

xMatters On-Demand

For HP Service Manager Incident Management



(x) matters

This manual provides information about xMatters. Every effort has been made to make it as complete and accurate as possible; however, the information it contains is subject to change without notice and does not represent a commitment on the part of xMatters. No part of this document may be reproduced by any means without the prior written consent of xMatters.

Wednesday, August 26, 2015

Copyright © 1994-2015. All rights reserved.

xMatters™, xMatters®, xMatters® Java Client, xMatters mobile access, xMatters® integration agent, xMatters lite, xMatters workgroup, xMatters enterprise, xMatters service provider, xMatters On-Demand, and xMatters® Notification Server are trademarks of xMatters, inc.

All other products and brand names are trademarks of their respective companies.

Contacting xMatters

You can visit the xMatters Web site at: <http://www.xmatters.com>

From this site, you can obtain information about the company, products, support, and other helpful tips. You can also visit the Customer Support Site from the main web page. In this protected area, you will find current product releases, patches, release notes, a product knowledge base, trouble ticket submission areas and other tools provided by xMatters, inc.

Corporate Headquarters

12647 Alcosta Blvd, Suite 425

San Ramon, CA 94583

Telephone: 925.226.0300

Facsimile: 925 226 0310

Client Assistance:

International: +1 925 226 0300 and press 2

US/CAN Toll Free: +1 877 XMATTRS (962.8877)

EMEA: +44 (0) 20 3427 6333

Australia/APJ Support: +61 2 8038 5048 opt 2

Customer Support Site: <http://support.xmatters.com>

This integration was designed and tested on an unmodified version of HP Service Manager Incident Management, and this document describes how to configure xMatters to integrate with the default installation. If you have customized or altered your instance of HP Service Manager, this integration may need to be modified for your deployment. Please note that these integration changes are not part of the services offered by xMatters Technical Support, but can be performed through xMatters's Professional Services department. For more information, contact your xMatters Sales representative.

Proprietary and Confidential © 2015 xMatters, inc

Table of Contents

xMatters On-Demand For HP Service Manager Incident Management	1
Chapter 1: Introduction to integrations	1
1.1.1 Information workflow	1
1.1.2 Integration architecture	1
1.2 System Requirements	3
1.3 Conventions and Terminology	3
1.3.1 Conventions	3
1.3.2 Terminology	3
Chapter 2: Installation and Configuration	5
2.4 Configuring xMatters	5
2.4.1 Installing voice files	5
2.4.2 Adding the web service and REST API users	6
2.4.3 Importing communication plan	7
2.4.4 Defining custom fields	8
2.4.5 Configuring users	8
2.4.6 Creating an admin group	9
2.4.7 Installing the integration service	9
2.4.8 Setting password files	11
2.4.9 Installing the synchronization configuration files	12
2.5 Configuring HP Service Manager	12
2.5.1 Importing xMatters tables, records, and web services	12
2.5.2 Modifying the HP Service Manager triggers	13
2.5.3 Modifying the AlarmPointConfig script	13
2.5.4 Adding capabilities to users	15
2.5.5 Updating the Incident Manager form	15
2.5.6 Add the syncContact call to the createUser 2 Wizard	16
2.5.7 Adding the syncContact call to the Process record	16
2.5.8 Enabling Resolve for web services	17
2.6 Configuring Synchronizations	17
2.6.1 Synchronization configuration file	17
2.6.2 Synchronization list file	23
2.7 Configuring the Sync Report form	23
2.7.1 Adding buttons and menus to the Sync Report form	23
Chapter 3: Integration Validation	25

3.1 Validating User and Group Synchronization	25
3.2 Triggering a notification	26
3.3 Responding to a notification	26
3.4 Viewing response results	29
Chapter 4: Optimizing and Extending the Integration	30
4.4 Configuring integrated properties	30
4.1 Adding new parameters	34
4.1.1 Adding new tokens to notification content	34
4.2 Response choices	34
4.2.1 Customizing the responses in the integration agent	35
4.2.2 Adding annotation messages	35
4.2.3 Responses for sync errors	35
4.3 Delivery Annotations	35
4.4 Adding custom trigger rules	36
4.5 Filtering and suppression	36
4.6 HP Service Manager logging	37
4.7 Uninstalling	37

Chapter 1: Introduction to integrations

xMatters On-Demand reduces incident response time by finding the right person to solve the problem when system outages require you to manage on-call schedules and escalations.

- **Reduce downtime:** create and automate critical incident processes to get the right people on the job.
- **Aggregate and consolidate alert views:** closed loop integration between xMatters and HP Service Manager provides a single view of all alerts, no matter how diverse and distributed your environment may be.
- **Engage resolution teams:** determine message recipients based on on-call schedules, including substitutions and holidays, specific skill sets, escalation priority, and more.
- **Avoid alert fatigue:** reduce the noise with targeted notifications; alerts go only to the people that need them.
- **Manage issues from anywhere:** full-featured mobile apps allow you to stay in control wherever you are.

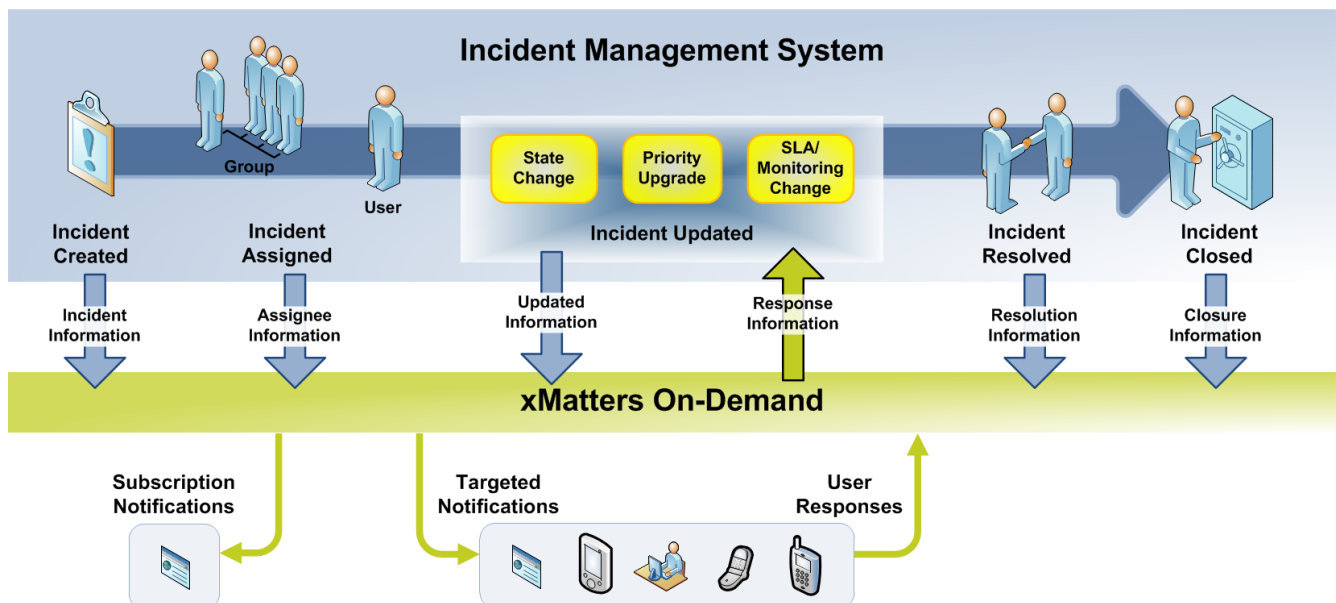
Through communication plans, xMatters can become the voice and interface of an automation engine or intelligent application. When a management system detects something that requires attention, xMatters places phone calls, sends messages, or emails the appropriate personnel, vendors, or customers.

xMatters is also persistent, escalating through multiple devices and personnel until someone accepts responsibility or resolves the problem. Once contacted, xMatters gives the notified person instant two-way communication with the management system. Responses are executed immediately on the original management system event, enabling remote updates and resolution.

During the process, every notification, response, and action is logged in xMatters. In addition, xMatters automatically annotates the original event with status information.

1.1.1 Information workflow

The following diagram illustrates a standard workflow in an incident management system, and how information from the management system is passed into xMatters:

