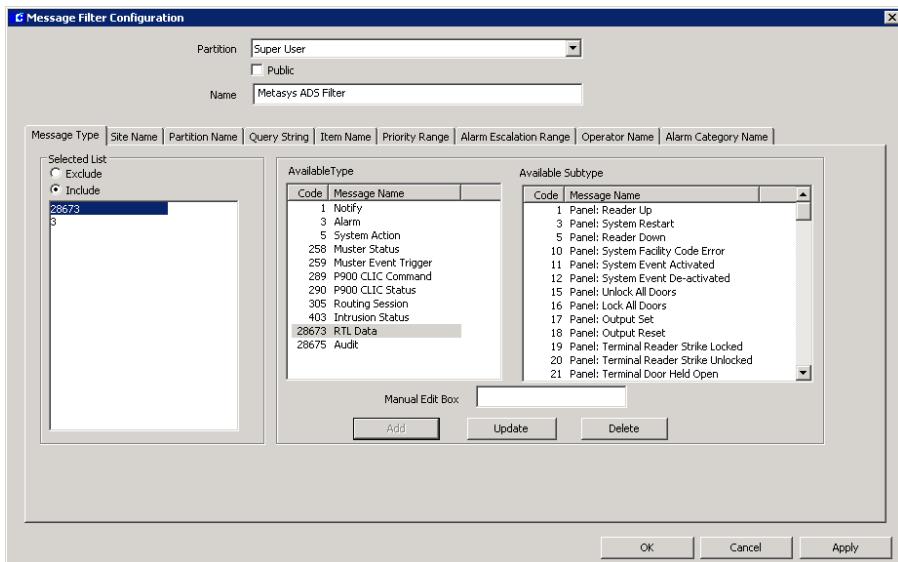
3. Enter a descriptive **Name** for this message filter (for example, Metasys ADS Filter).
4. You may include or exclude messages to be forwarded by adding and/or removing message types and subtypes to and from the **Selected List** box.

NOTE

By default, all messages are forwarded to the ADS Repository. If you include one or more message types or subtypes in the Selected List box, all other message types and subtypes not listed in the Include list will be excluded (that is, they will not be forwarded). Conversely, if you exclude one or more message types or subtypes, all other message types and subtypes not listed in the Exclude list will be included (that is, they will be forwarded).

NOTE

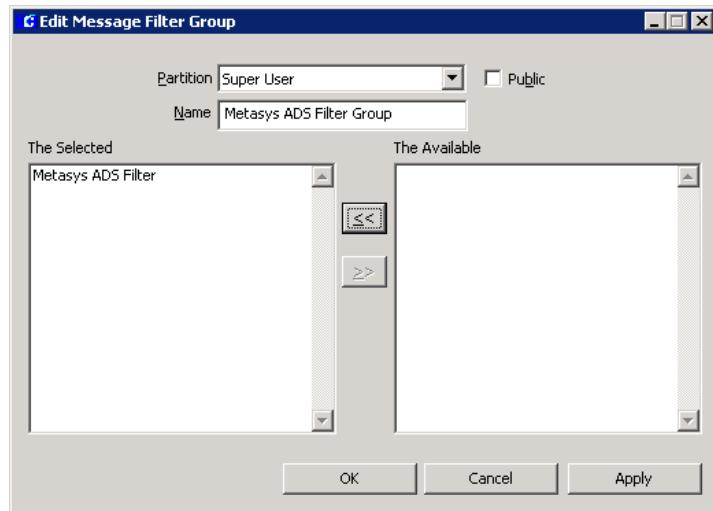
For more detailed information on configuring a message filter, refer to the P2000 Software User Manual.



- Click **OK** to save the message filter and return to the System Configuration window.

► **To configure an ADS message filter group in P2000:**

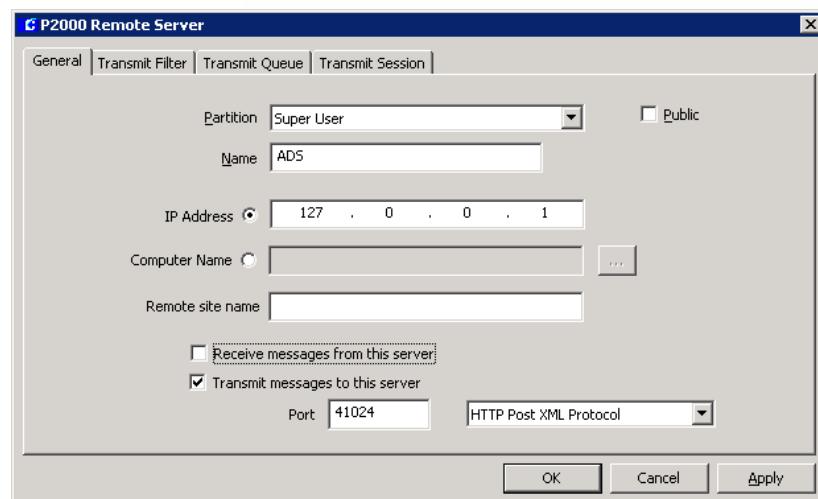
- From the P2000 Main menu, select **Config>System**. The System Configuration window appears.
- Select the **Message Filter Group** icon and click **Add**. The Edit Message Filter Group dialog box appears.
- Enter a descriptive **Name** for this message filter group (for example, Metasys ADS Filter Group).
- The newly created ADS message filter should appear in The Available box. Select it and click the left arrow button to move the item to the The Selected box.



- Click **OK** to save the message filter group and return to the System Configuration window.

➤ **To define an ADS remote server in P2000:**

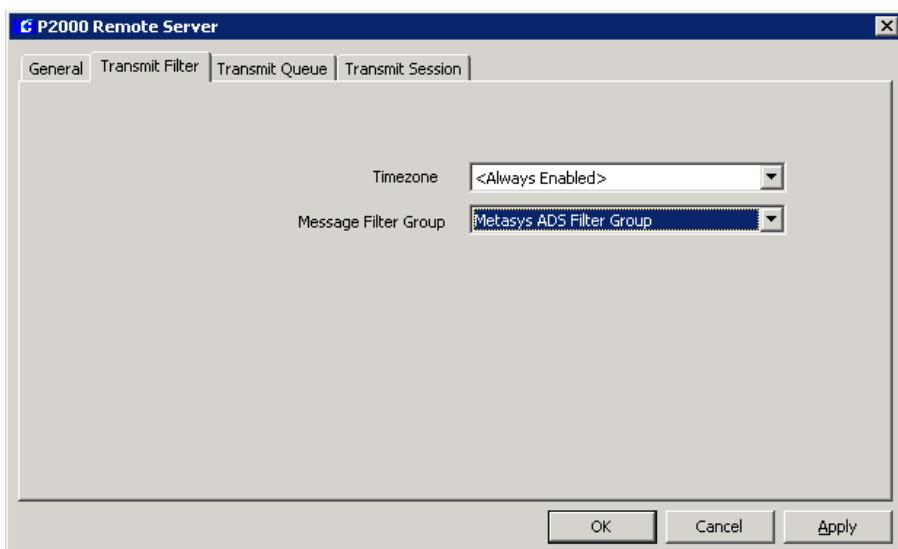
- From the P2000 Main menu, select **Config>System**. The System Configuration window appears.
- Select the **Remote Server** icon and click **Add**. The P2000 Remote Server dialog box appears.
- Select the **General** tab.
- Enter a **Name** for the remote server (for example, ADS).
- Select the IP Address radio button and enter the following address:
127.0.0.1
- Select the **Transmit messages to this server** check box.



7. In the **Port** field, enter the port number assigned to the P2000 G3 Interface Command Port (default = 41024).

To verify the current port number assigned to the P2000 G3 Interface Command Port, in the left pane of the System Configuration window, select **Site Parameters** and click **Edit**. On the Edit Site Parameters window, select the **Port Configuration** tab.

8. In the drop-down list next to the **Port** field, select **HTTP Post XML Protocol**.
9. Click **Apply**.
10. Select the **Transmit Filter** tab.
11. Select the newly created **Message Filter Group** (for example, Metasys ADS Filter Group).



12. Click **OK**.

NOTE

For information on viewing forwarded messages from P2000 in the Metasys ADS Repository, see page 3-24.

PRELIMINARY

OPERATIONS

This chapter describes step-by-step procedures for accessing the Metasys system extended architecture Web Interface and using it to browse P2000 objects and issue commands.

GETTING STARTED

This section describes how to launch the Metasys system extended architecture Web Interface and view the objects associated with the P2000 server.

► **To launch the Metasys system extended architecture Web Interface:**

1. Open a browser instance and enter the following URL:

http://IP Address of Metasys ADS or ADX Server/metasys

Example: *http://10.0.0.1/metasys*

In the previous example, 10.0.0.1 is the IP address of the Metasys ADS/ADX server.

2. The Welcome screen appears.

Welcome!

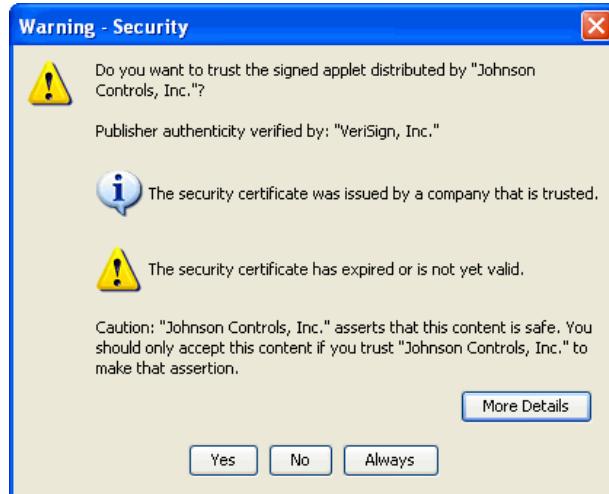


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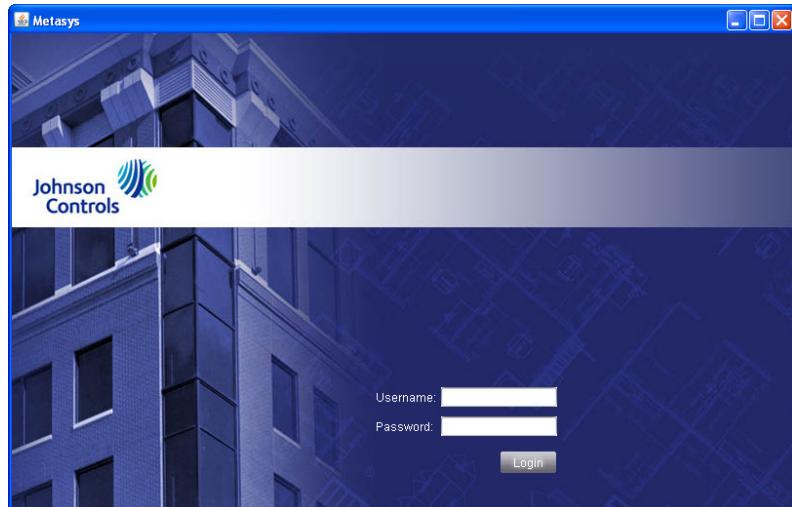
The application is being loaded in a separate window.

