



AlarmPoint for BMC CONTROL-M

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Contents

1. Introduction	1
SUMMARY	1
Benefits	1
ARCHITECTURE	1
SYSTEM REQUIREMENTS	2
CONVENTIONS & TERMINOLOGY	2
Conventions	3
Terminology	3
2. Installation	4
ALARMPPOINT SYSTEM	4
AlarmPoint Java Client	4
AlarmPoint	4
BMC CONTROL-M	4
INTEGRATION	5
Installing the integration components	5
3. Configuration	6
SECURITY	6
ALARMPPOINT	6
Importing the AlarmPoint script package	6
Install Voice Files	6
Define an Event Domain	7
Setting up a two-way Device	7
ALARMPPOINT JAVA CLIENT	8
Basic Configuration	8
Copy and Configure the Integration XML Configuration File	8
Edit APAgent.xml	9
CONTROL-M/EM	9
BMC CONTROL-M SYSTEM	11
Communication Administration	11
Example Batch Job Installation	12
SOFTWARE COMPONENT VALIDATION	16
4. Software Component Integration	17
TRIGGER A NOTIFICATION	17
INITIATE A NOTIFICATION REQUEST	18
VIEW REQUEST RESULTS	19
5. Frequently Asked Questions	20
WHAT DOES “JAVA.IO.IOEXCEPTION: NOT ENOUGH SPACE” MEAN?	20
WHY ARE THE LOGS SENT BY E-MAIL MISSING INFORMATION?	20
WHAT DO I DO WHEN I HAVE AN INCOMPATIBLE VERSION ERROR?	20
HOW DO I CHANGE A JOB SKELETON’S DEFAULT CONTROL-M DEFINITION?	20
HOW DO I CHANGE THE VERSION OF A CONTROL-M DEFINITION?	20
6. Troubleshooting	21
Verify that AlarmPoint is installed and running.	21
Verify that AlarmPoint can send notifications.	21

Verify that each AlarmPoint Java Client is pointing to and communicating with AlarmPoint.21

Confirm the location of integration files.21

CONTROL-M/EM, CONTROL-M/Agent, and CONTROL-M/Server must all be installed and running.22

Check the CONTROL-M/EM configuration.22

7. Contact Us 23

8. Copyright 24

1. Introduction

Welcome to the AlarmPoint for BMC CONTROL-M integration. This document defines software requirements and describes installation, configuration, running select applications, and integration demonstrations for using BMC CONTROL-M with AlarmPoint. These integration notes are intended for administrators and other technical readers.

1.1 Summary

AlarmPoint is an interactive alerting application, designed to capture and enrich important events, to route those events to the right person on any communication device, and to give that person the ability to solve, escalate, or enlist others to resolve the events remotely.

AlarmPoint allows you to take critical business information and contact the right people via voice phone, SMS, two-way pagers, instant message, and email.

Through integration modules, the AlarmPoint System can become the voice and interface of an automation engine or intelligent application (the Management System, such as BMC CONTROL-M). When CONTROL-M detects an alert that requires attention, AlarmPoint places phone calls, sends pages, messages, or emails to the appropriate personnel, vendors or customers.

The AlarmPoint System is also persistent, escalating through multiple devices and personnel until someone accepts responsibility or resolves the alert. Once contacted, the AlarmPoint System gives the notified person instant two-way communication with BMC CONTROL-M. Responses are executed immediately on BMC CONTROL-M, enabling remote control over the alert.

You will need to modify the configuration to suit your particular business requirements and adjust it to suit your expected loads. Consider your expected volume of injected events and your server capacity when designing your own integration with AlarmPoint. It is recommended that you set up a demonstration system as described in this documentation to become familiar with the integration before you deploy it into a pre-production or production environment.

1.1.1 Benefits

With the AlarmPoint integration, the support staff assigned to the alert can be notified directly via telephone, email, pager, or other device. Information about the alert will be presented to the notification recipients and decisions can be made in real-time.

Once a response is selected on the recipient's remote device, AlarmPoint updates the alert in real-time. The benefit is that this process is immediate – significantly faster than the time required for support staff to handle the alert. In addition, the ability for recipients to update alerts remotely allows for events to be handled quickly and without the originator's direct involvement. During the process, every notification, response, and action is logged in AlarmPoint.

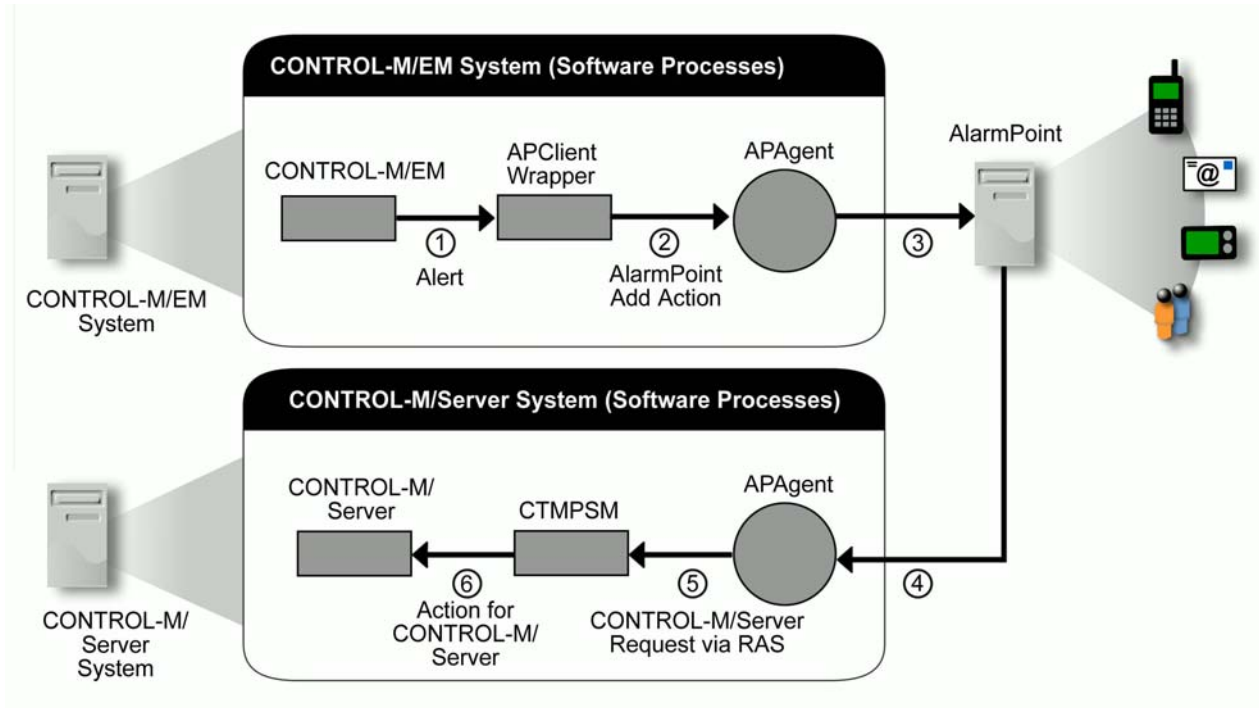
The AlarmPoint product also features a self-service web user interface to allow accurate assignment of responsible personnel for each job.