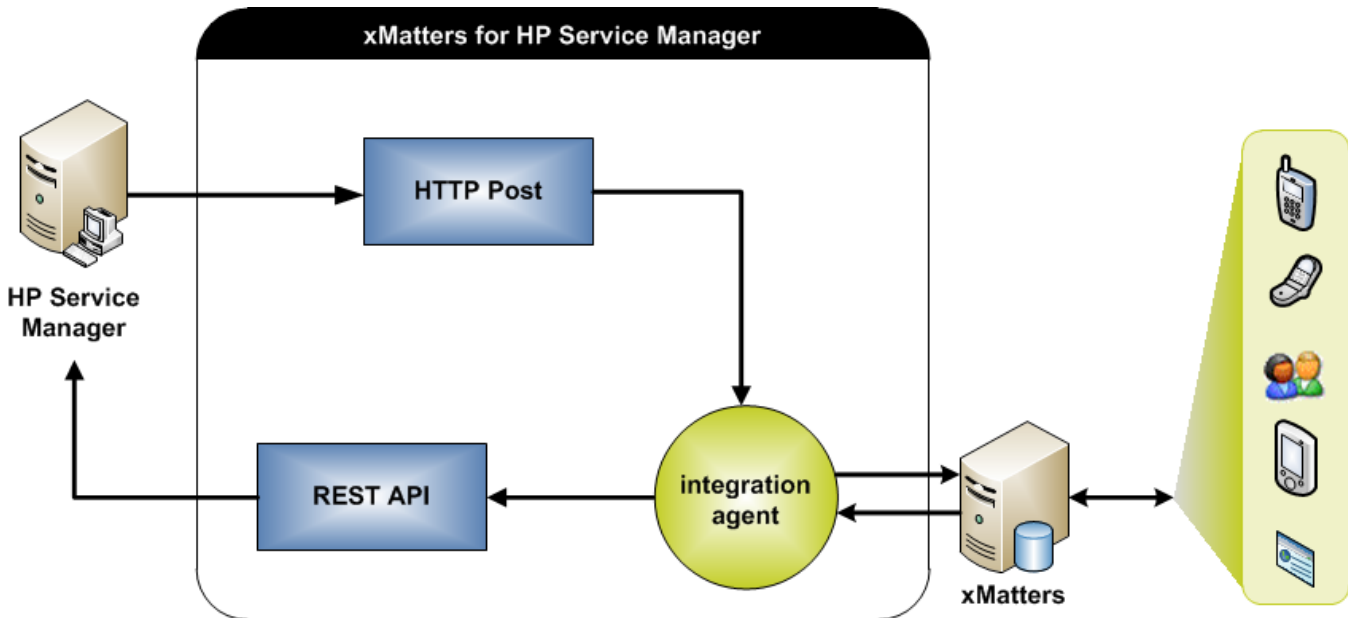


1.1.2 Integration architecture

The software components in this integration include:

- xMatters On-Demand
- HP Service Manager Incident Management
- xMatters integration agent

The following diagram illustrates the software processes used by this integration:



Whenever HP Service Manager detects a problem, it triggers the following steps (for a description of what will cause an event to be injected into xMatters, see "Event injection triggers", below):

1. HP Service Manager sends the event details to the xMatters integration agent via HTTP POST.
2. The integration agent forwards the event details to xMatters via the REST API.
3. The response returns to the integration agent.
4. The integration agent sends the response to HP Service Manager via web services.

User and group synchronization process

As illustrated in the diagram, event injection for this integration is handled via the xMatters integration agent. User and group synchronization, however, is handled via direct web service calls between xMatters and HP Service Manager. For the user and group synchronization process to work, the web services user must be properly configured, as described in "Adding the web service and REST API users" on page 6.

Event injection triggers

The following is a summary of the circumstances under which HP Service Manager will inject an event into xMatters for notification. Note that this is the default, out-of-box behavior, and may be configured differently for some deployments.

- An event will be injected into xMatters whenever a new record is created with a Priority of "Critical" or "High".
- An event will also be injected into xMatters whenever one of the following changes is made to an existing record:
 - the incident Priority is upgraded to "High" or "Critical" (Priority Upgrade);
 - the incident becomes a "hot" ticket (Priority Upgrade);
 - the incident status is changed back to "Open" (i.e., the ticket is reopened);
 - the "High" or "Critical" incident is resolved (Ticket Resolved); or
 - the "High" or "Critical" incident is assigned to another user (Assignment).

If the currently assigned user is the one making the changes, the event will still be injected, but the recipients will not be assigned. This allows subscribers to be informed, but the assignee will not be targeted for notification. This is also true if the incident is closed.

Note: *Clients can customize this behavior by modifying the appropriate sections in the AlarmPointEvent script in the HP Service Manager Client.*

With terminations, the normal approach is for an event to be terminated in xMatters if it is superseded by a new event for the same incident. Terminations can also occur via notification responses. For example if an incident is resolved from the notification, the notification is terminated and all users are delinked. (For more about responses and the effect on workflow, see "Response choices" on page 34.)

1.2 System Requirements

The following component versions are supported by this integration.

Integration Component	Version
xMatters On-Demand	5.5.80 (or later)
xMatters integration agent	5.1.5 (or later)
HP Service Manager Incident Management	9.3.4 OR 9.4

For more information about the supported operating systems for xMatters On-Demand, refer to the *xMatters installation and administration guide* and *xMatters integration agent guide*

1.3 Conventions and Terminology

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

1.3.1 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
- code samples

Directory paths

Except where explicitly stated, the directory paths in this document are listed in Windows format. Unix users must substitute the given paths with the Unix equivalents.

The xMatters integration agent installation folder is referred to throughout the documentation as <IAHOME>.

- On Windows systems, the default is `C:\Program Files\xmatters\integrationagent`
- On Unix systems, the default is `/opt/xmatters/integrationagent`

1.3.2 Terminology

The following terms are used through the xMatters documentation.

Documentation terminology

Term	Meaning
Event	<p>An <i>event</i> refers to any situation or item of interest detected by the management system, and which requires attention. Event is also used to refer to the incident or situation as it progresses through the xMatters system, from injection to notification to resolution. Each event must generate at least one alert or notification.</p> <p>Event can also be a generic term used to refer to an incident, change request, message, or other specific item within the management system. Whenever possible, these situations are referred to using the management system's preferred terminology, but can also collectively be called events.</p>
Management system	A management system is any sort of monitoring or managing software that watches for events, and with which xMatters can combine; i.e., a synonym for HP Service Manager.
Device	The medium through which a recipient is contacted by xMatters. This could be an email address, pager or phone number, or even the xMatters app on a smart phone.
User	In xMatters, people who can receive notifications are called "users". Each person in the xMatters system is defined by a set of user details, including ID number, user name, login password, and so on.
Group	Groups are used to collect and organize users and devices into notification schedules. For a complete explanation of Groups in xMatters, see the <i>xMatters user guide</i> .

Chapter 2: Installation and Configuration

This chapter provides information about installing the xMatters for HP Service Manager Incident Management integration. This chapter also contains complete instructions on how to configure xMatters, HP Service Manager, and the integration components.

2.4 Configuring xMatters

Before you can configure xMatters for the integration, you need to download and extract the integration components.

To install the integration components:

1. Extract the integration archive file (.zip or .tar.gz) to a location on the computer hosting the integration agent.

The following table describes some of the notable components in the integration archive file:

Integration components	
Component Name	Description
xMattersSyncConfig.xml	Contains all the groups, teams, users, devices and coverage value mappings used when synchronizing HP Service Manager operators and assignments with xMatters users and groups.
xMattersSyncList.xml	Contains a list of all of the HP Service Manager operators and assignments to either include or exclude from synchronization with xMatters.
xMattersForms.sc xMattersScriptLibrary.sc xMattersTriggers.sc xMattersUnload.sc xMattersWebService.sc	HP Service Manager unload files used to import the custom xMatters records and tables.
HPSMIM.zip	Contains a pre-formatted, exported communication plan and the necessary forms.
HPSMIMIntegratedProperties.zip	Contains a pre-formatted, sample communication plan and form designed for the integrated properties feature.
hpsmim.js hpsmim-events.js hpsmim-callbacks.js hpsmim-properties.js xmrestapi.js	Contains the JavaScript code to support the calls from HP Service Manager to the integration agent when injecting events into xMatters.
hpsmim.xml configuration.js	Contains the configuration information for the integration agent and integration.

2.4.1 Installing voice files

These files must be installed into any xMatters deployment using voice devices. For more information, refer to the *xMatters installation and administration guide*.

This integration provides a number of English voice files (.vox) customized for this integration and HP Service Manager. The files are located in the `/components/xmatters/vox` folder in the extracted integration archive.

To install the voice files:

1. Log in to xMatters as a company administrator.
2. Click the **Developer** tab.
3. In the Phone Recordings menu, click **Add Phone Recording**.
4. On the Add a Phone Recording page, specify the following settings:
 - **Recording Phrase:** A HP Service Manager Incident
 - **Event Domain:** applications
5. Click **Save**.
6. On the Edit Phone Recording Details page, click **Add New**.
7. On the Add Phone Recordings page, click **Choose File**.
8. Navigate to `\components\xmatters\vox`, and select `A HP Service Manager Incident.vox`.

Note: *The names of the recordings you type into the web user interface MUST match the names of the files; file names are case-sensitive, and spacing must be respected.*

9. Click **Open**.
10. Click **Save**.
11. Repeat steps 3-10 for each of the remaining `.vox` files in `\components\xmatters\vox`.
 - Ensure that all files are added to the applications event domain.

2.4.2 Adding the web service and REST API users

This integration requires a dedicated web service user and a separate, specially-configured user with permission to access the xMatters REST API.

Adding the web service user

This integration requires an xMatters web service user with permission to receive APXML in xMatters to receive user responses and notifications about event status changes. The following steps describe how to configure the default web service user, `IA_User`, for this integration.

To set up a web service user:

1. Log in to xMatters, click the **Users** tab, and then click **Find Web Service Users**.
2. On the Find Web Service Users page, click **All**.
3. In the returned search results, click **IA_User**.
 - If the `IA_User` does not exist, click the **Add New Web Service User** link to create a new web service user.
4. On the Details for `IA_User` page, confirm that the list of **Allowed Web Services** includes the following web services. (If any are missing, select them in the **Denied Web Services** list, and then click **Add**):
 - Query User
 - Receive APXML
 - Register Integration Agent
 - Submit APXML
5. Click **Save**.

Adding the REST API user

To send, delete, and query events, the integration requires a separate xMatters user with permissions to access the integration's forms. By default, users with the Full Access User role have these permissions. To change this (for example, to limit the

access to a specific user), you can modify form permissions.