Once the application is loaded, you may close this page.

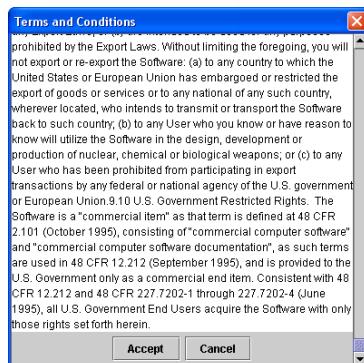
3. If the Java Plug-in Security Warning window appears, click **Always**.



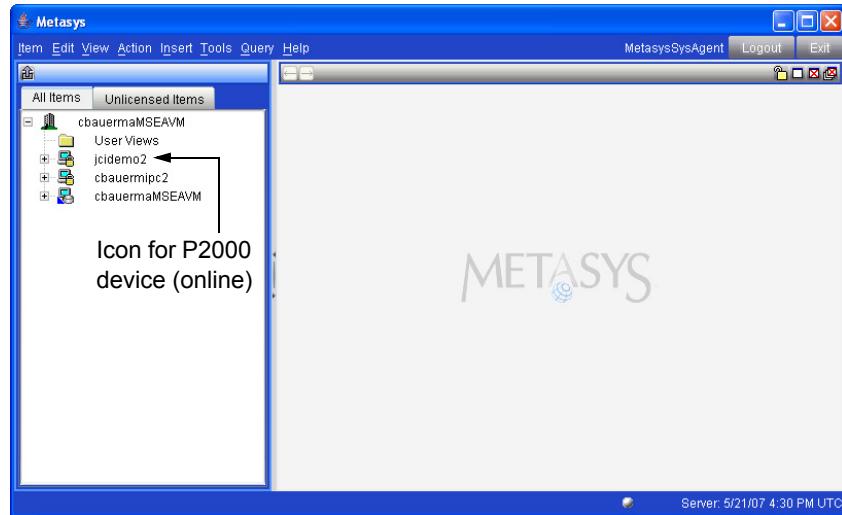
4. When the login page appears, enter the **Username** and **Password** and click **Login**.



5. If you receive the Terms and Conditions dialog, read the materials, scroll down to the bottom of the page and click **Accept**.

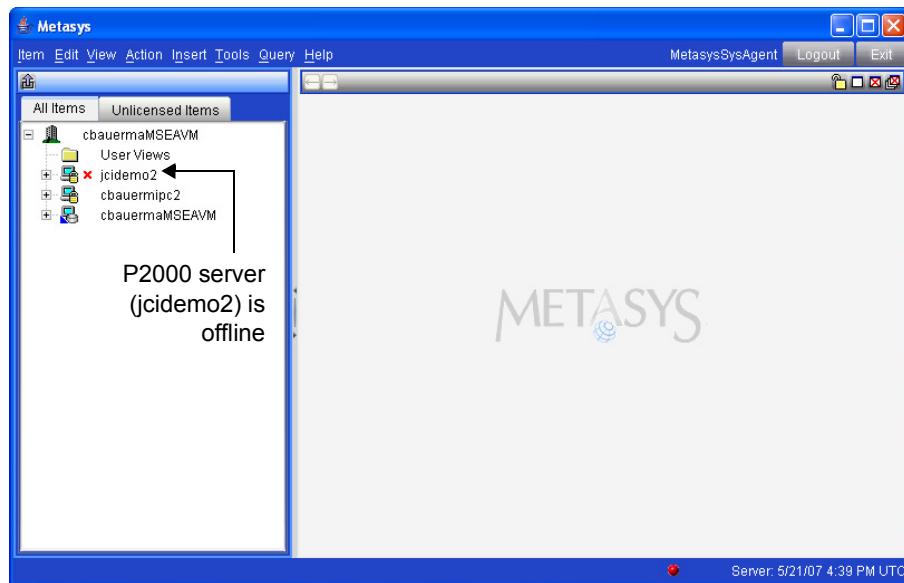


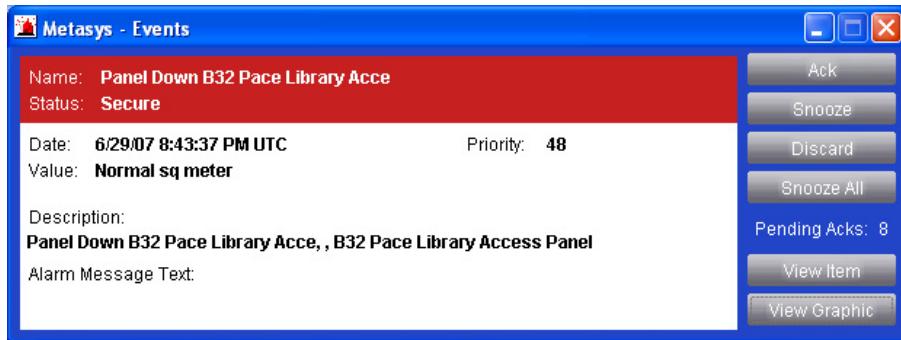
6. Notice the P2000 device icon, here named **jcidemo2**. In the following figure, the device is online.



► **To monitor changes in P2000 server online status:**

1. If the P2000 server status changes, notice the P2000 device icon change in the Metasys system extended architecture navigation tree. In addition, when a Metasys Alarm occurs, a separate Alarms Window launches to display the alarm.





2. To acknowledge the alarm, click **Ack**.

NOTE

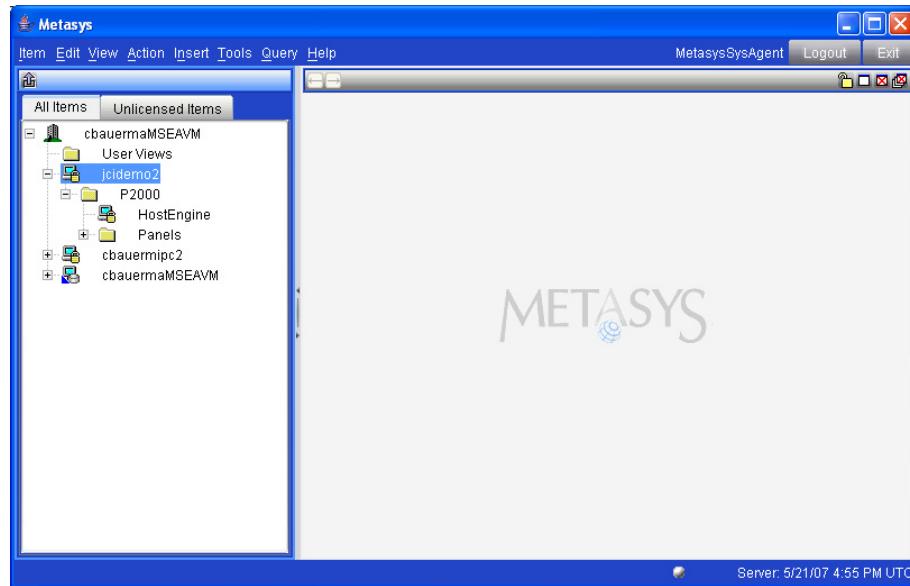
*The **Snooze** command sends the currently displayed alarm message away for 5 minutes, allowing any pending next highest events to appear in the Alarms Window. After 5 minutes, the alarm appears in the Alarms Window again (if it is the highest priority event). Selecting the **Snooze** command has no effect on the alarm in P2000. For more information on the **Snooze** or **Snooze All** commands, refer to the Metasys Help.*

3. Similarly, once the status of the P2000 server changes to online, the device icon changes in the Metasys system extended architecture navigation tree (the red “x” disappears). In addition, the Metasys Alarm occurs due to the status change, and a window is launched to display it.

For more information on how to use the Alarms Window, refer to the Metasys Help.

► **To browse P2000 objects using the Metasys system extended architecture Web Interface:**

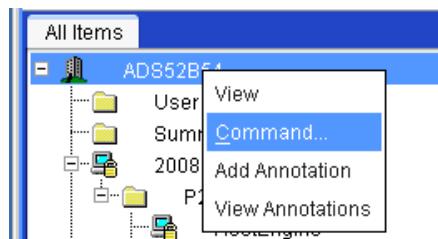
1. Access the Metasys system extended architecture Web Interface as described on page 3-1.
2. Click to expand the P2000 device.
3. Click to expand **P2000** and verify the presence of the following: **HostEngine** and **Panels**.



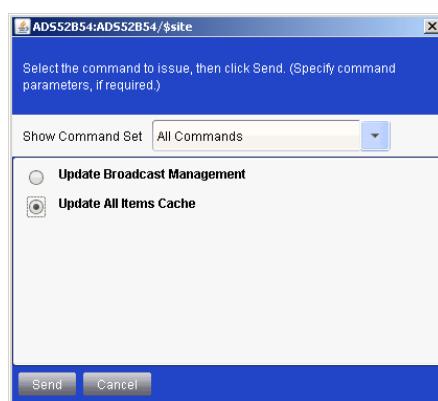
Optionally, you can select **View>Extended Labels** from the main menu to display, in curly brackets, additional information about each P2000 object.

4. Expand the **Panels** item to view the details.
5. To reflect the latest changes in P2000, select **Action>Refresh All Tabs** on the menu bar.

If running Metasys software Version 5.x, send the **Update All Items Cache** command. To do this, right-click over the ADS/ADX name in the left pane of the Metasys window and select **Commands**.



Select the **Update All Items Cache** radio button and click **Send**.