1.2 Architecture

This example integration describes how to integrate an AlarmPoint System with a CONTROL-M/EM deployment. The key components include:

- AlarmPoint Client binary (APClient.bin)
- AlarmPoint Agent Response Action Script per CONTROL-M/Server
- CONTROL-M/Server CTMPSM command line API

The following diagram provides a high-level overview of the major components for this integration:



The following steps (corresponding to the numbers in the diagram above) outline at a high level how an Alert triggers a notification, and how the response to that notification is resolved:

1. CONTROL-M/EM generates an Alert, which is passed via the AlarmPoint Client binary to AlarmPoint Client.
2. AlarmPoint Client submits the Alert details to AlarmPoint Agent.
3. AlarmPoint Agent sends a message to AlarmPoint, which causes the actual notification to be sent.
4. The person responds to the notification with a request to perform an action relating to the job that triggered the Alert.
5. The request is routed back to the AlarmPoint Agent on the CONTROL-M/Server that detected the job fault.
6. The AlarmPoint Agent executes the request action in a Response Action Script using CTMPSPM.

1.3 System Requirements

The following products must be installed and operating correctly prior to integration:

- BMC CONTROL-M/EM 6.1.03 or later
- BMC CONTROL-M/Server 6.1.03 or later
- BMC CONTROL-M/Agent 6.1.03 or later
- AlarmPoint 4.0 (patch 007 or later)
- AlarmPoint Java Client 4.0 (patch 001 or later)

Consult the respective user manuals for a detailed list of hardware and supporting software requirements.

1.4 Conventions & Terminology

This section describes how styles are used in the document, and provides a list of definitions.

1.4.1 Conventions

Some instructions appear in the following format: **MENU > OPTION**; for example, **File > Open** means click the **File** menu, and then click the **Open** menu option.

Words in **bold** typically reference text that appears on the screen.

Words in monospace font represent the following:

- text that must be typed into the computer
- directory and file names

Except where explicitly stated, the directory paths in this document are listed in Unix format. Windows users must substitute the given paths with the Windows equivalents. For example, on Unix systems, the AlarmPoint Java Client is typically installed in `/home/controlm/alarmpointsystems/APAgent`. On Windows systems, it is typically installed in the default directory, `C:\APAgent`.

1.4.2 Terminology

With respect to the AlarmPoint System, the following definitions apply:

Term	Meaning
AlarmPoint Admin	Administrative tool to control AlarmPoint Agent
AlarmPoint Agent	Communication layer between third-party applications (e.g., BMC Patrol Enterprise Manager) and AlarmPoint
AlarmPoint Bridge	AlarmPoint Agent uses this to interact with BMC CONTROL-M
AlarmPoint Client	The Management System uses this to communicate with the AlarmPoint Agent
AlarmPoint Application Server Node	The core AlarmPoint application, consisting of various components that process events and perform notifications.
AlarmPoint Java Client	Umbrella term for the AlarmPoint Admin, AlarmPoint Agent, AlarmPoint Bridge, and the AlarmPoint Client (both Java and native versions)
AlarmPoint Notification Server Node	Delivers notifications to a person in a variety of ways (pager, phone, e-mail, etc.)
AlarmPoint System	Umbrella term for all AlarmPoint software components
Management System	A generic term for BMC CONTROL-M
Alert	Item of interest that typically generates a notification for a User or Group
Device	Medium through which a User is contacted (e-mail, phone, pager, etc.)
User Guide	The AlarmPoint user guides and documentation

2. Installation

This section describes how to install the following software components:

- AlarmPoint System
- BMC CONTROL-M
- AlarmPoint – CONTROL-M Integration

2.1 AlarmPoint System

This integration requires the following AlarmPoint applications to be installed:

- AlarmPoint
- AlarmPoint Java Client

Note: *It is recommended that the AlarmPoint Java Client be the only AlarmPoint application installed on the CONTROL-M/Server.*

2.1.1 AlarmPoint Java Client

The AlarmPoint Java Client is the communications bridge between the CONTROL-M applications and the rest of the AlarmPoint System. It allows CONTROL-M to inform the AlarmPoint System when a problem occurs. It must be installed on the **CONTROL-M/EM** machine and on **each CONTROL-M/Server** computer.

Under Unix, the AlarmPoint Java Client must be installed in the `controlm` directory so that it can find and execute the `ctmpsm` command. To accomplish this under Windows, add the CONTROL-M directory (`C:\Program Files\BMC Software\CONTROL-M Agent\Default\EXE\`) to the **PATH** environment variable.

Note: *Under Unix, you must run the installer using the CONTROL-M/Server account, even if CONTROL-M/EM and CONTROL-M/Server are on the same machine.*

For instructions on installing the AlarmPoint Java Client, refer to the *AlarmPoint Java Client Guide*.

2.1.2 AlarmPoint

For installation instructions, refer to the *AlarmPoint Installation and Administration Guide*.

2.2 BMC CONTROL-M

This integration requires the following BMC CONTROL-M applications to be installed:

- CONTROL-M/Agent
- CONTROL-M/Server
- CONTROL-M/EM
- CONTROL-M/EM GUI (Desktop Clients)

Consult the *CONTROL-M Installation Guide* for instructions on how to install and configure these applications.

2.3 Integration

After the CONTROL-M and AlarmPoint systems have been installed, integration components must be placed on each system. The integration zip archive contains updates for AlarmPoint and the AlarmPoint Java Client, and files for the BMC CONTROL-M Server.

Extract the integration archive AP40-BMC-Control-M.zip.