To set up a REST API user:

1. In the xMatters web user interface, click the **Users** tab.
2. Click **Add User**.
3. On the Add a User page, specify the following settings:
 - **User ID:** Type a user ID for the REST API user; the default is "hpsmim". (This value will also be configured as INITIATOR in the `configuration.js` file.)
 - **First Name:** HP Service Manager
 - **Last Name:** Incident
4. Select **Full Access User** from the Available Roles list, and then click **Add**.
 - The role you select must match the role configured under Permissions in the integration form.
5. Click **Save**.
6. On the Change Web Login page, specify the following settings:
 - **Web Login ID:** Enter a web login ID for the REST API user; the default is "hpsmim". (This value will also be configured as INITIATOR in the `configuration.js` file.)
 - **New Password and Verify New Password:** Type the web login password (this password will also be encoded in the `configuration.js` file).
7. Click **Save**.

2.4.3 Importing communication plan

The integration package includes a .zip file that was created using the xMatters "Export Plan" feature; this greatly simplifies the configuration process by enabling you to create the integration communication plan, forms, event properties, and responses in a single step.

To import the integration communication plan:

1. Log in to xMatters as a company administrator, and click the **Developer** tab.
2. In the Manage Communication Plans menu, click **Import Plan**.
3. In the Import Communication Plan File dialog box, click **Choose File**, and then locate the `\components\xmatters\plan\HPSMIM.zip` file extracted from the integration archive.
4. Click **Open**, and then click **Import Plan**.
5. Click **Plan Disabled** to enable the plan.
6. In the **Edit** drop-down list, select **Forms**.
7. In the **Incident Assigned Alert** form, in the **Not Deployed** drop-down list, click **Create Event Web Service**.
 - After you create the web service, the drop-down list label will change to "Web Service Only".
8. In the **Web Service Only** drop-down list, click **Permissions**.
9. Enter the REST API user you created in "Adding the web service and REST API users" on page 6.
10. Click **Save Changes**.
11. Repeat steps 7-10 for the remaining forms.
12. When you have finished deploying and permissioning the forms, review the form properties to make sure the values match your HP Service Manager configuration.

Accessing web service URLs

To get the web service URL for a form, in the **Web Service Only** drop-down list, click **Access Web Service URL**. Copy the highlighted URL at the top of the dialog box.

Note: *The Access Web Service URL option may appear twice in the drop-down menu. Ensure that you click the option just below Create Event Web Service.*

Specifying a default recipient

Most events generated by this integration are designed to be subscription-only, meaning the recipients for each event are not specified in the event details. To ensure that the system does not attempt to generate any events without recipients, you should specify a default recipient for each form. This recipient will always be notified, even if your subscriptions do not target anyone.

To add a recipient, open each form's Layout tab and add at least one recipient (a user with a valid, active device, or a non-empty group) to the Recipients section.

Note: *The Error Alert and Sync Error Alert forms do not require default recipients.*

2.4.4 Defining custom fields

This integration uses custom fields defined in xMatters to obtain authentication credentials for submitting notification responses and annotations to HP Service Manager. These custom fields enable the response option list to be displayed on notifications.

By default, the custom fields are “HP SM Login” and “HP SM Password”; it is strongly recommended that you use these default field names.

Note: *If you have already installed the HP Service Manager Change Management integration, you do not need to perform this step.*

To define the custom fields:

1. In xMatters, click the **Admin** tab, and then, in the Administration menu on the left side of the screen, click **Custom Fields**.
2. Click **Add New**, and then enter the following information into the form:
 - **Field Name:** HP SM Login
 - **Type:** Text
3. Click **Save**.
4. Click **Add New**, and then enter the following information into the form:
 - **Field Name:** HP SM Password
 - **Type:** Password
5. Click **Save**.

Note: *For more information about custom fields, see the xMatters installation and administration guide.*

2.4.5 Configuring users

Each xMatters user that will be notified and respond to notifications must be configured to allow xMatters to communicate with HP Service Manager as that user. Each user must also be configured in HP Service Manager, as described in "Adding capabilities to users" on page 15.

Note: *If you have already installed the HP Service Manager Change Management integration, you do not need to perform this step.*

To configure a user:

1. In xMatters, click the **Users** tab.
2. Use the Find Users page to locate the user you want to configure and view their details.
3. In the Common Tasks pane, click **User Devices**.
4. Verify that an appropriate device exists and that it is enabled.
5. Click **Save**.

2.4.6 Creating an admin group

If a synchronization error occurs and the `send_sync_error_notification` configuration variable is set to true in the AlarmPointConfig script, then a notification is sent out to the recipient defined in the `default_xmatters_admin_group` variable in the AlarmPointConfig script. The default value is set to "companyadmin".

- If you do not want notifications to be sent out due to synchronization errors, set the `send_sync_error_notification` variable in the AlarmPointConfig script to *false*.

To configure the HP Service Manager admin group, click the Groups tab in xMatters, and create a new group named SM Admin, with at least one user as a team member to receive notifications. Update the `default_xmatters_admin_group` variable in the AlarmPointConfig script with the name of the new group.

Note that if you have already installed the HP Service Manager Change Management integration, you do not need to do this step.

Note: *For more information about creating groups and teams, see the xMatters user guide.*

2.4.7 Installing the integration service

To install the integration service, you must perform the following steps:

- Copy the folder containing the integration components into the integration agent; this process is similar to patching the application, where instead of copying files and folders one by one, you copy the contents of a single folder directly into the integration agent folder (<IAHOME>). The folder structure is identical to the existing integration agent installation, so copying the folder's contents automatically installs the required files to their appropriate locations. Copying these files will not overwrite any existing integrations.
- Modify the integration agent's IAConfig.xml file to include the path for the new integration service.
- Modify the variables in the configuration.js files associated with the integration services.

If you have more than one integration agent providing the HP Service Manager service, repeat the following steps for each one.

Note: *If you have already installed an existing integration, ensure that you back up the deduplicator-filter.xml file (if one exists) in the <IAHOME>\conf folder before you install this integration.*

To install the integration service:

1. Copy all of the contents of the \components\integration-agent folder from the extracted integration archive to the <IAHOME> folder.
2. If you backed up an existing deduplicator file as indicated in the note above, merge the contents of your backup with the newly installed <IAHOME>\conf\deduplicator-filter.xml file: open both files in a text editor, and then copy the <filter> node from the backup file into the new deduplicator file after the last </filter> node. Save and close the file.
3. Open the IAConfig.xml file found in <IAHOME>\conf and add the following line to the "service-configs" section:


```
<path>hpsmim-4-1/hpsmim.xml</path>
```

4. Open the `configuration.js` file (now located in `<IAHOME>\integration\services\hpsmim-4-1\` folder, and set the values for the following variables:

Variable	Description
HPSM_URL	The URL of the HP Service Manager web service.
HPSM_USER_NAME	The user name of the HP Service Manager web service user used to access the web services.
HPSM_PASSWORD_FILE	Location of the file containing the web service user's password; for instructions on how to set the password for this user, see "Installing the integration service", below.
DEDuplicATOR_FILTER	The name of the filter used to suppress duplicate notifications for this integration. For more information, see "Filtering and suppression" on page 36.
DELETE_EXISTING_EVENTS	Sends a "delete" prior to creating the new event, which will clear any existing events for the incident ID.
ANNOTATE_DELIVERY	Updates incidents in HP Service Manager with xMatters notification delivery status.
FORMS	<p>Maps each of the ticket types used in HP Service Manager to the corresponding communication plan form's web service URL.</p> <p>Note: You will need a web service URL for each form used in the integration. For more information, see "Accessing web service URLs" on page 7.</p>
ERROR_FORM	Specifies the web service URL of the Error Alerts form, which is used to create events in xMatters for any errors encountered while processing a user's response.
INITIATOR	Specifies the web login ID of a separate xMatters user for authenticating REST API requests. The user (or its role) must have permission to access the integration's forms via the REST API. For more information, see "Adding the web service and REST API users" on page 6.
PASSWORD	<p>Specifies the location of the file containing the password of the xMatters initiator user.</p> <p>Note: This file must be created using the IAPassword utility as explained in "Setting password files", below.</p>
ENFORCE_CUSTOM_FIELDS	<p>Specifies whether to enforce the use of custom fields:</p> <ul style="list-style-type: none"> • If <i>true</i>, allow replies only if a user's custom fields are set. If a user does not have the custom fields set, targeted notifications will have no response options, and user's responses to group notifications will not be processed. • If <i>false</i>, and a user's custom fields are not set, the default HP Service Manager credentials will be used to process the response. <p>The default is <i>false</i>.</p> <p>For more information about setting custom fields, see "Defining custom fields" on page 8.</p>

Variable	Description
HPSM_LOGIN_CUSTOM_FIELD	Specifies the name of the custom field that stores the user name for each user accessing HP Service Manager. The default is HP SM Login.
HPSM_PASSWORD_CUSTOM_FIELD	Specifies the name of the custom field that stores the password for each user accessing HP Service Manager. The default is HP SM Password.
USE_DEFAULT_CREDENTIALS	<p>Specifies which credentials to use when processing responses:</p> <p>If <i>true</i>, uses the user's custom credentials (the contents of the HP SM Login and HP SM Password fields).</p> <p>If <i>false</i>, uses the default HP Service Manager credentials provided in the integration agent configuration.</p> <p>The default is <i>false</i>.</p>
INTEGRATED_PROPERTIES	Specifies the mapping of properties returned by the HP Service Manager web service to the integrated properties in xMatters.

5. Restart the integration agent.

- On Windows, the integration agent runs as a Windows Service; on Linux, it runs as a daemon.