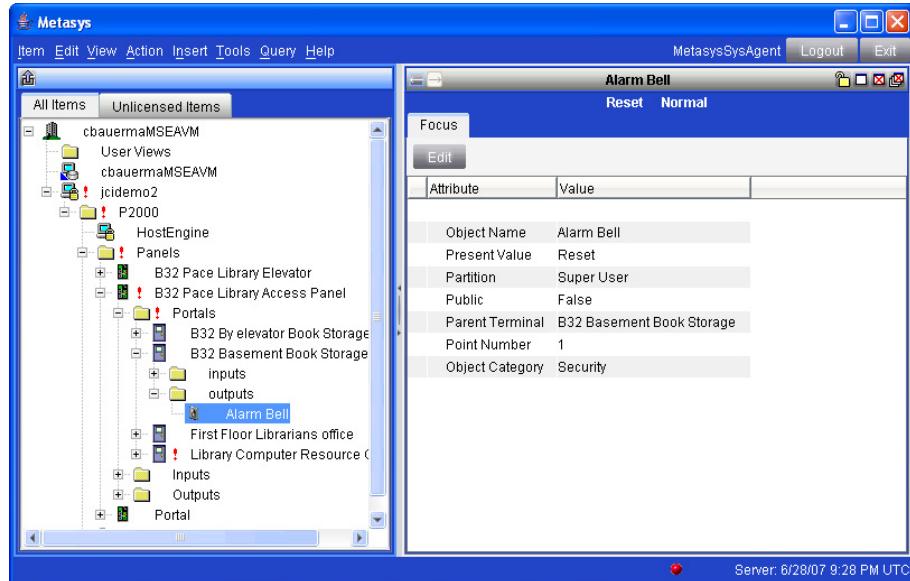


OUTPUT POINT CONTROL

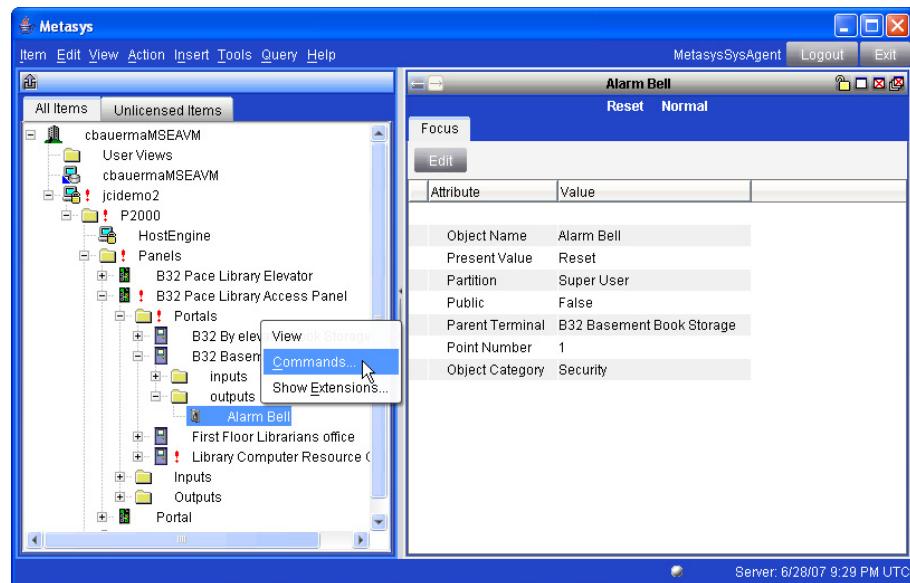
This section describes how to control P2000 output points using the Metasys system extended architecture Web Interface.

► **To activate a P2000 output point:**

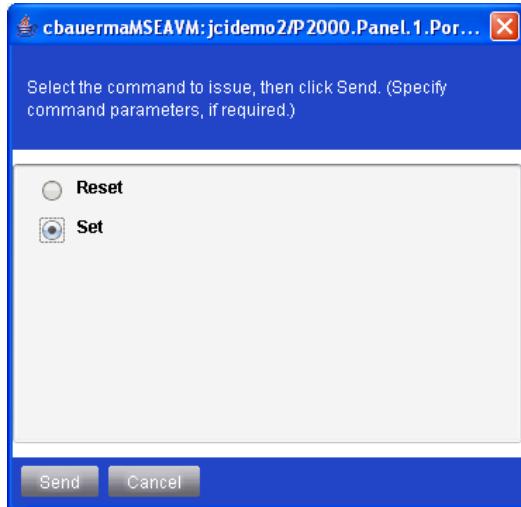
1. Using the Metasys system extended architecture Web Interface, expand the tree to the P2000 output point and double-click its icon. In the following example, the output point is in the Reset state.



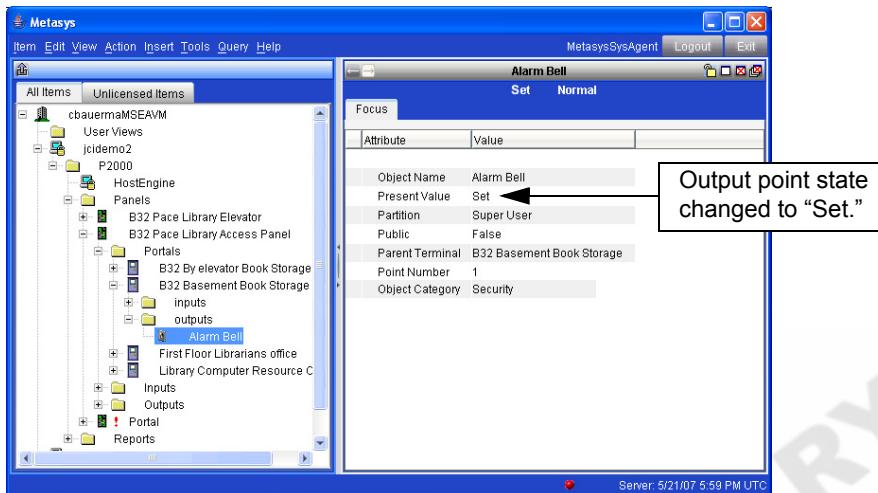
2. Right-click the output point icon and select **Commands**.



3. Select the appropriate radio button (in the example below **Set** is selected to change the state from Reset to Set). Click **Send**.

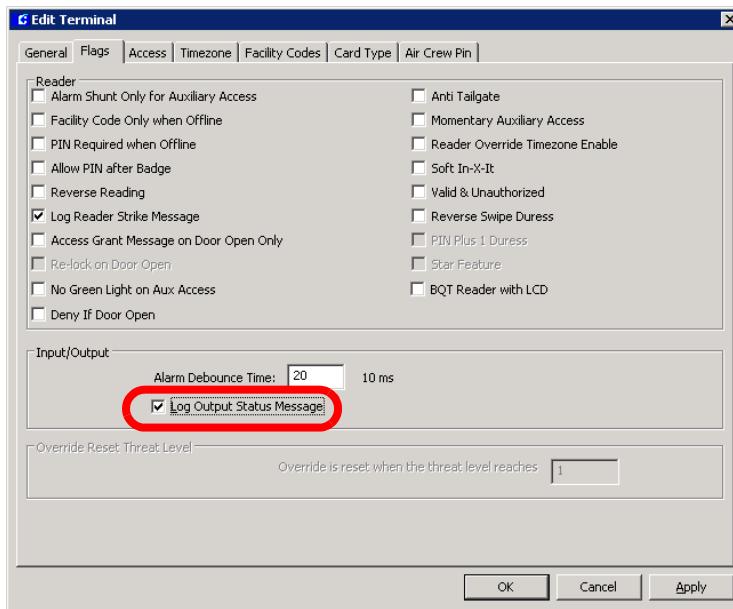


4. On the Metasys system extended architecture main window, select **Action>Refresh All Tabs** from the menu bar.
 5. Verify that the state of the output point has changed.



NOTE

*If the output's status does not change after sending the command, verify that the **Log Output Status Message** check box is selected for the output's associated terminal in P2000 (Edit Terminal window>Flags tab).*



➤ **To de-activate an output point:**

1. Using the Metasys system extended architecture Web Interface, expand the tree to the P2000 output point and double-click its icon.
2. Right-click the output point icon and select **Command**.
3. Select the **Reset** radio button and click **Send**.
4. In the Metasys system extended architecture main window, select **Action>Refresh All Tabs** from the menu bar.
5. Verify that the state of the output point has changed.

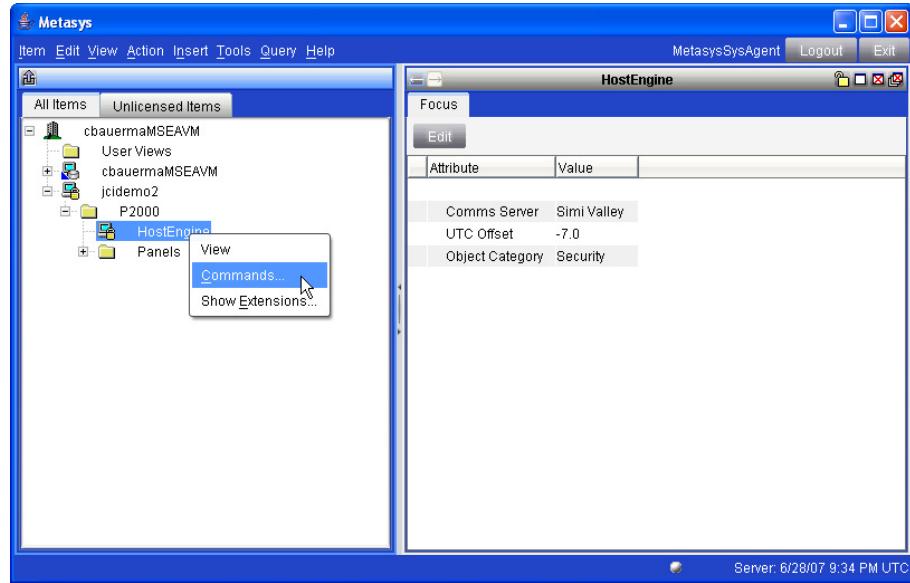
Door Control

The following P2000 door commands can be sent from the Metasys system extended architecture Web Interface:

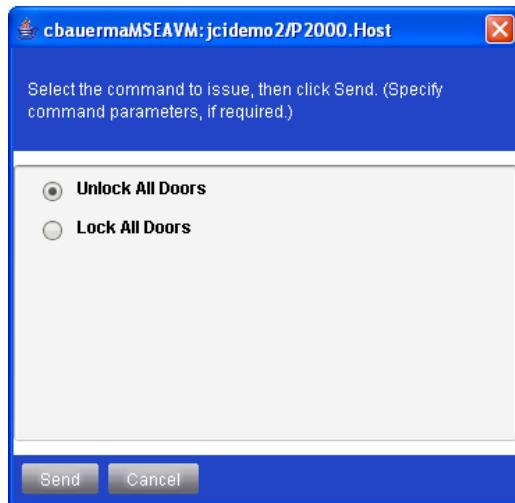
- Unlock or lock **all** doors under the *HostEngine* object. See Table 1-3 on page 1-10 for a description of the *HostEngine* commands.
- Unlock or lock a specific door under the *Portals* object. See Table 1-6 on page 1-14 for a description of the *Portals* commands.