The significant files and directories (in bold) of the archive are as follows:

```
|-- components
| |-- alarmpoint
| | |-- scripts
| | |   '-- BMC-Control-M-1.1.aps
| | |-- vox
| | |   '-- english (contains english phrases)
| |-- alarmpoint-java-client
| | |-- lib
| | |   '-- com.invoqsystems.fieldmap.jar
| | |   '-- BMC-CTRLM_cohost.xml
| | |   '-- BMC-CTRLM_enterprise.xml
| | |   '-- BMC-CTRLM_server.xml
| | |   '-- job-target.map
| |-- documentation
| |   '-- AP40-BMC-CONTROL-M.pdf
|-- release-notes.txt
```

2.3.1 Installing the integration components

To install the integration components, you need to update a JAR file in the Java Client for the fieldmap.

To update the JAR:

1. In the extracted integration archive, locate the following file:

```
/components/alarmpoint-java-client/lib/com.invoqsystems.fieldmap.jar
```

2. Copy the file to the following location within the AlarmPoint Java Client directory:

```
APAgent/jre/lib/ext
```

3. Configuration

3.1 Security

The AlarmPoint System and CONTROL-M/Server must have a user relationship established. This is done by mapping AlarmPoint users and groups to corresponding CONTROL-M/Server users. New integration installations do not have this mapping configured; user mappings must be done manually.

The possible job actions (`ctmkilljob`, `ctmpsm`, etc.) for each mapped user must be defined, and will be validated against the assigned CONTROL-M/Server user whenever an action is requested from the AlarmPoint System.

Use the `ctmsec` command to adjust the abilities per CONTROL-M/Server user. Consult the appropriate CONTROL-M documentation for details.

3.2 AlarmPoint

Configuring AlarmPoint requires four steps: importing the AlarmPoint script package, installing the Voice files, defining an Event Domain and setting up a User with a two-way pager.

3.2.1 Importing the AlarmPoint script package

This step requires the AlarmPoint Developer IDE. For installation instructions, refer to the *AlarmPoint Developer's Guide & Scripting Reference*.

To import the AlarmPoint Script Package:

1. Launch the IDE, and configure the database connection (refer to the AlarmPoint Developer IDE Help or the *AlarmPoint Developer's Guide & Scripting Reference* for details)
2. Click **Workspace > Import**.

Note: *Ensure that your workspace is empty before continuing.*

3. Select the `BMC-Control-M-1.1.aps` file extracted from the integration zip file into the following folder:
 - `AP3-BMC-CONTROLM\components\alarmpoint\scripts\`
4. In the File dialog box, click **OK**, and then click **OK** again.
5. Right-click the **BMC Control-M (Business)** folder.
6. In the Validation dialog box, select **Validate**, and then click **Close**.
7. Right-click the **BMC Control-M (Business)** folder, and then click **Check In**.
8. In the Check In dialog box, click **Create**.
9. In the Script Package dialog box, click **Remove**, and then click **Close**.
10. Close the IDE.

3.2.2 Install Voice Files

These files must be installed into an AlarmPoint deployment running a Voice Device Engine. For more information, refer to the *AlarmPoint Installation and Administration Guide*.

To install the voice files:

1. Copy all of the files in the AP3-BMC-CONTROL-M\components\alarmpoint\vox\english folder from the extracted integration zip file to the following node installs folder:

```
node\phone-engine\Datastore\domains\common\Recordings\<language>\Phrases
```

Note: *This integration provides only English voice files.*

3.2.3 Define an Event Domain

The AlarmPoint Webserver must be running to perform this portion of the integration.

To define an Event Domain:

1. Login to AlarmPoint as a Company Administrator, and click the **Developer** tab.
2. In the Developer menu on the left side of the screen, click **Event Domains**.
3. On the Event Domains page, click **Add New**.
4. Enter the following information into the form:
 - **Name:** ctrlm
 - **Description:** BMC Control-M Integration
 - **Script Package:** BMC Control-M
5. Click **Save**.
6. Log out of AlarmPoint.

Note: *It is strongly recommended that you use the Event Domain Name specified above. For the integration to be successful, the Event Domain name must match the Client ID of the AlarmPoint Java Client.*

3.2.4 Setting up a two-way Device

You can use any User or Group as a target for notifications, such as the default demonstration User named “Bob Smith”. Follow the steps below to ensure that this User exists and has a virtual two-way pager Device:

Note: *To perform this portion of the integration, the AlarmPoint webserver must be running.*

To set up a two-way Device:

1. Login to AlarmPoint as a Company Administrator, and click the **Users** tab.
2. On the Find Users page, click **S**.
3. In the list of returned Users, click **Smith, Bob**.
4. On the Details for Bob Smith page, in the Common Tasks pane, click **User Devices**.
5. Verify that a virtual pager device exists.
6. Click **Reorder**, and set the virtual pager to be the first Device in the list.
7. Click **Save**.

8. Log out of AlarmPoint.

Note: *If this user is missing, create a User with a virtual pager Device and use them as a target for notifications. For more information and instructions on how to perform these tasks, refer to the AlarmPoint User Guide.*

3.3 AlarmPoint Java Client

Once the AlarmPoint Java Client is installed, several steps must be taken to configure it for the integration:

3.3.1 Basic Configuration

Use the steps specific to your operating system to configure the AlarmPoint Java Client.

Unix

1. Determine the subdirectory to use for integration files (subsequently referred to as the integration directory).
2. Create a folder called `alarmpoint` in the CONTROL-M/EM user's directory; i.e.:
`/home/emuser/alarmpoint`
3. Copy the APClient executable (`APClient.bin`) from the AlarmPoint Agent's installation directory into the integration directory.
 - This allows the CONTROL-M/EM user to run the binary to submit messages into the AlarmPoint Agent. Ensure that the CONTROL-M/EM user can run `APClient.bin` within the integration directory. You may have to use a combination of `chmod 755` and `chown`.
4. Copy the `AP3-BMC-Control-M/components/alarmpoint-java-client/job-target.map` file from the extracted integration archive to the AlarmPoint Agent's installation directory.

Windows

1. Copy the `AP3-BMC-Control-M/components/alarmpoint-java-client/job-target.map` file from the extracted integration archive to the AlarmPoint Agent's installation directory.