2.4.8 Setting password files

This integration includes encrypted files, located in the <IAHOMES>\conf folder, that stores the passwords for the web services user required for the management system and the REST API user required by the xMatters REST API. You will need to update the files with the correct password for the HPSM_USER_NAME and INITIATOR variables specified in the hpsmim-4-1\configuration.js file.

Password file names:

- hpsmim.pwd stores the password for the HPSM_USER_NAME user used by the hpsmim-4-1 integration service.
- initiatorpasswd stores the password for the INITIATOR variable, or xMatters REST API user.

If you change the name of these files, you must also update the configuration.js file to point to the correct password files.

To specify a web service user password:

1. Open a command prompt, and then navigate to <IAHOMES>\bin.
2. Run the following command, where <new_password> is the password for the web services user specified in the configuration.js file, <old_password> is the existing password (the default value for a newly installed integration is "password"), and <filename> is the name of the password file (hpsmim.pwd).

```
iapassword.bat --new <new_password> --old <old_password> --file conf/<filename>.pwd
```

To configure the xMatters REST API user password:

1. Open a command prompt, and then navigate to <IAHOMES>\bin.
2. Run the following command, where <new_password> is the password for the INITIATOR user specified in the configuration.js file, and <old_password> is the existing password (the default value for a newly installed integration is "password"):

```
iapassword.bat --new <new_password> --old <old_password> --file conf/.initiatorpasswd
```

2.4.9 Installing the synchronization configuration files

The `xMattersSyncConfig.xml` and `xMattersSyncList.xml` files contain the configuration information for synchronizing users, groups, devices and coverages from HP Service Manager into xMatters.

Note that the synchronization process and all its files are identical for both the HP Service Manager Incident Management and the HP Service Manager Change Management integrations; if you have already installed the HP Service Manager Change Management integration (version 4.1), you can skip this step.

To install the synchronization configuration files:

Copy the files in the `\components\servicemanager\config\` folder from the extracted integration archive to `<SMHOME>`.

Note: *If these files are installed to a different location, you must modify the `AlarmPointConfig` script library within HP Service Manager.*

2.5 Configuring HP Service Manager

Configuring HP Service Manager to combine with xMatters requires the following steps:

- Import the xMatters tables and records.
- Modify the HP Service Manager triggers.
- Modify the `AlarmPointConfig` script.
- Add the SOAP API and xMatters capabilities to HP Service Manager User for xMatters web service calls.
- Update the `IM.template.update` and `IM.update.incident` forms to allow web service calls to update incidents.
- Expose the `problem.type` and `product.type` tables for web service calls.
- Remove the invalid data from HP Service Manager categories.
- Add the `syncContact` call to the `createUser 2 Wizard`.
- Enable Resolve for Web Services.

2.5.1 Importing xMatters tables, records, and web services

The xMatters tables, records, and web services are used to inject change requests to xMatters for notification, and required by the HP Service Manager database for the integration.

The `.sc` files described in this section are shared between both HP Service Manager integrations; if you have already installed the HP Service Manager Change Management integration (version 4.1), you should skip this step, unless you removed the Incident Management triggers while installing the Change Management integration. If so, use the following steps to import the `xMattersTriggers.sc` file.

To import the tables, records, and web services:

1. Log in to the HP Service Manager Client Console.
2. Open the Administration perspective.
3. In the System Navigator, open the **Tailoring** folder, and then double-click the **Database Manager** object.
4. In the drop-down menu in the upper-right corner of the main object window, select **Import/Load**.
5. Click the folder icon beside the **File Name** field.
6. Select the first `.sc` file in the `\components\servicemanager\imports\` directory, in the extracted integration archive.
7. Click **Open**.
8. Click **Load FG**.

Repeat the above steps for each of the remaining `.sc` files in the imports directory.

Service Manager Unload scripts

This integration includes a set of HP Service Manager unload scripts intended to help with the maintenance of the integration. The unload scripts are:

- **AlarmPoint Forms:** This script unloads all the capability words, dbdict definitions, displayoptions, displayscreens, formats, globallists, menus and scripts associated with the integration.
- **AlarmPoint Integration:** This unload script is a combination of the Forms, ScriptLibrary, Triggers, Unload and Web Services unload scripts.
- **AlarmPoint Purge:** This unload script is similar to Integration, but instead of an unload this script performs a purge
- **AlarmPoint ScriptLibrary:** This unload script unloads the xMatters Java Scripts found in Script Library
- **AlarmPoint Triggers:** This unload script unloads the xMatters triggers associated with the integration.
- **AlarmPoint Unload:** This unload script unloads the unload scripts.
- **AlarmPoint Web Services:** This unload script unloads the External Access Definitions needed as part of the integration. Note that this does not unload a comprehensive list of the External Access Definitions that are required; it is an unload of the definitions which are unique to the integration and created to support the integration. Definitions such as `xMIncidentManagement`, which are updated to support the integration, must be managed manually.

2.5.2 Modifying the HP Service Manager triggers

Importing the `xMattersTriggers.sc` file loads all of the triggers for both of the xMatters for HP Service Manager integrations. If you want only the HP Service Manager Incident Management integration (i.e., you are not installing the HP Service Manager Change Management integration), you should delete the triggers specific to the other integration.

To delete the triggers:

1. In the HP Service Manager Database Manager's **Form** field, type `triggers`, and then press **Enter**.
2. In the **Trigger Name** field, type `alarmpoint` and then press **Enter**.
3. Locate and delete the following triggers:
 - `alarmpoint.after.add.change`
 - `alarmpoint.after.update.change`

2.5.3 Modifying the AlarmPointConfig script

The `AlarmPointConfig` script contains configuration information for web services, data synchronization, and other parameters as described in the table below. This section describes how to modify the configuration script to allow HP Service Manager to inject incidents to xMatters through web services.

Note: *The configuration files described in this section are shared between both HP Service Manager integrations; if you have already installed the HP Service Manager Change Management integration (version 4.1), you can skip this step.*

To modify the AlarmPointConfig script:

1. In HP Service Manager System Navigator, open the **Tailoring** folder, and then double-click the **Script Library** object.
2. In the **Name** field type `AlarmPointConfig`, click **Search**.
3. Modify the variables in the following table to suit the configuration of your integration.
4. Click **Save**, **Compile**, and then **Execute**.
 - If HP Service Manager returns any errors after you click **Compile**, ensure that you have updated the file correctly.

AlarmPointConfig script variables

Variable Name	Value
web_service_url	The URL of the xMatters web service; for example: <code>"http://localhost:8888/api/services/AlarmPointWebService";</code>
web_service_user	The user name of the xMatters web service user (as configured in "Adding the web service and REST API users" on page 6). Best practices suggest that the user name be related to the purpose; e.g., "hpsm-xmwsu".
web_service_password	The password of the xMatters web service user.
xmatters_servicemanager_im_domain	The name of the xMatters event domain and integration service for Incident Manager notifications; e.g., "applications\hpsmim-4-1".
default_xmatters_admin_group	The target name of the recipient (group or user) in xMatters where synchronization error notifications are sent. Note: If a group has a synchronization error and that group has a supervisor, the group supervisor will be notified instead of this recipient.
send_sync_error_notifications	If <i>true</i> , sends notifications to the default administration group created in "Creating an admin group" on page 9 (or the group supervisor) when a record fails to synchronize with xMatters.
xmatters_servicemanager_sync_domain	The xMatters event domain for Service Manager. The value initializes the variable using an existing variable value, and should not include quotes. Note: If you are installing ONLY the HP Service Manager Change Management integration, change the variable name to: <code>xmatters_servicemanager_cm_domain</code>
sm_home	The location of the HP Service Manager installation; for example: <code>"C:\Program Files (x86)\HP\Service Manager 9.30\Server\"</code>
sm_user	The HP Service Manager user used by the integration agent to update tickets in HP Service Manager; should match the HPSM_USER_NAME configured in the <code>configuration.js</code> file as described in "Installing the integration service" on page 9.
config_file	The location of the <code>xMattersSyncConfig.xml</code> ; for example: <code>sm_home + "xMattersSyncConfig.xml"</code>
synclist_file	The location of the <code>xMattersSyncList.xml</code> ; for example: <code>sm_home + "xMattersSyncList.xml"</code>
ia_url	The URL of the integration agent HTTP listener; for example, <code>http://localhost:2010/agent</code> Note: If the integration agent is installed on the same computer as HP Service Manager, you do not need to modify this parameter.
xmatters_company	Name of the company within xMatters; the default value is "Default Company".

Variable Name	Value
sync_voice	If true, voice devices will be synchronized; the default is true.
detailedSyncLogging	If true, displays filtering information when performing a synchronization; default is true.
detailEventLogging	If true, displays the APXML being sent to xMatters; default is false.
sync_cm3groups	If true, synchronize HP Service Manager Change groups when performing a synchronization; default is <i>true</i> .
sync_assignmentGroups	If true, synchronize HP Service Manager Assignment groups; default is <i>true</i> .
assignmentGroupSuffix	Specifies the string to add to the end of HP Service Manager Assignment group names when synchronizing. Note: This suffix prevents possible name collisions between Assignment and Change groups, which can have the same name in HP Service Manager, but must have unique names in xMatters.
changeGroupSuffix	Specifies the string to add to the end of HP Service Manager Change group names when synchronizing. (See note above for more information)

2.5.4 Adding capabilities to users

The integration requires all users who are going to respond to notifications through xMatters to have both the "SOAP API" and "AlarmPoint" capabilities in addition to the appropriate xMatters configuration as described in "Configuring users" on page 8. These users can update and annotate HP Service Manager incidents from xMatters through web service calls.