➤ **To send a command to unlock or lock all doors under the *HostEngine* object:**

1. Using the Metasys system extended architecture Web Interface, expand the navigation tree to view the **HostEngine** icon.
2. Right-click the **HostEngine** icon and select **Commands**.



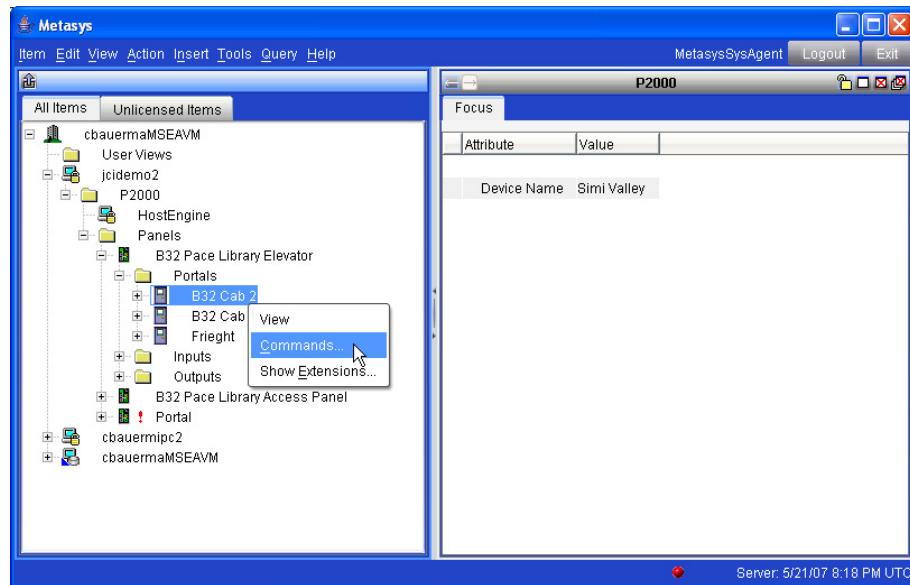
3. On the Commands page, select the **Unlock All Doors** or **Lock All Doors** radio button.



4. Click **Send** to issue the command to the P2000 system.

► **To send a command to unlock or lock a specific door under the *Portals* object:**

1. Using the Metasys system extended architecture Web Interface, expand the navigation tree to view the **Portals** icon.
2. Under **Portals** right-click a reader terminal icon and select **Commands**.



3. On the Commands page, select the **Unlock**, **Door Timed Unlock (in minutes)**, or **Lock** radio button.
If you select the **Door Timed Unlock (in minutes)** option, in the **Value** field, enter the number of minutes the system will delay before unlocking the selected door.



4. Click **Send** to issue the command to the P2000 system.

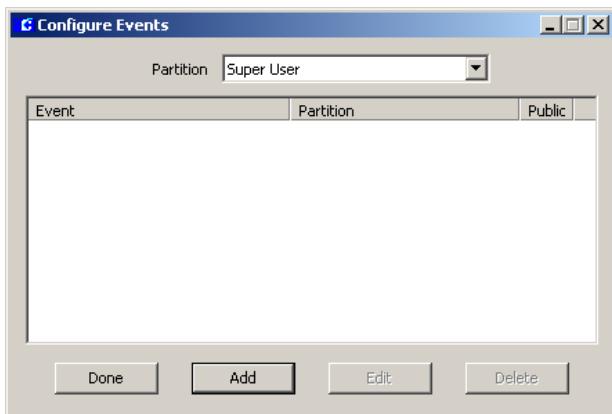
INTERLOCKS

This section describes how to define interlocks between events generated on the P2000 system and actions that need to be executed on the Metasys system extended architecture. For example, the Metasys server can be programmed to turn on lights in a room and/or change a room's temperature when a cardholder presents his/her badge at a specific reader.

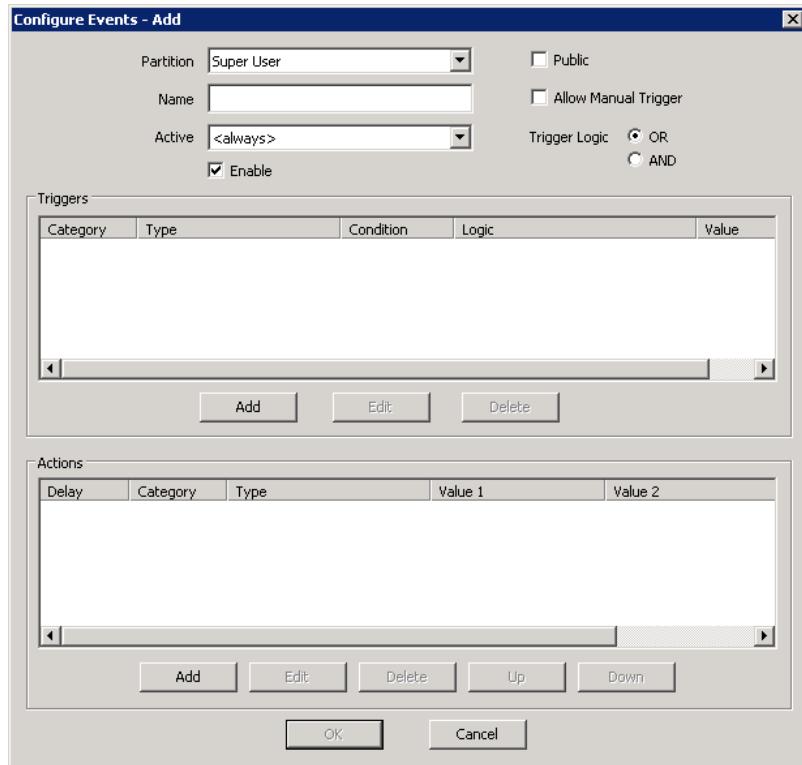
Interlocks are unidirectional from P2000 to the Metasys system extended architecture. For detailed information on configuring triggers and actions, refer to the *P2000 Software User Manual*.

► **To configure an interlocking event:**

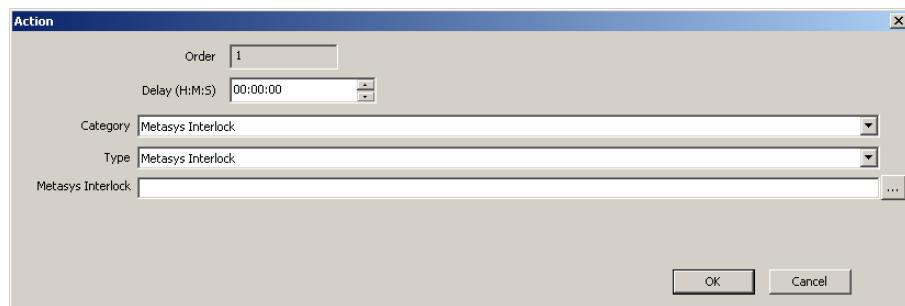
1. In P2000, select **Events>Configure Events** from the menu bar. The Configure Events dialog box appears.



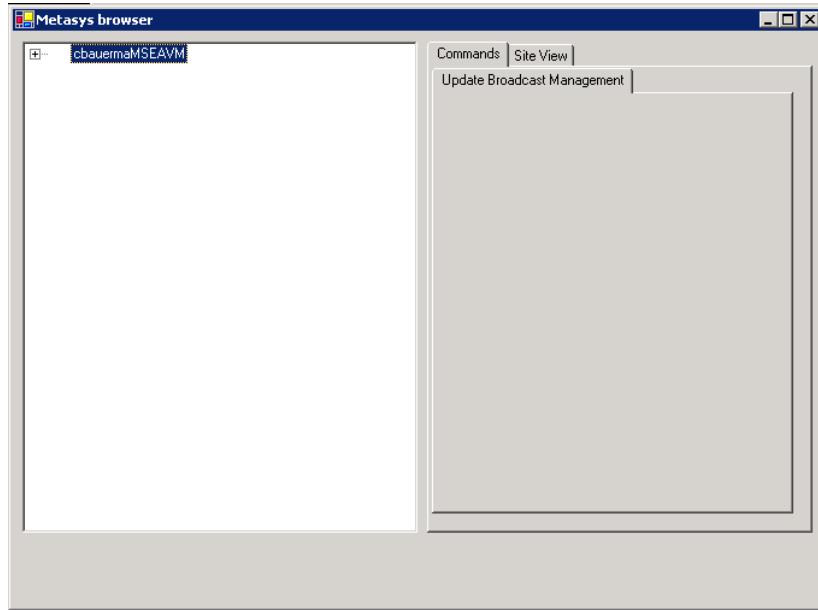
2. Click **Add**. The Configure Events - Add dialog appears.



3. Enter an event name in the **Name** field.
4. Add a trigger. For detailed information on adding triggers, refer to the *P2000 Software User Manual*.
5. In the Actions area, click the **Add** button. The Action dialog box appears.
6. From the Category field, select **Metasys Interlock**. The value in the Type field will automatically change to Metasys Interlock.