3.3.2 Copy and Configure the Integration XML Configuration File

1. Decide which XML configuration file is appropriate for your CONTROL-M deployment:
 - CONTROL-M/Server: `BMC-CTRLM_server.xml`
 - CONTROL-M/EM: `BMC-CTRLM_enterprise.xml`
 - CONTROL-M/EM with CONTROL-M/Server: `BMC-CTRLM_cohost.xml`
2. Copy **only** the appropriate XML configuration file from the `AP3-BMC-Control-M/components/alarmpoint-java-client\` folder in the extracted integration archive to the AlarmPoint Agent's integrations directory:

Unix:

`/opt/alarmpointsystems/APAgent/etc/integrations`

Windows:

`C:\APAgent\etc\integrations`

3. If you are using the `BMC-CTRLM_server.xml` file, skip the remainder of these steps. Otherwise, open the `apagent.xml` configuration file in an XML editor.

4. Modify the following line:

```
if( !APDT_data_center.trim().equalsIgnoreCase( "ALARMPOINT" ) )
```

- Replace the word `ALARMPOINT` with the name of the gateway running on the CONTROL-M/Server computer. A gateway will be configured in a later section.

5. Modify the following line:

```
return fieldMap.getValue( fields, "bsmith" );
```

6. Replace `bsmith` with the User ID of the target for notifications you specified in section “Setting up a two-way Device” on page 7.
7. Save the file.

3.3.3 Edit APAgent.xml

By default, the AlarmPoint Agent’s configuration file (`APAgent.xml`) is located in the `C:\APAgent\etc` subdirectory.

1. Add or modify the `alarmpoint-agent` element in the `APAgent.xml` file to include an `id` attribute that matches the name of the CONTROL-M/Server data center. For example, if your Gateway is named `ALARMPOINT`, change the line as follows:

```
<alarmpoint-agent version="1.0" mode="enterprise" id="ALARMPOINT">
```

2. Verify that the `mode` attribute of the `alarmpoint-agent` element is set appropriately for your deployment.
 - AlarmPoint Enterprise deployments use a value of `enterprise`; AlarmPoint Server deployments use a value of `server`.
3. Add a reference to the XML file configured in the “Copy and Configure the Integration XML Configuration File” section:
 - Add a line near the end of the file similar to the following, replacing `FILENAME` with the configuration file chosen in the “Copy and Configure the Integration XML Configuration File” section:

```
<alarmpoint-agent-client id="ctrlm" filename="integrations/FILENAME" />
```

4. Save the file.
5. Restart the AlarmPoint Agent.

Note: *This integration depends on the data center name provided by CONTROL-M/EM. The name must be unique for all CONTROL-M/Server gateways. AlarmPoint routes request messages from an AlarmPoint (Notification) Server to the appropriate AlarmPoint Agent based on the gateway’s name.*

3.3.4 CONTROL-M/EM

The only configuration required for the CONTROL-M/EM application (with respect to the AlarmPoint Java Client) is to map job attributes to an AlarmPoint User or Group ID. Mapping job attributes to an AlarmPoint target requires modifying the `job-target.map` file in the AlarmPoint Java Client’s installation directory.

The following sections provide a brief summary followed by a detailed technical overview explaining how to populate the contents of the mapping file. The mappings required for the integration example are in the mapping file by default.

Note: The mapping file uses “bsmith” as the target User ID for all notifications. If you specified a different target for notifications in “Setting up a two-way Device” on page 7, replace all references to bsmith with the User ID of your notification target.

3.3.4.1 Mapping File Overview

The mapping file consists of comma-delimited fields that are matched against incoming event data to determine who to notify about each event. The fields are defined as follows:

Field	Description
Job name	Name of the CONTROL-M job that generated an event
Application	Name of the application for the CONTROL-M job
Group	Group associated with the CONTROL-M job
Target	AlarmPoint person or group ID that should be notified when a CONTROL-M event is generated

The four fields above must appear on a single line in the file. For example:

```
payroll, accounting, HR, operations group
```

3.3.4.2 Mapping File Rules and Restrictions

The mapping file uses Java regular expressions (regex) when matching fields. Consider the following examples of the wildcard (*) matching:

```
.*, accounting, HR, operations
.*, CRITICAL.*, HR, operations
netmon, 10.10.10.*, .*, network
```

Note: The comparisons are case-sensitive; e.g., “accounting” will not match “Accounting” or “ACCOUNTING”.

For a complete explanation of regex used by the mapping file, see the Java resource at the following URL:

```
http://java.sun.com/j2se/1.5.0/docs/api/java/util/regex/Pattern.html
```

3.3.4.3 Mapping File Implementation Details

The number of fields can be changed, but it must be consistent throughout the mapping file. For example, it is possible to use JOBNAME, APPLICATION, and GROUP for finding an AlarmPoint ID, without including the remaining details. However, the entire file must then be limited to four fields:

```
jobname,application,group,id
```

It is possible to include more fields:

```
jobname,application,group,severity,id
```

The names of the fields are not important, but their order must be consistent. Using this data map feature, the integration relies on the given criteria (I.e job, application, group). The following lines are in the default BMC-CTRLM_enterprise.xml (or BMC-CTRLM_cohost.xml, depending on your CONTROL-M deployment):

```
fields.add( jobName );  
fields.add( app );  
fields.add( group );
```

Adding severity as a field requires another line:

```
fields.add( severity );
```

There is no limit on the number of fields, but the mapping file must be updated accordingly.

3.4 BMC CONTROL-M System

Note: *The following sections are intended for use with BMC CONTROL-M version 6.301. Earlier versions may require slightly different workflow or control. Please refer to your BMC user documentation.*

Before configuring CONTROL-M, the following applications must be installed:

- CONTROL-M/EM
- CONTROL-M/Desktop
- Administration Facility

Note: *The **Machine Name**, when required, is case-sensitive.*

3.4.1 Communication Administration

3.4.1.1 Configure a Gateway

1. Open the **CONTROL-M Configuration Manager**.
2. Select **Components > New > CONTROL-M/Server and Gateway**.
3. Select **Define**.
4. The following are used for this integration:
 - Name: **ALARMPOINT**
 - ID: **INV**
 - Platform: **Distributed**
 - Version: **630**
5. Under **Communication**, enter the following information:
 - Protocol: **TCP**
 - Host: **name of the current host**
 - CONTROL-M/EM Port: **2370**
6. Under Gateway, click **New**, and accept the provided values.
7. Click **OK** to save the changes and exit.