To add the required capabilities to a user:

1. In the HP Service Manager System Navigator pane, expand the **System Administration > Ongoing Maintenance** folders, and then double-click the **Operators** item.
2. In the **Login Name** field, type the login name of the user to whom you want to give response capabilities, and then click **Search**.
 - The default configuration of the xMatters Action Scripts uses the default HP Service Manager user "falcon" to make web service calls; if you want to use a different user, you must update the Action Scripts accordingly. For more information, see "Configuration Variable Reference" on page 54.
3. Select the **Startup** tab.
4. Under **Execute Capabilities**, if not already listed, add **SOAP API** and **AlarmPoint**.
5. Click **Save**.

xMatters may now use web service calls to connect to this HP Service Manager user.

2.5.5 Updating the Incident Manager form

The IM.update.incident form must be modified to allow xMatters web service calls to update incidents.

To modify the form:

1. In HP Service Manager System Navigator, open the **Tailoring** folder, and then double-click the **Format Control** object.
2. In the **Name** field type `IM.update.incident`, and then click **Search**.
3. Click **Subroutines**.

4. Right-click on the page, and select **Show Expanded Form**.
5. Scroll down to the section with an Application Name of **script.execute**.
6. Modify the **Update** field to contain the following:


```
problem.status in $file="Rejected" and gui()=true
```
7. Click **Save**.

2.5.6 Add the syncContact call to the createUser 2 Wizard

The AlarmPointUser.syncContact call must be added to the createUser 2 Wizard to enable synchronization of users upon their creation.

Note that while HP Service Manager's User Quick Add Utility has space for both first and last names, the xMatters synchronization parses the first word (up to the first space) within the Full Name field as the first name, and adds any remaining words to the last name. For example, if a user was added in HP Service Manager with a first name of "One Two" and a last name of "Three Four", xMatters would parse the entry as first name "One" and last name "Two Three Four".

Note: *If you have already installed the HP Service Manager Change Management integration, you do not need to perform this step.*

To add the syncContact call:

1. In the HP Service Manager System Navigator pane, in the **Tailoring** folder, double-click **Wizards**.
2. In the **Wizard Name** field, type `createUser 2` (case sensitive), and then click **Search**.
3. Click the **Actions** tab, and then click the **Javascript** tab.
4. Add the following line to the end of the Javascript:

```
system.library.AlarmPointUser.syncContact (vars.$contactname);
```

5. Click **Save**.

Now when a user is created in HP Service Manager using the createUser 2 Wizard, they will be automatically synchronized with xMatters.

Note that in HP Service Manager, Login IDs are case sensitive; for example, "FALCON" and "falcon" represent two separate users. In xMatters, User IDs (the equivalent to Login IDs in HP Service Manager) are case insensitive: xMatters would not recognize "FALCON" and "falcon" as belonging to different Users.

2.5.7 Adding the syncContact call to the Process record

For the contact.do.save call to properly synchronize user information with xMatters, the AlarmPointUser.syncUser call must also be added to the Process record.

Note: *If you have already installed the HP Service Manager Change Management integration, you do not need to perform this step.*

To add the syncContact call:

1. In the HP Service Manager System Navigator pane, click **Tailoring > Database Manager**.
2. In the **Table** field, type `Process`, and then click the **Search** button.
3. On the Process Definition form, in the **Process Name** field, type `contacts.do.save`, and then click the **Search** button.
4. Click the **Final JavaScript** tab.
5. Add the following line to the JavaScript:

```
system.library.AlarmPointUser.syncUser (record, oldrecord);
```

6. Click **Save**.

2.5.8 Enabling Resolve for web services

You must modify the environment to allow Resolve to work with web services.

To enable Resolve for web services:

1. In HP Service Manager, expand the **Incident Management > Administration** folders, and then double-click **Environment**.
2. In the Incident Management Environment details, select the **Use Resolved Status** check box.
3. Save your changes, and log out of HP Service Manager.

2.6 Configuring Synchronizations

The xMatters for HP Service Manager Incident Management integration supports one-way synchronization of groups (both assignment and change groups in HP Service Manager), teams, users, devices and coverages from HP Service Manager into xMatters. To enable synchronization and customize it to your business behavior, two configuration files are provided:

`xMattersSyncConfig.xml` and `xMattersSyncList.xml`.

Modify these files according to your desired business behavior; the following sections provide an overview of these files and their configuration options.

Note: *If you have already installed the HP Service Manager Change Management integration, you do not need to perform this step.*

Synchronization Troubleshooting

When performing a synchronization, open the HP Service Manager messages panel. This allows you to see successful completion of synchronizations such as modifying groups, group memberships, users, and user devices. Alternatively, you can use the Sync Report under the Menu Navigation xMatters entry to determine if any errors occurred after synchronization.

2.6.1 Synchronization configuration file

The `xMattersSyncConfig.xml` file defines the synchronized values for groups, teams, users, devices and coverages. The file included with the integration has default values to use for each object type, but can be customized to use different values for a specific instance of an object.

Note that in HP Service Manager, Login IDs are case sensitive; for example, “FALCON” and “falcon” represent two separate users. In xMatters, User IDs (the equivalent to Login IDs in HP Service Manager) are case insensitive: xMatters would not recognize “FALCON” and “falcon” as belonging to different users.

Note: *If have already installed the HP Service Manager Change Management integration, you do not need to perform this step.*

Default values

Each default element must specify a value for all possible fields (refer to the following section for a complete list of possible fields). Each default element must also specify the `seedOnly` and `deletable` attributes.

If the `seedOnly` attribute is *true*, then that object will only be added to xMatters when it is initially synchronized and will no longer be updated. If the `seedOnly` attribute is *false*, any modifications to the object done in xMatters will be overwritten when that object is updated in HP Service Manager.

If the `deletable` attribute is *true*, then that object will be removed from xMatters when it is deleted from HP Service Manager; otherwise, it will remain in xMatters indefinitely and must be deleted manually.

The following elements must exist in the `xMattersSyncConfig.xml` file:

- default-user
- default-email
- default-work-phone
- default-home-phone
- default-sms-phone
- default-assignment-group
- default-change-group
- default-team
- default-coverage

By default, all objects are deletable and set to seedOnly = false.

There are three different ways that you can specify a default value to synchronize with xMatters:

1. Set a default value for a field:
 - **default:** the value for this field

For example, the role for the following will be standard user unless it is overridden:

```
<role default="standard user"/>
```

2. Use a regular expression to extract a value from a field:
 - **default:** the default value for this field if the regular expression does not match
 - **field:** the column in this table to apply the regular expression
 - **regex:** the regular expression used to extract a value
 - **index:** when you use Groups, this is the index of the Group you want to use (where the first Group is 1)

For example, the area-code for the following will be the first submatch when the `'\D*(\d{0,3})\D*([0-9]{1}[0-9.,-]+)\D*'` regular expression is applied to the `contact_phone` field

```
<area-code field="contact_phone" regex="\D*(\d{0,3})\D*([0-9]{1}[0-9.,-]+)\D*" index="1"/>
```

3. Map a field's value to a desired value:
 - **default:** the default value to use if there is no match
 - **map Element:** the field attribute specifies the column in the table to match; the value attribute specifies the value of the field to match on; and, the text of this field is the value to be saved

For example, the language for the following will be English, unless the value of the language column in the record is either de or fr:

```
<language default="English">
  <map field="language" value="de">German</map>
  <map field="language" value="fr">French</map>
</language>
```

Object-specific values

All object-specific elements will override any default value element and can override the seedOnly and deletable attributes.

default-user Fields

Field	Description	Possible Values
active	Whether this user is active	true, false
first-name	User's first name	Any string

Field	Description	Possible Values
last-name	User's last name	Any string
has-mobile-access	Mobile access flag	true, false
site	User's site	Valid xMatters site name
language	User's language	Valid xMatters language
timezone	User's time zone	Valid xMatters time zone
role	User's xMatters role	A comma-delimited list of valid xMatters roles.
supervisor	User's xMatters supervisor	Valid xMatters user target name. If the supervisor in HP Service Manager is not a valid User in xMatters, the synchronization for the user/group will fail.
has-phone-login	Phone login flag	true, false
phone-login	User's phone login	Unique string containing only digits
phone-password	User's phone password	String containing only digits
ldap-domain	User's web login LDAP domain	Valid xMatters LDAP domain
web-login	User's web login	Unique web login
web-password	User's web login password	Any string
web-login-type	Defines whether the web login is a native xMatters login or an LDAP authentication	NATIVE, LDAP
externally-owned	Indicates whether the user is externally-owned	true, false
custom-field-name	The name of the custom field in xMatters that will contain the value of SM userId to be used by xMatters notification responses.	Any string. Default is "HP SM Login"
custom-field-value	The value to use in the custom field defined in the custom-field-name field.	Any string

default-email Fields

Field	Description	Possible Values
name	Device name (must match a device name configured in xMatters)	Valid xMatters email device name
active	Whether this device is active (i.e., available to receive notifications.	true, false