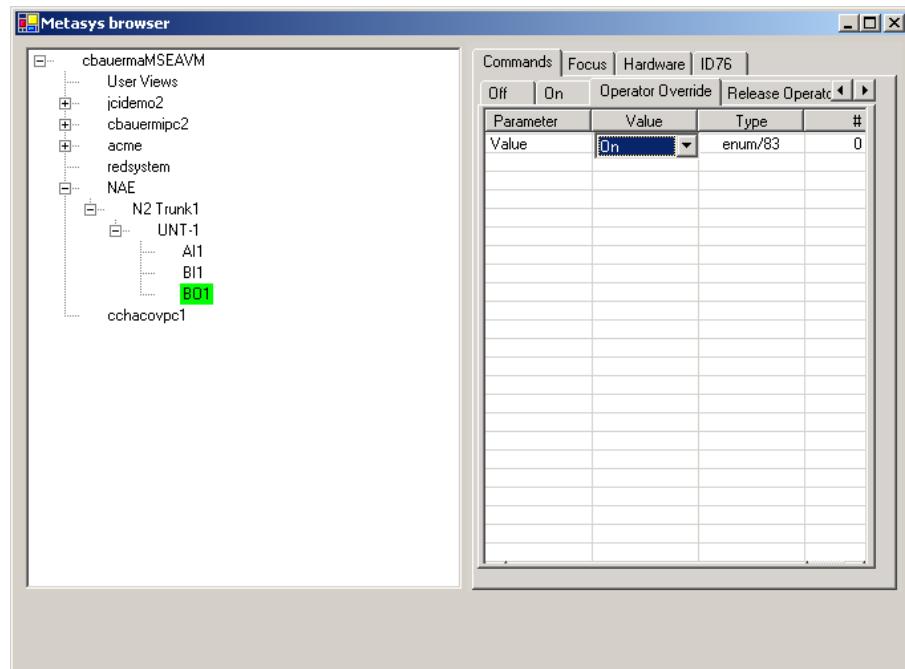
7. At the end of the **Metasys Interlock** field, click the **Browse** button (...). Wait for the Metasys browser window to launch.



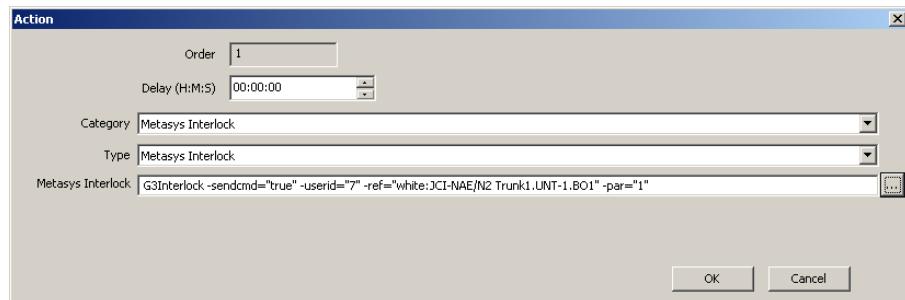
When the Metasys browser window appears, the Metasys server is displayed in the left window pane. As the screen capture above displays, "cbauermaMSEAVM" is the name of the Metasys server. This window enables you to define a command string, or action, that will occur if the P2000 is triggered accordingly. For example, the Metasys server can be programmed to turn on lights to a room (action) when a card is swiped at a specific reader (trigger).

8. Select the action target from the Metasys server tree. The tabs on the right window pane will differ, depending on the target selected.

9. Change the values from the tabs to define the action. In some cases, you will have to double-click inside the grey area under the tab captions to change the value.

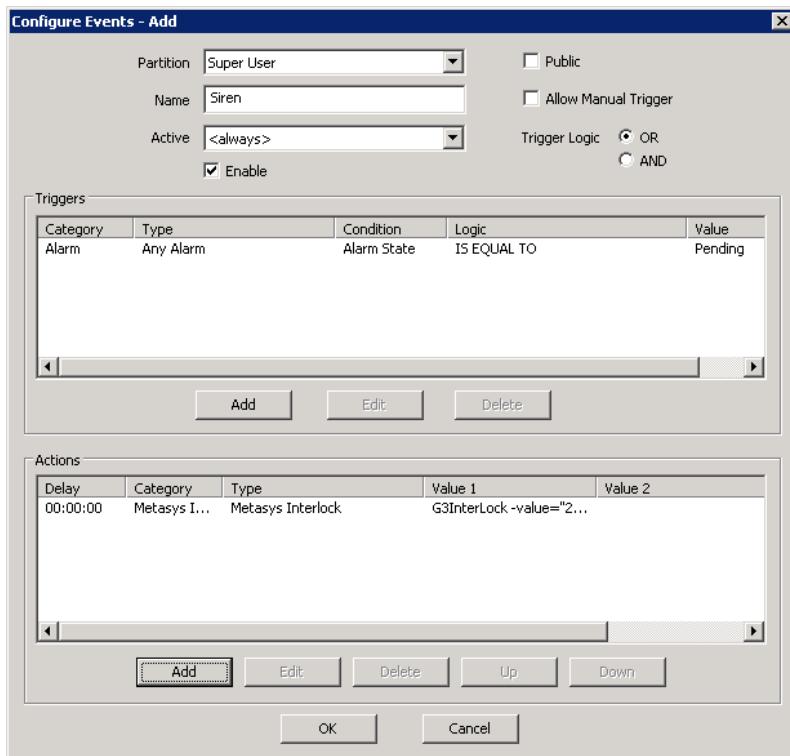


10. Close the **Metasys browser** window.
11. Verify that the command string has been added to the **Metasys Interlock** field on the Action dialog.



12. Click **OK**.

13. The action will appear in the **Actions** area on the Configure Events – Add dialog box.



NOTE

For more detailed information on configuring triggers and actions, refer to the P2000 Software User Manual.

ALARM AND EVENT MANAGEMENT

This section describes how to use the Metasys system extended architecture Web Interface to view and acknowledge alarms generated on the P2000 system, which are displayed in the Metasys Event Viewer.

For more information on the Event Viewer, refer to the “Alarm and Event Management” section of the Metasys system Help.

Overview

The Metasys system extended architecture User Interface can receive P2000 alarms and events for the registered P2000 device. You can acknowledge, snooze, or discard a P2000 alarm using the Metasys system extended architecture User Interface. Filtered P2000 events are mapped to Metasys system extended

architecture events and forwarded to the Metasys system extended architecture ADS Event Repository (see “Message Forwarding” on page 2-7). The following P2000 events can be mapped and forwarded:

- RTLData (History Transaction)
- Alarms

Limitations

- This P2000 Metasys system extended architecture Alarm Integration implementation supports only Panel Input Point alarm types.
- The P2000 message forwarding to the Metasys system extended architecture ADS Event Repository is limited to RTLData and Alarm messages.

Alarm and Event Forwarding

P2000 RTLData and Alarm messages may be forwarded to the Metasys ADS Event Repository as Metasys system extended architecture events. P2000 RMS (Remote Message Service) forwards messages based on the configured Message Filter. See “Message Forwarding” on page 2-7.

Metasys Events in the P2000 Alarm Monitor

Metasys administrators can create and configure a secondary event repository to forward Metasys events to the P2000 server. These forwarded events will appear as events in the P2000 Real-Time List and as alarms in the Alarm Monitor, where operators can perform alarm-related actions, such as the *Ack* command, which will also change the event’s status in the Metasys system. For example, if a P2000 operator acknowledges a Metasys alarm from the P2000 Alarm Monitor, the alarm also becomes acknowledged in the Metasys system.

For information on creating a secondary event repository in the Metasys system, refer to the Metasys documentation.

For information on managing P2000 alarms using the P2000 Alarm Monitor, or for information on using the Real-Time List, refer to the *P2000 Software User Manual*.

Managing P2000 Alarms from the Metasys System Extended Architecture

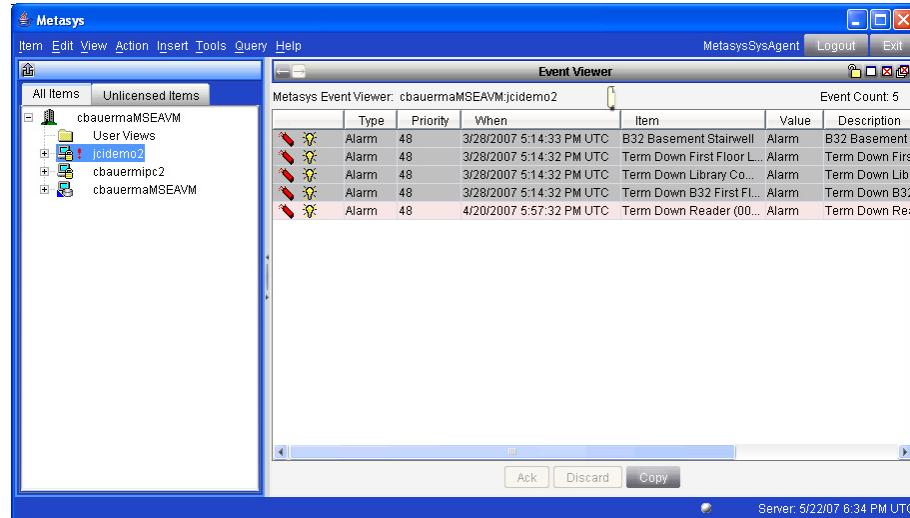
This section describes how to do the following actions from the Metasys system extended architecture user interface:

- View P2000 alarms (see page 3-17)
- View a graphic reference associated with a P2000 alarm (see page 3-18)
- Acknowledge a P2000 alarm (see page 3-19)
- Discard a P2000 alarm (see page 3-19)

► **To view P2000 alarms:**

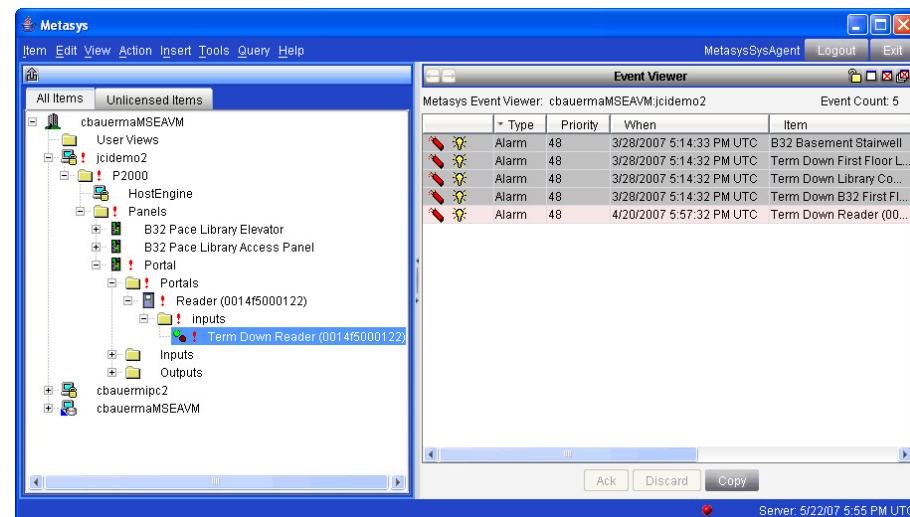
1. In the left pane, select a P2000 device from which you wish to view alarms.
2. From the menu bar, select **View>Event Viewer**.
3. If prompted, select the P2000 device and click **OK**.