3.4.2 Example Batch Job Installation

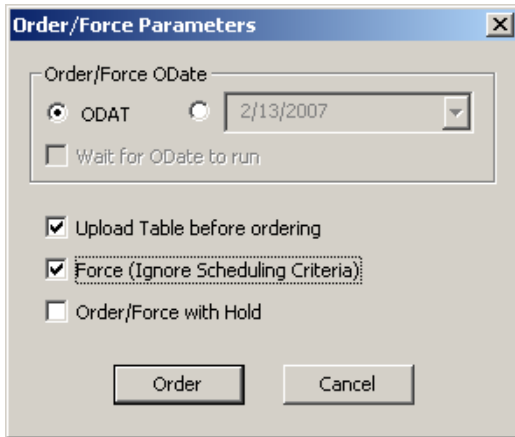
3.4.2.1 Create and Schedule a Job

1. Open the CONTROL-M Desktop Application.
2. To create a new job, click **Edit > New Job**.
3. Do one of the following:
 - In Windows, enter the form details as illustrated by the following figure:

The screenshot shows the 'Failed Job (UNIX/Windows/TANDEM Job)' configuration window. The title bar indicates 'DataCenter Version: <630>'. The menu bar includes 'Save', 'Save & Close', 'Close', 'Save & Order...', and 'Save as Template'. The toolbar contains icons for 'General', 'Scheduling', 'Execution', 'Conditions', 'Resources', 'Set', 'Steps', and 'PostProc'. The 'General' tab is selected. The form fields are as follows:

- * CONTROL-M: ALARMPOINT
- Job Type: OS
- * Job Name: Failed Job
- * Task Type: Command
- File Name:
- Path:
- Backup Lib:
- * Command: nonexistent.bat
- Hierarchy:
- * Table: WinSchedTbl
- * Application: WinAppl
- * Group: WinJobs
- * Owner: emuser
- * Author: emuser
- Doc File:
- Doc Path:
- Description:

- In Unix, in the **Command** text box, type a name for a shell script that does not exist, e.g., `nonexistent.sh`.
4. Click **Save & Order**, and then set the parameters as illustrated in the following figure:



Order/Force Parameters

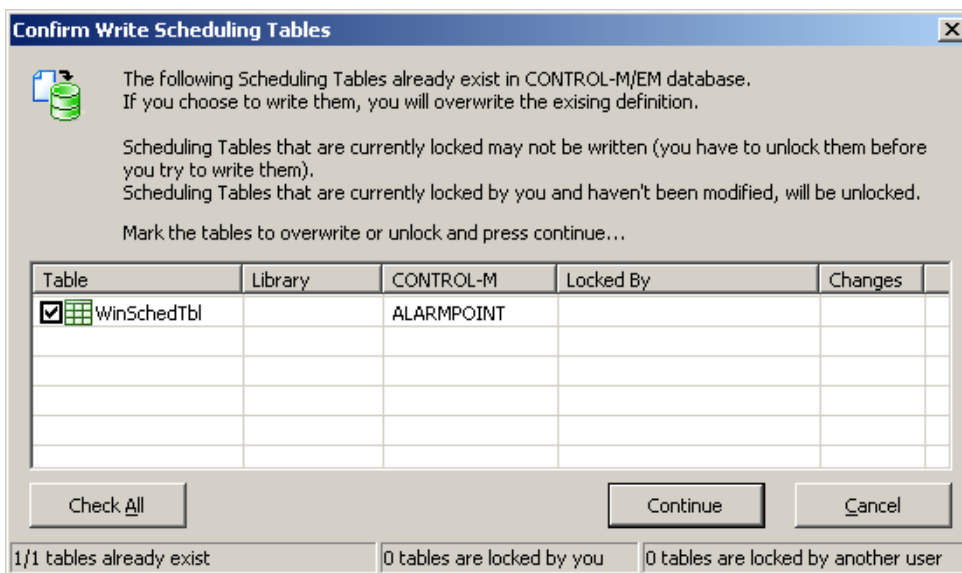
Order/Force ODate
☒ ODAT ☐ 2/13/2007
☐ Wait for ODate to run

☒ Upload Table before ordering
☒ Force (Ignore Scheduling Criteria)
☐ Order/Force with Hold

Order **Cancel**

5. Click **Order**.

- If the Scheduling Table you are using already exists, CONTROL-M displays the following dialog box:



Confirm Write Scheduling Tables

The following Scheduling Tables already exist in CONTROL-M/EM database.
 If you choose to write them, you will overwrite the existing definition.

Scheduling Tables that are currently locked may not be written (you have to unlock them before you try to write them).
 Scheduling Tables that are currently locked by you and haven't been modified, will be unlocked.

Mark the tables to overwrite or unlock and press continue...

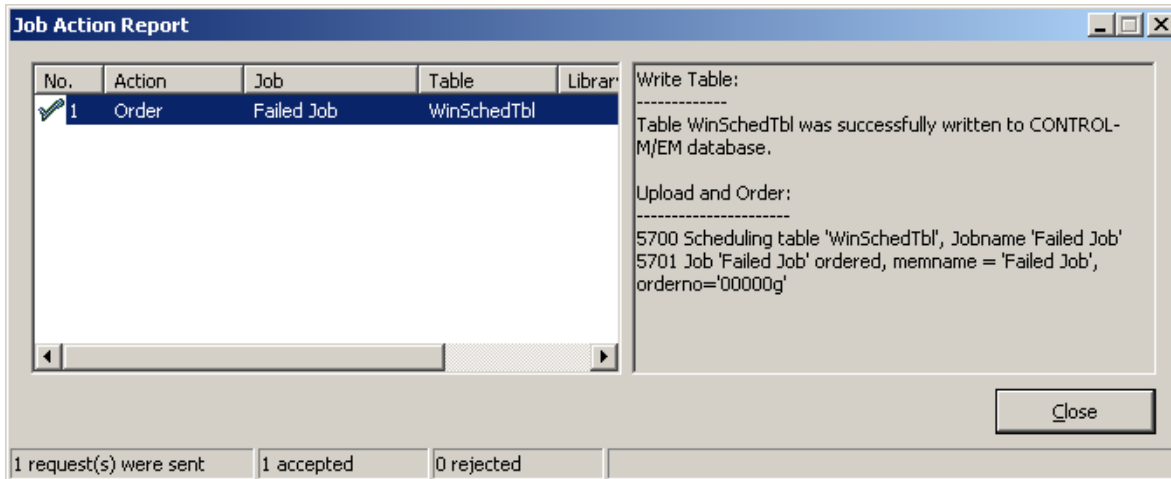
Table	Library	CONTROL-M	Locked By	Changes
<input checked="" type="checkbox"/> WinSchedTbl		ALARMPOINT		