Field	Description	Possible Values
default	Whether this device should be used as the user's default device	true, false
delay	Device's delay setting	Integer value (time in minutes)
externally-owned	Indicates whether the device is externally-owned	true, false
priority-threshold	Device's priority threshold	LOW, MEDIUM, HIGH
user-service-provider-id	ID of the user service provider (is ignored if the user-service-provider-name is present)	Long
user-service-provider-name	Name of the user service provider (takes priority over provider ID)	Valid xMatters User Service Provider name
address	Device's email address	Valid email address

default-work-phone, default-home-phone, and default-mobile-phone Fields

Field	Description	Possible Values
name	Device name (must match a device name configured in xMatters)	Valid xMatters email device name
active	Whether this device is active	true, false
default	Whether this device should be used as the user's default device	true, false
delay	Device's delay setting	Integer (time in minutes)
externally-owned	Indicates whether the device is externally-owned	true, false
priority-threshold	Device's priority threshold	LOW, MEDIUM, HIGH
user-service-provider-id	ID of the user service provider (is ignored if the user-service-provider-name is present)	Long
user-service-provider-name	Name of the user service provider (takes priority over provider ID)	Valid xMatters User Service Provider name
area-code	Device's area code	String containing only digits
country-code-override	Device's county code	Valid two letter country code
extension	Device's extension	String containing only digits
number	Device's phone number	String matching [0-9]{1}[0-9,-]+

default-sms-phone Fields

Field	Description	Possible Values
name	Device name (must match a device name configured in xMatters)	Valid xMatters email Device name
active	Whether this device is active	true, false
default	Whether this device should be used as the user's default device	true, false
delay	Device's delay setting	Integer (time in minutes)
externally-owned	Indicates whether the device is externally-owned	true, false
priority-threshold	Device's priority threshold	LOW, MEDIUM, HIGH
user-service-provider-id	ID of the user service provider (is ignored if the user-service-provider-name is present)	Long
user-service-provider-name	Name of the user service provider (takes priority over provider ID)	Valid xMatters User Service Provider name
number	Device's phone number	String containing only digits

default-assignment-group and default-change-group Fields

Field	Description	Possible Values
description	Group's description	Any string
timezone	Group's time zone	Valid xMatters time zone
site	Group's Site	Valid xMatters site
active	Whether this group is active	true, false
allow-duplicates	Allow duplicates flag	true, false
externally-owned	Externally owned flag	true, false
observed-by-all	Observed by all flag	true, false
observer	Target name of a user to be the group's observer	Valid xMatters user target name
supervisor	Target name of a user to be the group's supervisor	Valid xMatters user target name
use-default-device	Use default device flag	true, false

default-team Fields

Field	Description	Possible Values
name	Team name	Any string not containing '['
description	Description for the team	Any string

Field	Description	Possible Values
externally-owned	Externally owned flag	true, false
reuse	Reuse team flag	true, false
rotation-interval	Rotation interval (only used if type is ROTATION)	Integer value (time in minutes)
rotation-start	Rotation start date (only used if type is ROTATION)	Date in the format 'dd/mm/yyyy h:mm:ss AM/PM'
rotation-unit	Rotation units (only used if type is ROTATION)	DAYS, MONTHS, WEEKS
type	Team type	BASIC, EVENT_ROUND_ROBIN, ROTATION
member-type	Team member type (should leave as PERSON for the integration)	PERSON, GROUP, TEAM, DEVICE
member-delay	Delay between team members	Integer value
member-in-rotation	Are group members in the rotation	true, false

default-coverage Fields

Field	Description	Possible Values
name	Coverage name 24/7	Any string not containing ' '
start-time	Start time for this shift	Time in the format "hh:mm"
duration-hours	Duration of the shift in hours	Integer value 0 <= N <= 24
duration-minutes	Duration of the shift in minutes (added to duration in hours)	Integer value 0 <= N <= 60
exclude-holidays	Exclude holidays flag	true, false
sunday	Coverage on Sunday	true, false
monday	Coverage on Monday	true, false
tuesday	Coverage on Tuesday	true, false
wednesday	Coverage on Wednesday	true, false
thursday	Coverage on Thursday	true, false
friday	Coverage on Friday	true, false
saturday	Coverage on Saturday	true, false
recurrence-end-date	End date for the coverage	Time in the format dd/mm/yyyy h:mm:ss AM/PM

Field	Description	Possible Values
recurrence-frequency	Frequency of the recurrence	DAILY, WEEKLY, MONTHLY
recurrence-interval	Interval of the recurrence	Integer value
recurrence-no-end-date	No end date flag	true, false
recurrence-occurrences	Number of recurrences for this coverage	Integer value
recurrence-start-date	Start date of the recurrence	Time in the format dd/mm/yyyy h:mm:ss AM/PM

2.6.2 Synchronization list file

The `xMattersSyncList.xml` file is used to define which operators and assignments should be synchronized with xMatters. The XML file contains a list of user elements with a name attribute matching an operator ID and a list of group elements containing a name attribute matching an assignment name.

The user and group elements have an action attribute which tells the integration whether you want to include only the user and group in the list for synchronization and exclude all other users and groups, or whether you want to exclude the user and group in the list for synchronization and include everyone else. The following is an example of what the file would look like if you want to synchronize only the TELECOMS assignment and want to synchronize all the operators except for FALCON:

```
<synclist>
  <users action="exclude">
    <user name="FALCON"/>
  </users>
  <groups action="include">
    <group name="TELECOMS"/>
  </groups>
</synclist>
```

2.7 Configuring the Sync Report form

This integration includes the custom HP Service Manager Sync Report form.

The Sync Report can begin full system synchronization and view the last status of objects synchronized with xMatters. The behavior of the page is as follows:

- Click **Show Errors** to display all synchronization records that are currently in an error state.
- Click **Show All** to display all synchronization records.
- Select **Sync Now** to initiate an attempt to synchronize the entire system.
- Click **Filter** to display all synchronization records that match the specified filter criteria. These filter fields use the StartsWith operator.

2.7.1 Adding buttons and menus to the Sync Report form

The `alarmpoint.syncreport` scripts provided with the integration can be used with the `script.execute` RAD application.

To add menu items:

1. In Service Manager, open **Menu Navigation > Tailoring > Tailoring Tools > Menus**.
2. In the **Menu Name** field, type the name of the appropriate menu for your deployment (e.g., HOME), and then click

Search.

3. Add the following values to the table:

Option Number	Description	Application	Parameter	Value	Condition
Next available number	xMatters	menu.manager	name	AlarmPoint MAIN	index("AlarmPoint", \$lo.ucapex)>0

Note: *Ensure that you record the Option Number assigned to each button and menu, as you will need to reference these numbers when adding the custom form buttons in the next section.*

4. Click **Save**, and then click **Save** again.

- If you receive an error message after clicking Save the first time, you can safely ignore it.

5. Refresh the System Navigator.

You should now see a new xMatters navigation group in the System Navigator with separate entries for each custom form.

Note: *The buttons and menu items are visible only to users with the "AlarmPoint" capability. For information about how to add the capability, refer to "Adding capabilities to users" on page 15.*

Chapter 3: Integration Validation

After configuring xMatters and HP Service Manager, you can validate that communication is properly configured. The following sections explain how to test the combination of xMatters and HP Service Manager for notification delivery and response, subscription functionality, and synchronization configuration.

3.1 Validating User and Group Synchronization

The following validates that communication from HP Service Manager to xMatters for user and group synchronization is properly configured.

Note that the user and group synchronization process is handled via direct web service calls between xMatters and HP Service Manager; synchronization relies upon the correct configuration of the web services user, as described in "Adding the web service and REST API users" on page 6

To test the User and Group Synchronization:

1. Edit the <SMHOME>\xMattersSyncList.xml file as follows:

```
<synclist>
  <users action="include">
  </users>
  <groups action="include">
  </groups>
</synclist>
```

2. Restart your HP Service Manager client.
3. Add a new Operator to HP Service Manager:
 - In HP Service Manager, open **Menu Navigation > System Administration > Ongoing Maintenance > User Quick Add Utility**.
 - Specify the required information.
 - Click **Next**, **Finish**, and then **OK**.
4. In HP Service Manager, open **Menu Navigation > System Administration > Ongoing Maintenance > Groups > Incident Management Assignment Groups**.
5. Type the name of the assignment group you want to use for testing purposes (eg. TESTSYNC).
6. Select the **Operators** tab, add the operator you just created, click **Add**, and then click **OK**.
7. Edit the xMattersSyncList.xml file to look like the following (replace operatorname and assignmentname with the operator and assignment group you just created):

```
<synclist>
  <users action="include">
    <user name="operatorname"/>
  </users>
  <groups action="include">
    <group name="assignmentname"/>
  </groups>
</synclist>
```

8. Restart the Service Manager client.
9. Open the custom Sync Report form (see "Adding buttons and menus to the Sync Report form" on page 23 for instructions how to add a menu item for this).
10. In the drop-down list in the upper right, select **Sync Now**.
 - This should synchronize the operator and assignment that you just added to HP Service Manager into xMatters as a User and Group.

11. Log in to xMatters to check that the user and group was properly synchronized.

Note: The xMatters User target name is the HP Service Manager contact's operator ID and the xMatters Group name is the HP Service Manager assignments name.

3.2 Triggering a notification

In this example, an event will be injected to xMatters for notification to the group configured in the user and group Synchronization example.

1. In Service Manager, open **Menu Navigation > Incident Management > Open New Incident**.
2. Specify the following values in the required fields:
 - **Primary Asgn Group:** the Assignment group you just synchronized with xMatters.
 - **Urgency:** either 1 - Critical, or 2 - High.
3. Enter values for all other required fields:

The screenshot shows the 'Open New Incident' form in HP Service Manager. The form is divided into several sections. The 'Incident Details' section includes fields for Incident ID (IM10148), Status (Open), Affected Service (Intranet / Internet (Australia)), Affected CI (CI is operational (no outage)), Outage Start, Outage End, and Service Contract. The 'Assignment Group' section includes fields for Application, Assignee, Vendor, and Vendor Ticket. The 'Category' section includes fields for Category (Incident), Area (Failure), and Subarea (System down). The 'Impact' section includes fields for Impact (1 - Enterprise) and Urgency (1 - Critical). The 'Title' field contains 'The system is down.' and the 'Description' field contains 'The system failed to startup after a power outage.' There is a 'Problem Candidate' checkbox. An 'Attachments' section is at the bottom.