The alarms from the selected P2000 device appear in the right pane.



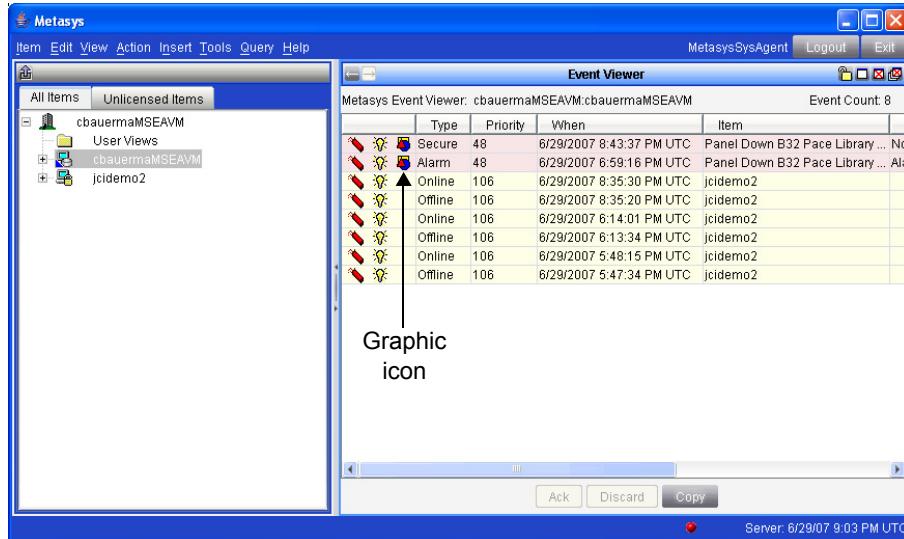
NOTE

Alarms can also be pinpointed by following the red exclamation marks in the left pane to the point of alarm.



► To view a graphic reference associated with a P2000 alarm:

1. In the Event Viewer, select an alarm.



2. Double-click the graphic icon in the left-hand column of the selected alarm.

The graphic associated with the alarm appears in the available display frame. This graphic can also be viewed on the Metasys – Events window by clicking the **View Graphic** button. Refer to the *Metasys System Help* for more information.

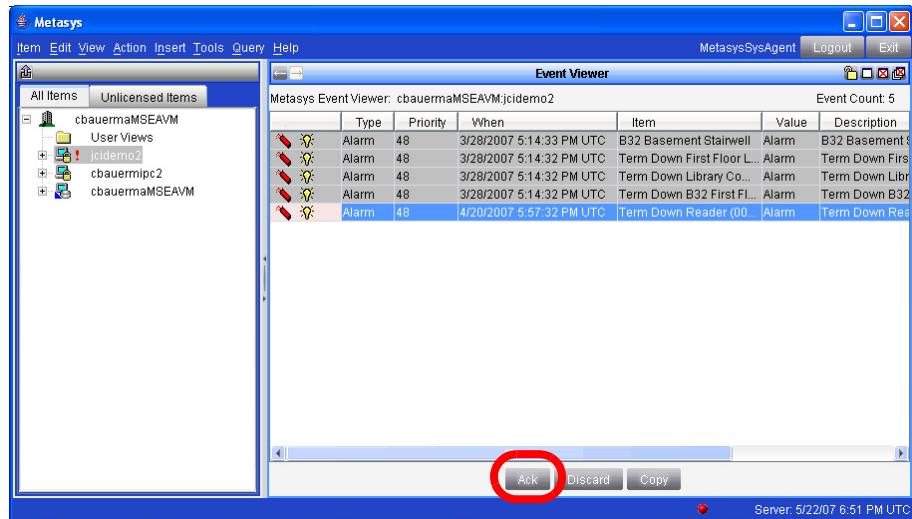


NOTE

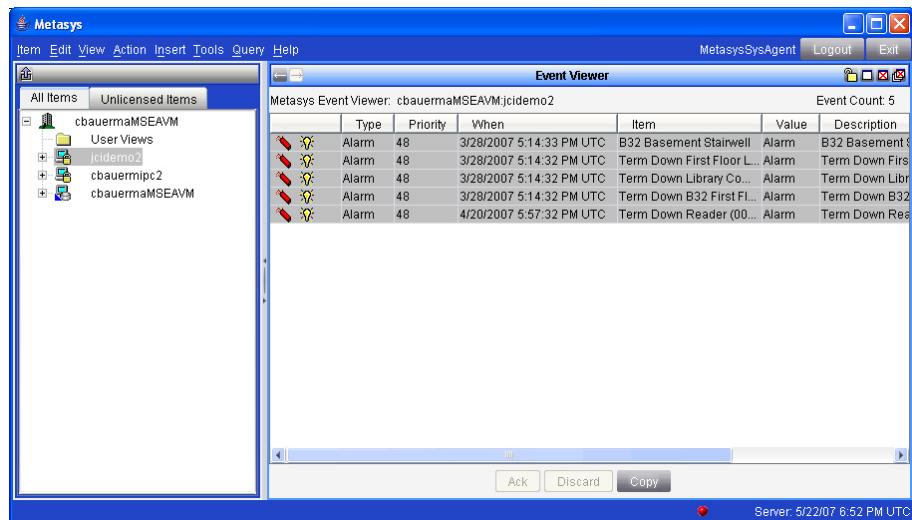
For information on configuring a graphic reference for a P2000 alarm, refer to the P2000 Software User Manual.

► To acknowledge a P2000 alarm:

1. In the Event Viewer, select the alarm to be acknowledged and click the Ack button.



2. Notice that the acknowledged alarm is now grayed out.



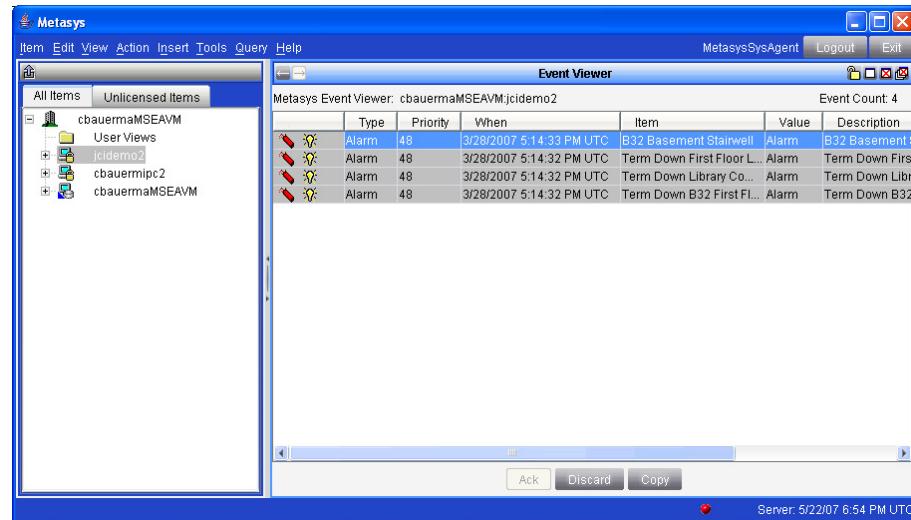
► To discard a P2000 alarm:

Once an alarm type changes to **Secure** and has been acknowledged, the alarm can be discarded.

NOTE

*All P2000 alarms, even if discarded in Metasys, are reflected in the P2000 audit trail. Also, discarding P2000 alarms in Metasys changes their status to **Complete** in the P2000 Alarm Monitor.*

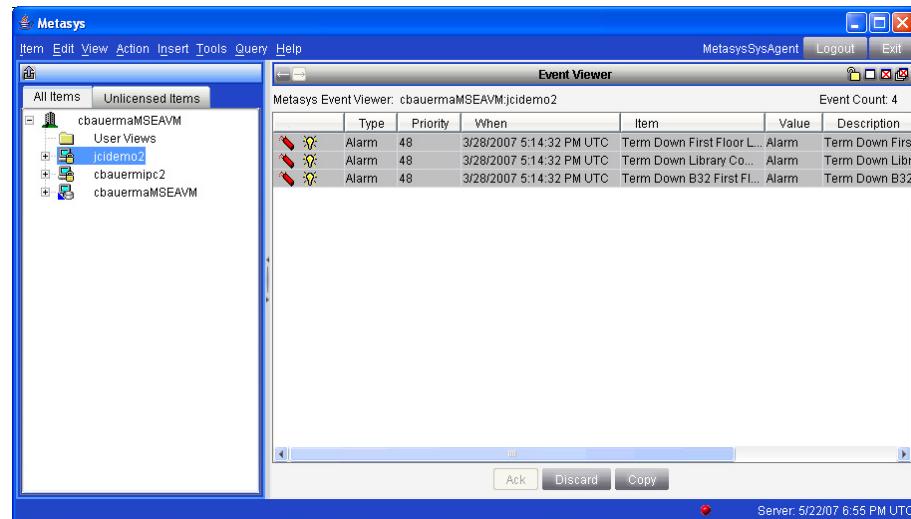
1. Select the alarm to be discarded and click the **Discard** button.



2. Click **Yes** to the warning message.



3. Verify that the alarm is now discarded.



Viewing P2000 Status Changes with a Metasys Graphic

Metasys graphics can provide a visual representation of certain components of a P2000 system and enable you to quickly check their status and recognize unusual P2000 system conditions. For example, you can use a Metasys graphic to quickly view the status of a portal (e.g. Normal, Alarm, Unreliable, Overridden, Disabled, Offline) based on the color displayed by a dynamic symbol created in the Metasys system's User Graphics Tool (UGT).