Check All **Continue** **Cancel**

1/1 tables already exist 0 tables are locked by you 0 tables are locked by another user

6. Select the check box next to the scheduling table, and then click **Continue**.

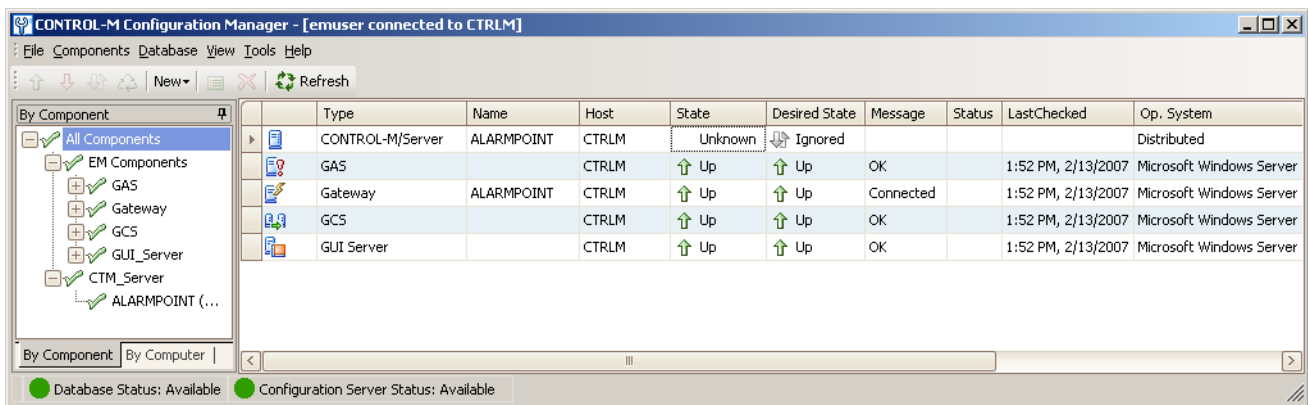
- If the job is scheduled successfully, CONTROL-M displays the Job Action Report dialog box:



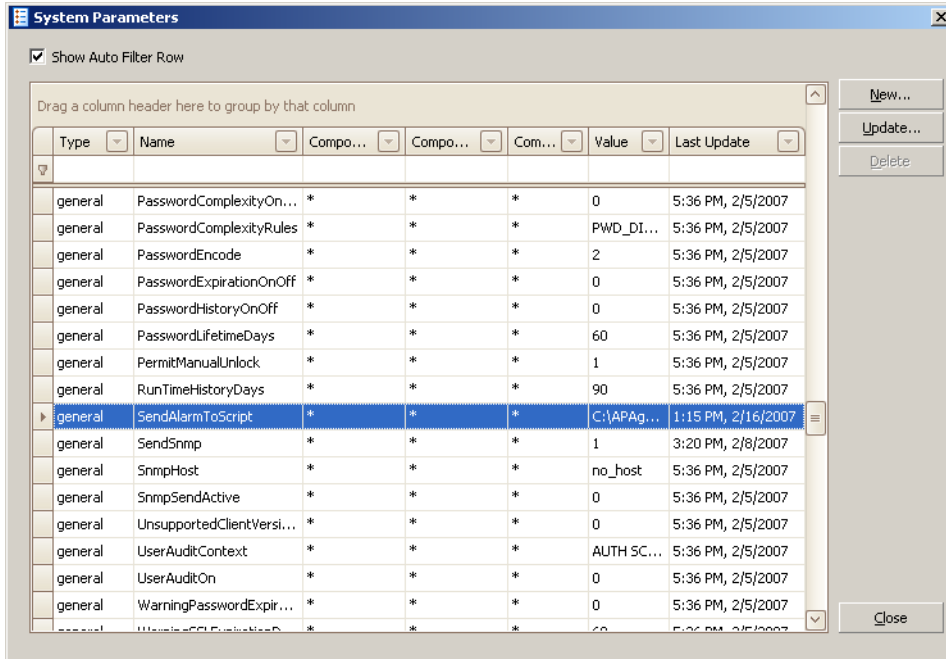
7. Exit the CONTROL-M Desktop Application.

3.4.2.2 Set System Parameters

1. Open the **Configuration Manager**:



2. Select **Tools > System Parameters**.
 - CONTROL-M/EM must be configured to run the APClient binary to send an Alert into the AlarmPoint System.
3. Scroll down and double-click **SendAlarmToScript**:



- In the **Value** text box, enter the path to `APClient.bin`.

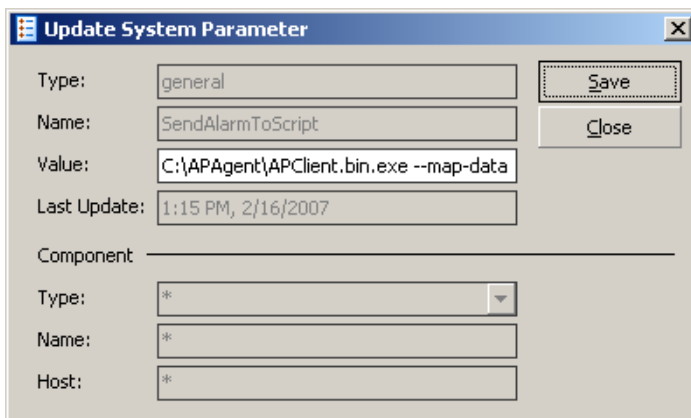
Unix:

```
/home/emuser/alarmpoint/APClient.bin --map-data ctrlm
```

Note: The `/home/emuser` value in the path should point to the *CONTROL-M/EM's* home directory. For example, in *CONTROL-M/EM* version 6.1.03, the default path may be `/home/em613`. Change the **SendAlarmToScript** value accordingly.

Windows:

```
C:\APAgent\APClient.bin.exe --map-data ctrlm
```



Note: In version 6.103 on Windows, the path portion of the command must be enclosed in double quotes, as shown in the following example:

```
"C:\APAgent\APClient.bin.exe" --map-data ctrlm
```

5. Click **Save**.
6. Double-click **SendSnmp** and change its **Value** to 1.
 - This value controls whether the alert is sent out via SNMP, to a script (or another application), or both. Possible values include:
 - **0** SNMP Trap
 - **1** Script
 - **2** SNMP Trap and Script
7. Click **Save**.
8. Click **Close** to close the **System Parameters** dialog box.
9. Restart the **Gateway** component from the **Administration Facility**:
 - Select the Gateway.
 - Set the **Desired State** to **Down** (click the down-arrow button).
 - Wait for the **Current State** to indicate **Down**.
 - Set the **Desired State** to **Up** (click the up-arrow button).
 - Wait for the **Current State** to indicate **Up**.