4. Click **Submit**.

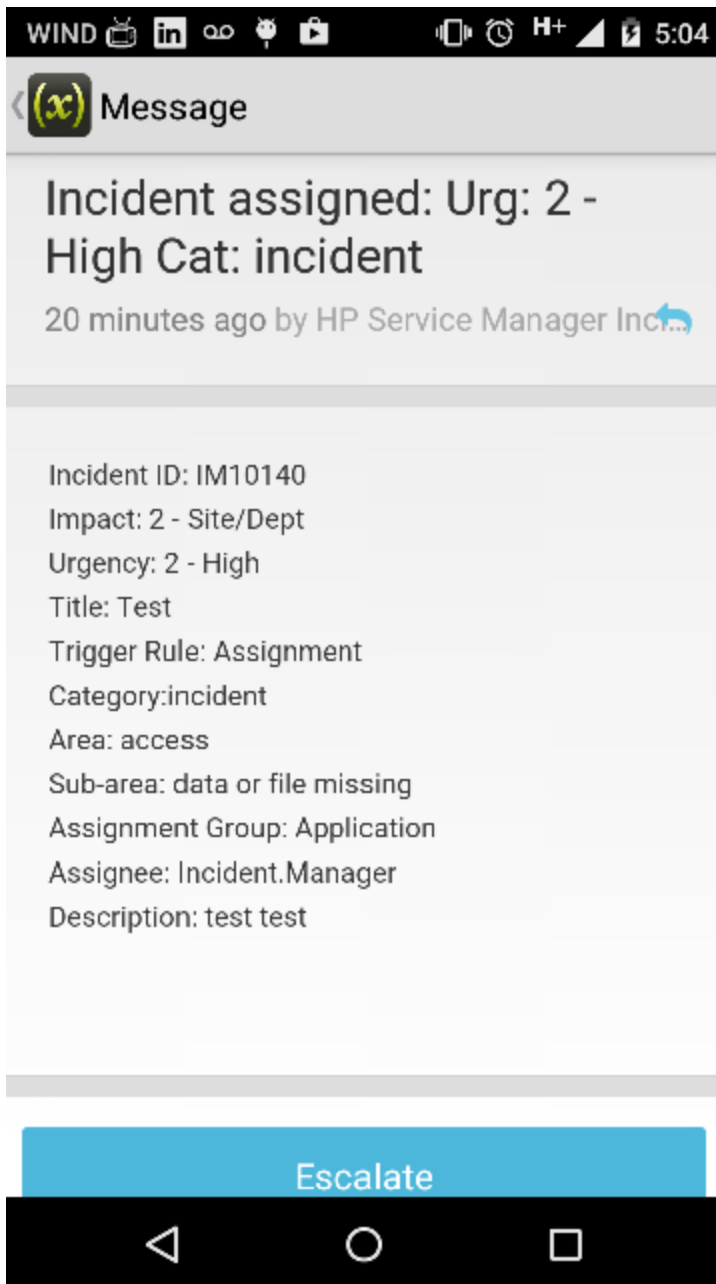
This should inject the incident parameters into xMatters, triggering a new subscription notification -- if you have created a subscription.

3.3 Responding to a notification

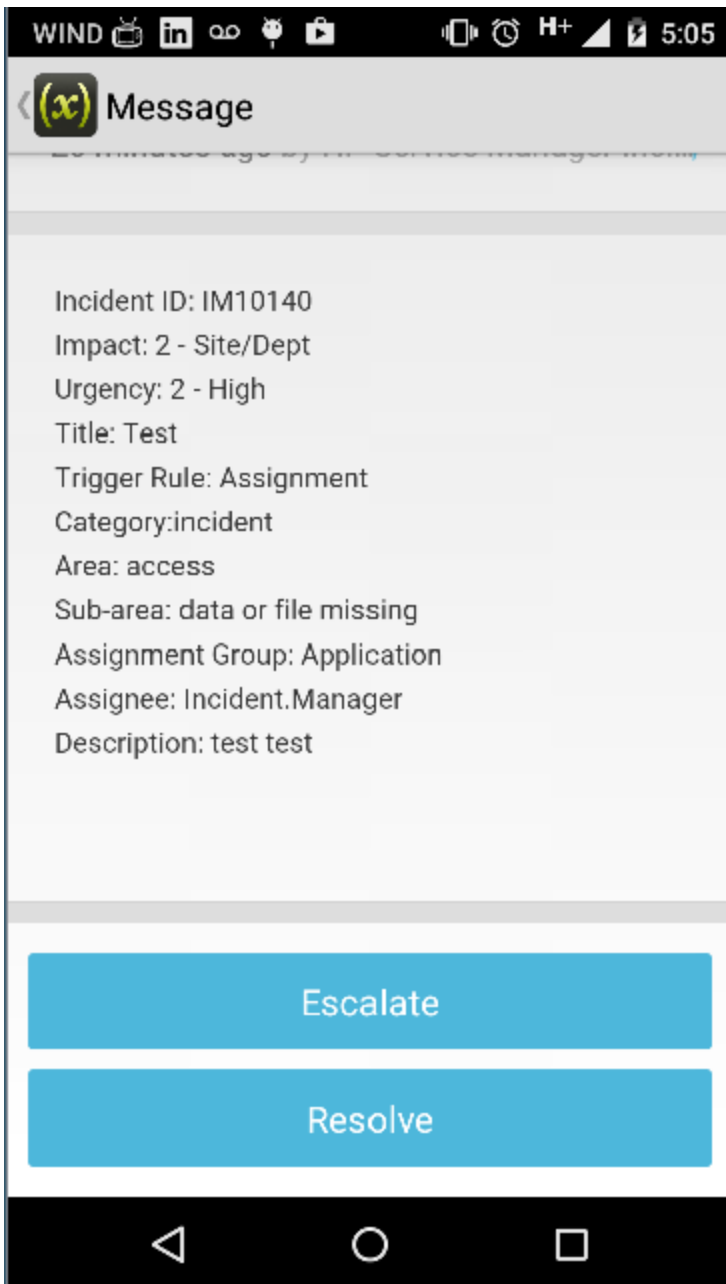
This section describes how to respond to a notification from xMatters. In the following example, the notification is received on a mobile phone, but the process is similar for all devices.

To respond to a notification:

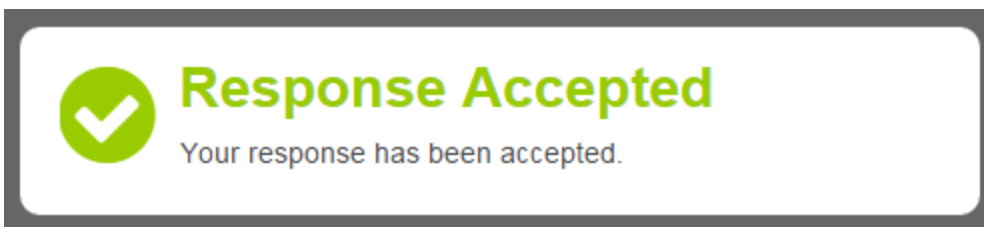
1. When a notification arrives, open it to view its details:



2. Scroll down to view all of the response choices:



3. To respond to a notification, click a response choice, and xMatters sends the response:



For more information about response choices, and changing the options available to users, see "Response choices" on page 34.

3.4 Viewing response results

When an action is taken on an xMatters notification, that action is reflected in the original incident. When xMatters makes changes to a ticket, it also updates the Historic Activities field on the incident.

To view the notification results:

1. In Service Manager, open **Menu Navigation > Incident Management > Search Incidents**.
2. In the **Incident ID** field, type the ID of the incident you want to view, and then click **Search**.
3. Scroll down to the **Activities** section to view the updates:

The screenshot displays the HP Service Manager interface for viewing an incident. The top section, titled "Incident Details", contains various fields for incident information. The bottom section, titled "Activities", shows a log of updates and journal entries.

Incident Details:

- Incident ID:** IM10148
- Status:** Work In Progress
- Contact:**
- Location:**
- Assignment Group:** Application
- Assignee:** Incident Manager
- Vendor:**
- Vendor Ticket:**
- Affected Service:** Intranet / Internet (Australia)
- Affected CI:**
 - ☐ CI is operational (no outage)
- Category:** Incident
- Area:** Failure
- Subarea:** System down
- Impact:** 1 - Enterprise
- Urgency:** 1 - Critical
- Priority:** 1 - Critical
- Outage Start:**
- Outage End:**
- Service Contract:**
- SLA Target Date:**
- Title:** The system is down.
- Description:** The system failed to startup after a power outage.
- Closure Code:**
- Solution:**
- ☐ Problem Candidate
- ☐ Knowledge Candidate

Activities:

- New Update Type:**
- New Update:**
- ☐ Visible to Customer
- Journal Updates:**
 - 10/31/14 10:33:37 US/Mountain (Incident Manager): [xMatters] - Owned by Incident Manager (Incident Manager|Work Email)
 - 10/31/14 10:33:03 US/Mountain (falcon): [xMatters] - Successful Delivery to Incident Coordinator (Incident Coordinator|Work Email)
 - 10/31/14 10:33:03 US/Mountain (falcon): [xMatters] - Successful Delivery to Change Coordinator (Change Coordinator|Work Email)
- Activity Type:**

For each user device notified during this process, the Journal Updates log will be annotated with a message indicating “Successful Delivery for bsmith|Work Email” where “bsmith|Work Email” is the recipient (<userID>|<deviceName>).