For detailed information on the UGT, and for information on creating, editing, or deleting a Metasys graphic, refer to the Metasys documentation for assistance.

Binding a Symbol to a P2000 Object

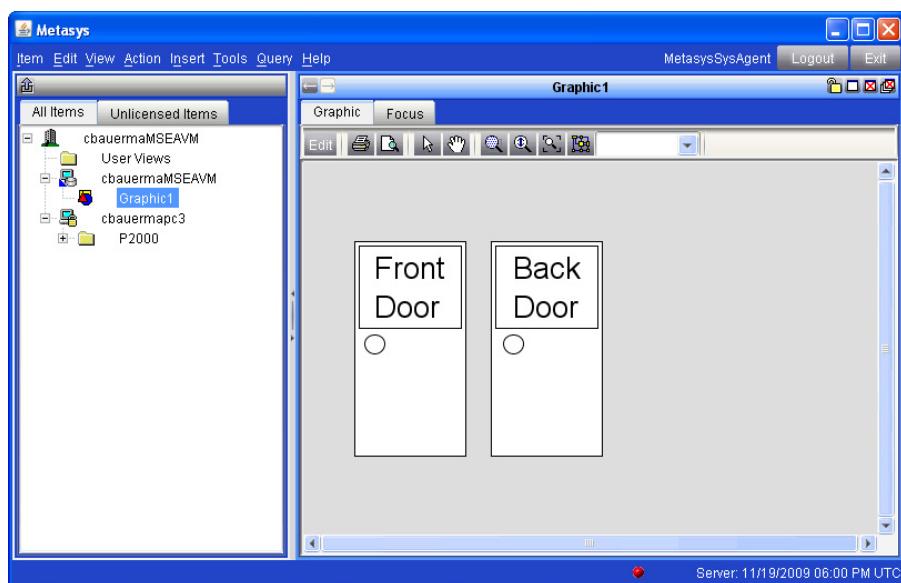
Having a symbol display the current status of a P2000 object requires you to bind the symbol to the object. The Metasys UGT provides various symbols that can be bound to a P2000 object. A common and effective symbol for use with a P2000 object, such as a portal object, is a *dynamic* shape, such as a circle or square.

NOTE

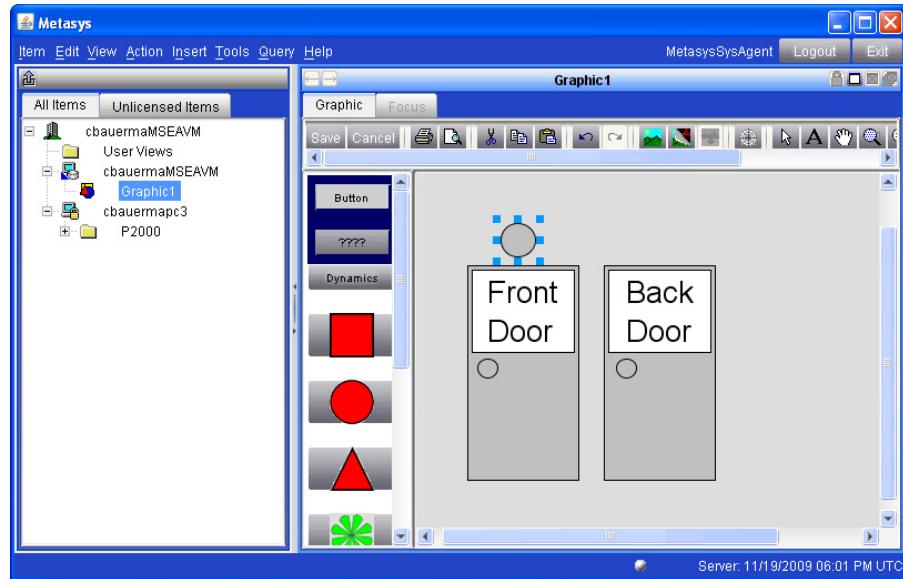
The following instructions describe how to bind a dynamic shape to P2000 panel, portal, or input objects; other symbols, however, such as value display boxes, can also be bound to P2000 objects. For more information on other symbols and how to bind them to objects, refer to the Metasys documentation.

➤ **To bind a dynamic shape symbol to a P2000 panel, portal, or input object:**

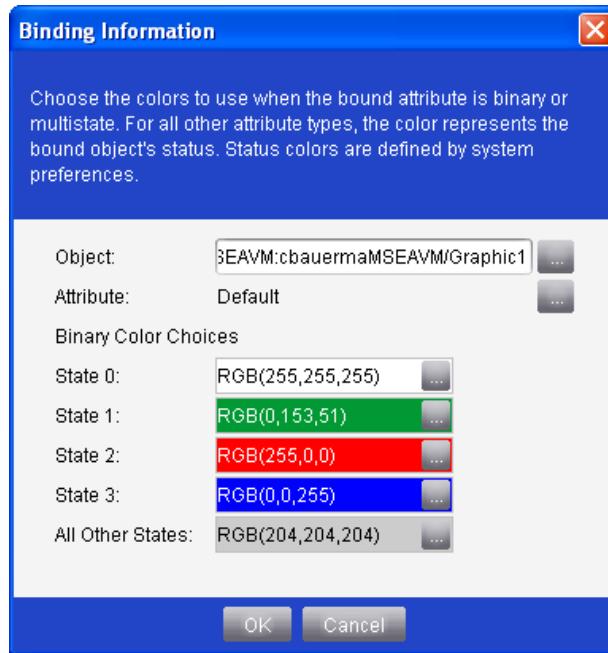
1. Open the graphic that will include the P2000 symbol(s). To open the graphic, double-click it in the navigation tree on the left pane.



2. Click **Edit**.
3. Click the **Dynamics** button on the left side of the right pane.
4. Click and drag a basic shape to the graphic workspace.

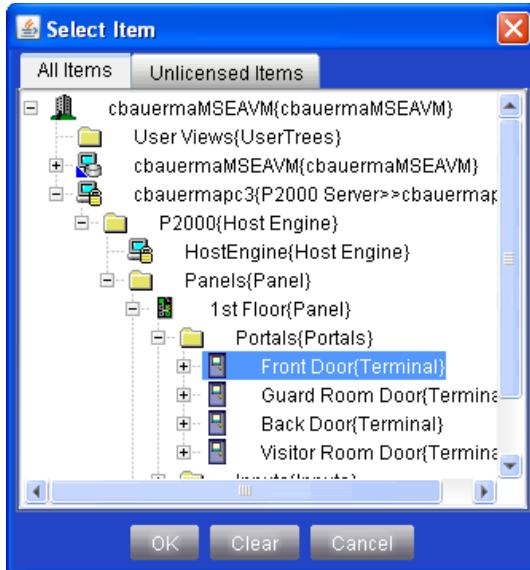


5. Double-click the shape to open the Binding Information dialog box.



6. Click the browse button for the **Object** field.

7. Select the P2000 panel, portal, or input object that will be bound to the symbol.



8. Click **OK**.
9. Select the browse button for the **Attribute** field.
10. **Panel Objects:** Select the **Default** attribute and click **OK**.
 - Select the color for **State 0** that will represent the panel's **Normal** status (e.g. green).
 - Select the color for **All Other States** that will represent the panel's **Trouble**, **Unreliable**, and **Offline** status (e.g. red).

See "Panel Status (EnumSet 505 - Object Status)" on page A-1 for more information on the Panel Status attribute.
11. **Portal Objects:** Select the **Default** attribute and click **OK**.



- Select the color for **State 2** that will represent the portal's **Door Locked** status.
- Select the color for **State 3** that will represent the portal's **Door Unlocked** status.
- Select the color for **All Other States** that will represent the portal's **Unknown** status.

See "Door Status - Default Attribute (EnumSet 1359)" on page A-2 for more information on the Door Status attribute.

12. Input Objects: Select the **Default** attribute and click **OK**.

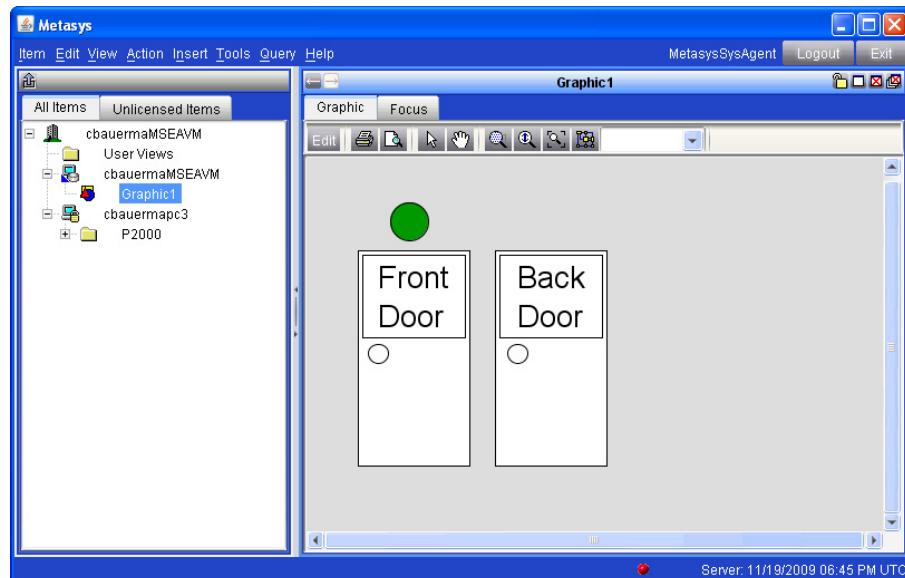
- Select the color for **State 0** that will represent the input object's **Normal** status.
- Select the color for **All Other States** that will represent the input object's **Alarm (Set, Short, Open), Unreliable**, and **Disabled** status.

See “Input Status (EnumSet 505 - Object Status)” on page A-3 for more information on the Input Status attribute.

13. Click **OK**.

14. Click **Save**.

The newly added symbol should now indicate the current status of the bound P2000 portal or input object according to the color scheme previously defined.