Note: *When a change is made to the **System Parameters**, the Gateway must be restarted.*

3.5 Software Component Validation

Depending on the Operating System, there are two ways to check the connectivity of the AlarmPoint Agent. Both examples presume a default installation.

- Unix: type the following from a shell prompt:

```
/home/controlm/alarmpointsystems/APAgent/APAdmin --get-status
```

- Windows: open a command prompt (**Start > Run > cmd > OK**), then type the following:

```
C:\APAgent\APAdmin --get-status
```

You should see that the connection is established. If not, there is a configuration or connectivity problem between the AlarmPoint Agent and AlarmPoint. Review the user manual for troubleshooting.

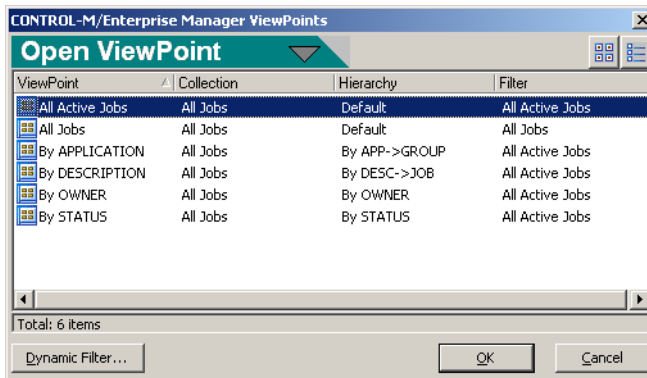
Note: *The recommended way to start the AlarmPoint Agent under Unix is by using the `alarmpoint-java-client` shell script. Under Windows, the AlarmPoint Java Client should be installed as a Service.*

4. Software Component Integration

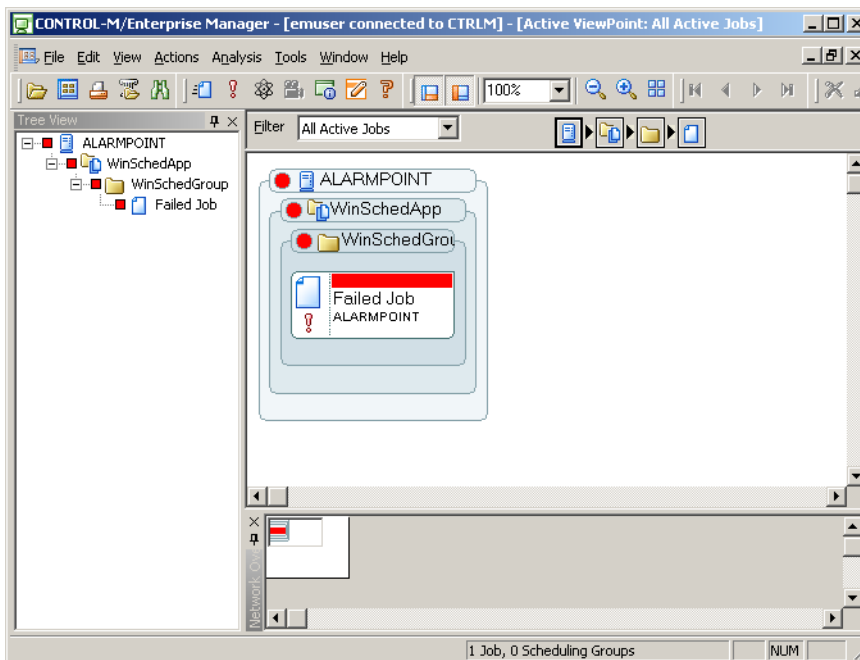
4.1 Trigger a Notification

The following steps demonstrate the process of generating a notification from a CONTROL-M/EM Alert:

1. Open **CONTROL-M/EM**:
2. Select **File > Open ViewPoint**.
3. Select **All Active Jobs**.



4. Click **OK**.
5. In the right pane, right-click **ALARMPPOINT** and select **Expand**. Repeat this process for **UnixAppl** (or **WinAppl** on Windows), and for **UnixJobs** (or **WinJobs**):



- CONTROL-M indicates that there was a problem with a job. There has not been an Alert sent into the AlarmPoint System because the job ran before CONTROL-M was configured to run the APClient binary.

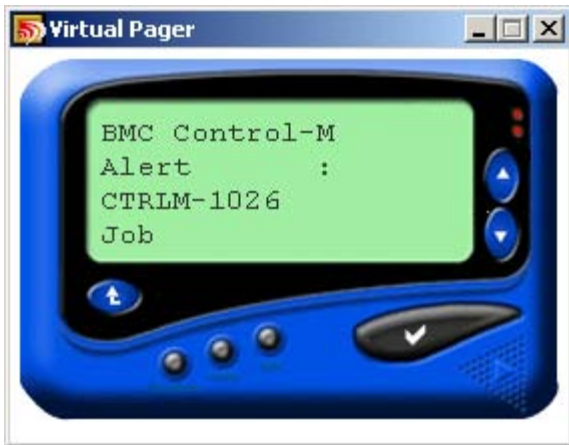
6. Right-click **failure.sh ALARMPPOINT** and click **Rerun**.

- CONTROL-M calls the APClient binary for the next Alert it generates. In turn, this will trigger a notification to the AlarmPoint (Notification) Server.

7. Click **Yes** to confirm.

4.2 Initiate a Notification Request

1. On the AlarmPoint (Notification) Server, the Virtual Two-Way pager device shows information about the CONTROL-M Alert:



2. To view the entire message, click the down-arrow button on the right side of the **Virtual Pager** device.
3. Click the check mark button, and then click **REPLY**.
4. Click **HOLD**.