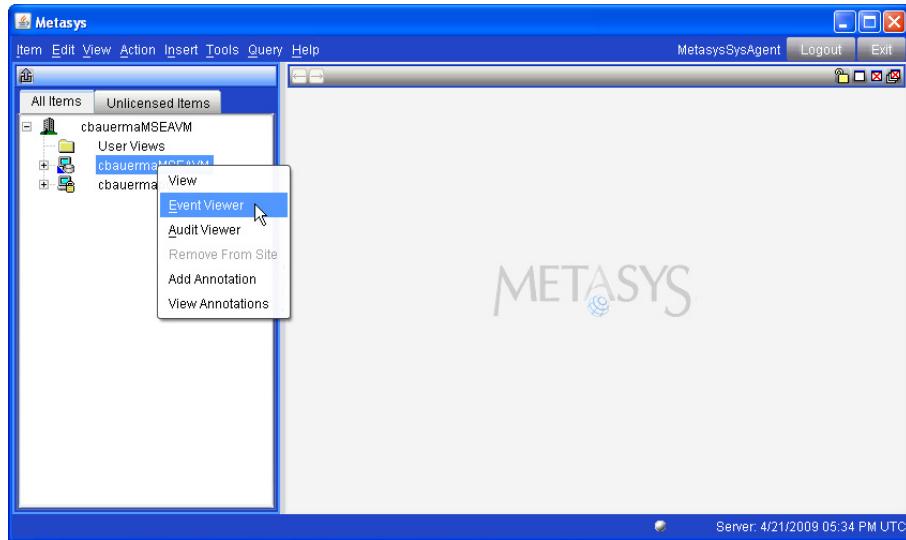


Viewing Forwarded Messages from P2000 in the Metasys ADS Repository

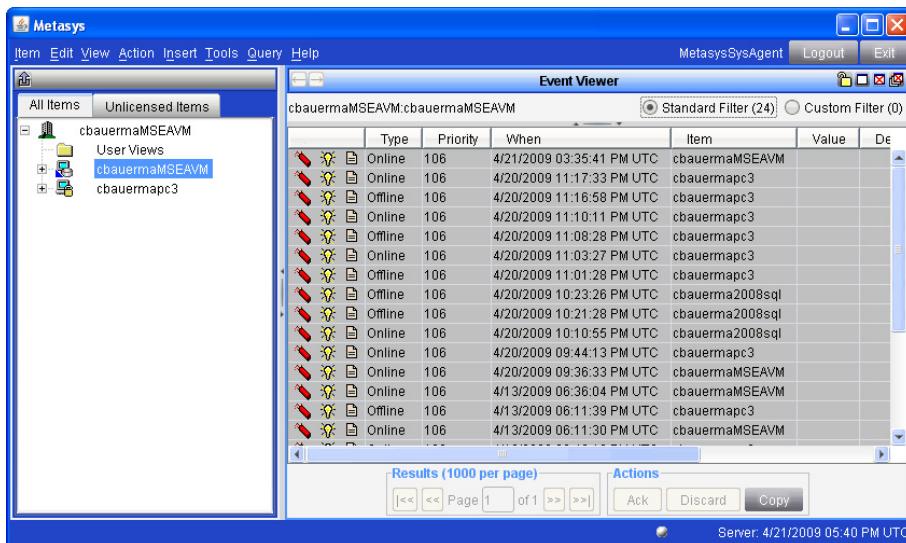
If you have not yet configured the P2000 to forward messages to the Metasys ADS Repository, follow the instructions in “Message Forwarding” on page 2-7.

➤ **To view forwarded messages from P2000 in the Metasys ADS Repository:**

1. In the Metasys system extended architecture Web Interface, right-click on the icon representing the Metasys ADS and select **Event Viewer**.

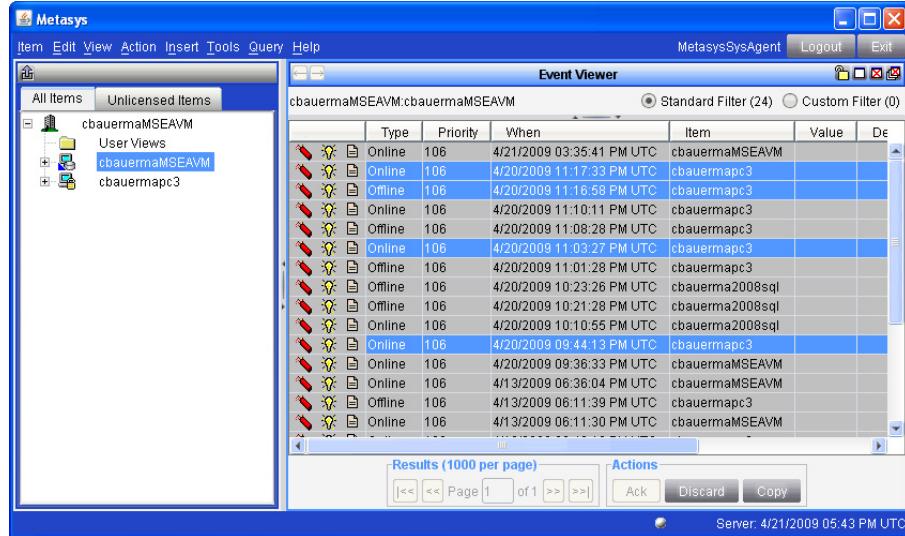


2. Wait while the messages are being downloaded.
3. When the download is complete, the messages appear in the right pane.



► **To discard forwarded messages:**

1. In the Metasys system extended architecture Web Interface Event Viewer, select items to be discarded. Use the <Ctrl> or <Shift> keys on your keyboard to select multiple messages.



2. Click the **Discard** button.
3. Click **Yes** to the warning message.



4. Verify that the selected messages are now discarded.

ENUMERATION SETS

The tables in this appendix display the assigned enumeration sets and attribute values for displaying the current status of P2000 components, such as panels, portals (doors), inputs, and outputs. Refer to the information in this appendix when binding symbols to P2000 objects and when assigning a color scheme for dynamic symbols.

NOTE

*If using a symbol that displays the status of a P2000 object as a text value, such as a Value Display Box, the Metasys text value is displayed. Use the following tables to cross-reference the Metasys text value to the P2000 status value. For example, if a Value Display Box displays the status of a panel as **Trouble**, the P2000 equivalent is **Panel Misconfigured**. In Metasys Version 4.1 or earlier, this feature does not apply to Door Status Default Attribute (Enumset 1359), which displays only the status value's numeric ID.*

PANEL STATUS (ENUMSET 505 - OBJECT STATUS)

Table A-1: Panel Status Attribute Values (EnumSet 505 - Object Status)

ID (Key)	P2000 Status	Metasys Text Value
0	Panel Up	Normal
20	Panel Misconfigured	Trouble
70	All other status values	Unreliable
112	Panel Down	Offline

When configuring binary color choices:

- **ID 0 = State 0**
When the status of the panel is *Panel Up*, the color of the dynamic symbol matches the color defined for **State 0**.
- **IDs 20, 70, and 112 = All Other States**
When the status of the panel is *Panel Misconfigured*, *Panel Down*, or any other status value not listed in Table A-1, the color of the dynamic symbol matches the color defined for **All Other States**.

DOOR STATUS - DEFAULT ATTRIBUTE (ENUMSET 1359)

Table A-2: Door Status - Default Attribute (EnumSet 1359)

ID (Key)	P2000 Status	Metasys Text Value
2	Door Locked	Locked
3	Door Unlocked	Unlocked
4	Unknown	Unknown

When configuring binary color choices:

- **ID 2 = State 2**
When the status of the door is *Door Locked*, the color of the dynamic symbol matches the color defined for **State 2**.
- **ID 3 = State 3**
When the status of the door is *Door Unlocked*, the color of the dynamic symbol matches the color defined for **State 3**.
- **ID 4 = All Other States**
When the status of the door is *Unknown*, the color of the dynamic symbol matches the color defined for **All Other States**.

DOOR/TERMINAL STATUS - STATUS ATTRIBUTE (ENUMSET 505 - OBJECT STATUS)

Table A-3: Door/Terminal Status - Status Attribute (EnumSet 505 - Object Status)

ID (Key)	P2000 Status	Metasys Text Value
0	Up/Locked	Normal
70	Unknown	Unreliable
80	Override	Overridden
112	Down	Offline

When configuring binary color choices:

- **ID 0 = State 0**
When the status of the door/terminal is *Up/Locked*, the color of the dynamic symbol matches the color defined for **State 0**.
- **IDs 70, 80, and 112 = All Other States**
When the status of the door/terminal is *Unknown*, *Override*, or *Down*, the color of the dynamic symbol matches the color defined for **All Other States**.

INPUT STATUS (ENUMSET 505 - OBJECT STATUS)

Table A-4: Input Status (EnumSet 505 - Object Status)

ID (Key)	P2000 Status	Metasys Text Value
0	Normal	Normal
38	Alarm (Set, Short, Open)	Alarm
70	Unknown	Unreliable
102	Suppressed	Disabled

When configuring binary color choices:

- **ID 0 = State 0**
When the status of the input is *Normal*, the color of the dynamic symbol matches the color defined for **State 0**.
- **IDs 38, 70, and 102 = All Other States**
When the status of the input is *Alarm (Set, Short, or Open)*, *Unknown*, or *Suppressed*, the color of the dynamic symbol matches the color defined for **All Other States**.

OUTPUT STATUS - DEFAULT ATTRIBUTE (ENUMSET 614 - RESET SET)

NOTE

Verify that the **Log Output Status Message** check box is selected for the output's associated terminal in P2000 (Edit Terminal window>Flags tab)

Table A-5: Output Status - Default Attribute (EnumSet 614 - Reset Set)

ID (Key)	P2000 Status	Metasys Text Value
0	Reset	Reset
1	Set	Set
2	Unknown	Hold

When configuring binary color choices:

- **ID 0 = State 0**
When the status of the input is *Reset*, the color of the dynamic symbol matches the color defined for **State 0**.

- **ID 1 = State 1**

When the status of the input is *Set*, the color of the dynamic symbol matches the color defined for **State 1**.

- **ID 2 = State 2**

When the status of the input is *Unknown*, the color of the dynamic symbol matches the color defined for **State 2**.

OUTPUT STATUS - STATUS ATTRIBUTE (ENUMSET 505 - OBJECT STATUS)

Table A-6: Output Status - Status Attribute (EnumSet 505 - Object Status)

ID (Key)	P2000 Status	Metasys Text Value
0	Normal	Normal

When configuring binary color choices:

- **ID 0 = State 0**

When the status of the input is *Normal*, the color of the dynamic symbol matches the color defined for **State 0**.