There are several response options, all of which act on the job that triggered the notification. These include:

- **HOLD** – Pause the job
- **FREE** – Resume the job
- **RERUN** – Try running the job again
- **CONFIRM** – Allow processing to continue
- **FORCEOK** – Set the job status to OK
- **DONE** – Indicate that the situation has been handled

If you configure your target AlarmPoint User to receive **Virtual E-mail** notifications, you will see two more possible request actions:

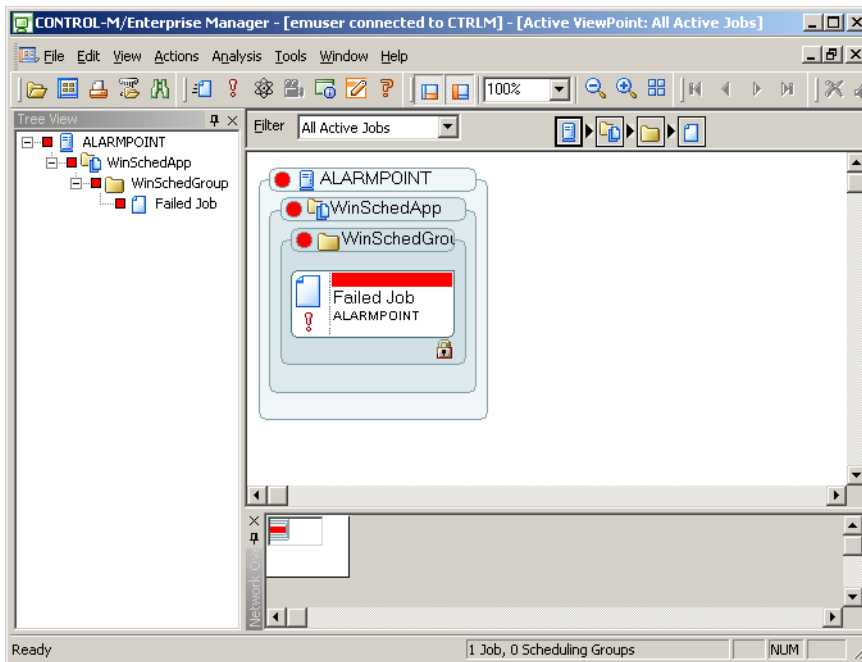
- **SYSOUT** – Request the information returned from a `ctmpsm LISTSYSOUT` command
- **LOG** – Request the logging information returned from the `ctmlog` command, for the given order number

The **SYSOUT** and **LOG** request options are available only from two-way e-mail notifications (because they return a significant amount of textual information). Consult the user manual for details on how to create AlarmPoint System accounts that can send and receive e-mail notifications.

Note: You must reply with **DONE** when finished interacting with the system to indicate that no further actions are required.

4.3 View Request Results

To view the results of the hold request, switch to **CONTROL-M/EM**. The `failure.sh` job now has a lock icon indicating the job is currently on hold:



5. Frequently Asked Questions

5.1 What does “java.io.IOException: Not enough space” mean?

This means the temporary directory has run out of disk space. To resolve this issue, increase the amount of free disk space under `/tmp` (or the location of the temporary directory). Under Windows, make sure the drives have enough free disk space.

5.2 Why are the logs sent by e-mail missing information?

Each element within each message has a limit of 2000 characters. This is constrained by the size of database columns in the AlarmPoint System.

5.3 What do I do when I have an incompatible version error?

This error sometimes occurs if the job skeleton you are using has a default CONTROL-M definition specifying an older version of CONTROL-M than you are using. To fix this problem, change the job skeleton's default CONTROL-M definition to one using your version of CONTROL-M.

5.4 How do I change a job skeleton's default CONTROL-M definition?

1. Open the CONTROL-M Desktop.
2. Click **Tools > Skeleton**.
3. Use the **Skeleton Name** drop-down list to select the sketon you want to modify.
4. Use the **CONTROL-M** drop-down list to specify the new CONTROL-M definition.
5. Clcik **OK**.

5.5 How do I change the version of a CONTROL-M definition?

1. Open the CONTROL-M Desktop.
2. Click **Edit > CONTROL-M Definitions**.
3. Select the ddefinition to update.
4. Click **Update**.
5. Use the drop-down list to change the version.
6. Clcik **OK**.

6. Troubleshooting

Consult the following checklist to help identify and resolve some common AlarmPoint - BMC CONTROL-M integration issues.

6.0.1 Verify that AlarmPoint is installed and running.

To verify:

1. Sign in to AlarmPoint as a Super Administrator.
2. On the Admin tab, click **Nodes and Device Engines**.
3. Ensure that all Nodes are active and running.

6.0.2 Verify that AlarmPoint can send notifications.

To verify:

1. Sign in to AlarmPoint.
2. Click the **Messaging** tab, and use the Quick Message form to send a test notification.

6.0.3 Verify that each AlarmPoint Java Client is pointing to and communicating with AlarmPoint.

To verify:

1. Open the `APAgent.xml` file located in the `etc` subdirectory where Java Client is installed and confirm the following:
 - The integration entry for `ctrlm` exists and points to the appropriate integration file depending on the CONTROL-M components installed as shown below:

```
<alarmpoint-agent-client id="ctrlm" filename=... />
```

- The gateway name matches the name in the integration file (see section 3.3.2.1 for details).
- The `address=` attribute contains either the hostname or IP of the machine where AlarmPoint is running, and that the port is 2004, as shown below:

```
<server type="primary" address="192.168.168.64" port="2004" />
```

- If using failover configuration, the "secondary" type points to the secondary AlarmPoint Server.
2. To verify that the AlarmPoint Java Client is connected to AlarmPoint (refer to section 3.5 for details) type the following into the command line:

```
APAdmin --get-status
```

6.0.4 Confirm the location of integration files.

The `job-target.map` file must be located in the `APAgent` install directory.

6.0.5 CONTROL-M/EM, CONTROL-M/Agent, and CONTROL-M/Server must all be installed and running.

- Verify that all required CONTROL-M/EM components are installed and running.
- Verify that the version for all components is 6.1.03 or greater.
- Verify that the directories containing the following commands are included in the system path:
 - `ctmpsm`
 - `ctmlog`
 - `ctmkilljob`

6.0.6 Check the CONTROL-M/EM configuration.

Ensure that CONTROL-M/EM has been configured as follows:

- There is a GATEWAY that matches the name specific in the integration file (e.g., "ALARMPOINT").
- `SendAlarmToScript` system parameter points to `APClient.bin`.
- `SendSNMP` system parameter is set to "1" (application).

7. Contact Us

You can access the AlarmPoint Systems Web Site at <http://www.alarmpoint.com>. From this site you can obtain information about the Company, the Products, Support and other helpful information. You may also access the Customer Support Site from the main web page. In this protected site you will find current product releases, helpful hints, patches, release notes, a helpful product knowledge base, trouble ticket submission areas and other helpful tools provided by AlarmPoint Systems, Inc.

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