Chapter 4: Optimizing and Extending the Integration

This section describes some of the available methods you can use to optimize or extend the xMatters for HP Service Manager Incident Management integration.

4.4 Configuring integrated properties

This version of the integration supports integrated properties and includes a sample communication plan you can use to demonstrate and test this feature.

This plan is not required for the feature to work and is provided only as an example; to add integrated properties to an existing communication plan skip to Step 2.

Step 1: Import the sample plan

This integration includes a sample plan containing a simple form that you can use to manually create notifications with a custom "escalation message" property and incident data retrieved from HP Service Manager.

To import the sample communication plan:

1. Log in to xMatters, and click the **Developer** tab.
2. On the Communication Plans page, click **Import Plan**.
3. In the Import Communication Plan File dialog box, click **Choose File**, and then locate the `\components\xmatters\plans\HPSMIMIntegratedProperties.zip` file extracted from the integration archive.
4. Click **Open**, and then click **Import Plan**.
5. Click **Plan Disabled** to enable the plan.
6. In the **Edit** drop-down list, select **Forms**.
7. In the HP SM IM Integrated Properties form, in the **Not Deployed** drop-down list, click **Form**.
 - After you deploy the form, the drop-down list label will change to "Form Only".
8. In the **Form Only** drop-down list, click **Permissions**.
9. Enter a user or group that will have permission to send messages using this form, and then click **Save Changes**.

Step 2: Defining the integration service

For the installation to be successful, the integration service names must match the names specified in the `hpsmim.xml` file installed on the integration agent.

To define an Integration Service:

1. In xMatters, on the Event Domains page, click the **applications** event domain.
2. On the Event Domain Details page, in the Integration Services area, click **Add New**.
3. Enter the following information into the form:
 - **Name:** hpsmim-4-1
 - **Description:** HP Service Manager Integration Service
 - **Path:** *Not required*.
4. Click **Save**.

Step 3: Configure the integrated properties

Once you have imported the sample plan and created the integration service, you can set up the integrated properties for your integration. (Integrated properties are not included in exported communication plans; they must be manually configured.)

Note: For more information about configuring integrated properties, click the *Help* button on the *Integrated Properties* tab in xMatters.

To configure the integrated properties:

1. In xMatters, on the HP SM IM - Integrated Properties plan, click the **Integrated Properties** tab, and then click **Create Integrated Properties**.
2. In the Create Integrated Properties dialog box, in the **Name** field, type `Incident Details`, and then click **Create Integrated Properties**.
3. Click **Edit** beside the new integrated properties.
4. On the `Incident Details` page, enter the following information:

Name:	<input type="text" value="Incident Details"/>
Description:	<input type="text"/>
Protocol:	<input type="text" value="Integration Agent"/>
Integration Service:	<input type="text" value="hpsmim-4-1"/>
Action:	<input type="text" value="getIncident"/>

5. Click the **Create a request property** button, and then select **Text** from the drop-down list.
6. In the Create a new Text property dialog box, in the **Name** field, type `Incident ID`, and then click **Create request property**.
7. Click the **Create a response property** button to add a response property; the table below describes the default properties supported by the integration.
 - You can create all of your response properties for the sample form as text properties, but make sure you modify the **Maximum Size** for each property to account for longer fields such as Description.
8. When you have finished adding properties, click **Save Changes**.
9. To check your configuration, click **Send Test Request** and inspect the returned data.
10. Once you are satisfied with your changes, click the **Forms** tab, and then click **Edit > Layout** for the HP SM IM Integrated Properties form.
11. On the Layout tab, drag the **Incident Details** section from the Integrated Properties section and drop it onto the form layout.
12. Click **Save Changes**.

Available properties

The names of the properties must match the names returned by the `handleGetIncident()` function defined in the integration's `hpsmim-properties.js` file. By default, this function uses the `INTEGRATED_PROPERTIES` variable defined in `configuration.js` to map XML elements returned by HP Service Manager web service to property names. Elements not found in the `INTEGRATED_PROPERTIES` variable are included as is. You can edit the `handleGetIncident()` function to modify this behavior.

The following response properties are supported by default.

Name	Example Value
Category	incident
Opened On	2014-10-05T13:30:27+00:00
Opened By	System.Admin
Updated On	2014-11-11T22:08:49+00:00
Description	VPN Issue
Title	User cannot remote access the intranet
Updated By	falcon
Status	Categorize
Phase	Categorization
Area	failure
Subarea	function or feature not working
Urgency	3
Impact	3
Affected Service	Intranet / Internet (North America)

You can choose to include only a subset of properties; in this case, xMatters ignores the remaining properties returned by the integration and does not display them to users.

Step 4: Send a test message.

You can now create the message content and send a test notification that includes the integrated properties.

To add the integrated properties to message content:

1. On your communication plan form, click the **Messages** tab.
2. Click **Edit** for each message type to which you want to add integrated properties.
3. In the message builder, drag the properties you want to include from the integrated properties section on the right and drop them into the message.pane.
 - Voice messages are constructed differently than email and text messages; for more information about working with voice messages, click the **Help** button at the top of the page on the Messages tab.
4. Click **Save Changes**.

You are now ready to send a test message containing the integrated properties.

To send a test message:



1. Click the **Messaging** tab, and click the name of the form with the integrated properties.
 - If you imported the sample communication plan, the form is named HP SM IM Integrated Properties.
2. On the form, in the Recipients section, specify a user (or device) whose notifications you can access.
3. Type a brief message in the **Escalation Message** field.
4. In the Integrated Properties section, in the **Incident ID** field, type the ID for an active incident in your system, and then click **Search**.
 - xMatters will automatically populate the fields with the details of the specified incident. You can modify these details before sending the message, but your changes will not be reflected on the associated incident.

HP SM IM Integrated Properties Edit Layout

HP ServiceManager Incident Manager Integrated Properties Demo

Recipients

🔍 All ⌵

Name	People
 Joe Sugden (jsugden)	1 

1 person is targeted.

Custom Section

Escalation Message ⚙️

Incident Details

Incident ID Search

Category

Description

Title

Status

Send Message Preview Message

5. Click **Send Message** to send a test message to the specified recipient.

The test message will include both the escalation message and the incident details retrieved from HP Service Manager.

4.1 Adding new parameters

Additional data elements (or tokens) can be forwarded to xMatters by adding them in HP Service Manager. The following steps explain how to add a new event token to the event injected to xMatters.

To add an event token:

1. In HP Service Manager, click **Menu Navigation > Tailoring > Script Library**.
2. In the **Name** field type `AlarmPointEvent`, and then click **Search**.
3. Find the **addEvent** function.
4. Locate the `util.addAPXMLData` section.
5. Within the section, insert a new line using the following syntax:

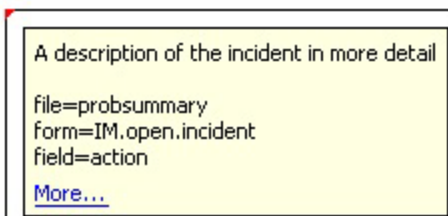
```
util.addAPXMLData(apxml, "token_name", "string", record.action, true);
```

Where:

- **token_name**: a descriptive name for the new event token.
 - **string**: the data type.
 - **record.action**: "record" is the incident record, and "action" is the field name in HP Service Manager.
6. Click **Save**.

To help illustrate how this appears in HP Service Manager, the following image was provided by an xMatters consulting partner:

Description:



To view a description of the field information for your parameter, click **Window > Preferences > Expand HP Openview ServiceManager > Appearance**, and then select the **Show context-sensitive help debug information** check box. Place your cursor in the field, and then press **Ctrl-H**.

4.1.1 Adding new tokens to notification content

Once you have injected the new data elements, you can add the token as a property to the communication plan and the appropriate forms in xMatters. Once the property is added to the form's layout, you can add it to the message content for various devices. For more information about these processes, refer to the xMatters On-Demand help, accessible from within the web user interface.

4.2 Response choices

This integration allows recipients to respond to notifications with several default choices, some of which are injected back to the HP Service Manager server, updating the original incident. Users notified on email devices also have the ability to respond with an extra annotation message which will be logged in the original HP Service Manager incident.

The following is a list of the default response choices available with the integration and their associated actions on the xMatters event and the incident.

Default response choices

Response	xMatters Action	HP Service Manager Update	Availability
Own	Delinks all users other than the responder from the event, not allowing them to submit responses. The owner will not be notified further, but has the ability to affect the event by responding on one of their devices or from the browser. For example, a user owns the event in xMatters, and then closes the event. They may also annotate the owned event.	The status for the incident is changed to Work In Progress and the incident is assigned to the responder. Any additional notes added to the response are recorded on the incident's Journal Updates.	All non-FYI devices
Escalate	Signifies that the user wants to escalate the notification.		All non-FYI devices
Resolve	Delinks all users from the event, not allowing them to submit responses.	The ticket status is updated to Resolved and any additional notes added to the response are recorded on the incident's Journal Updates.	All non-FYI devices

4.2.1 Customizing the responses in the integration agent

If you change the wording of the existing response options in the xMatters forms, you must also update the corresponding `RESPONSE_ACTION` constants in the `configuration.js` file.

If you are adding a new response option that needs to be processed by HP Service Manager, update the `handleResponse` function in the `hpsmcm-callbacks.js` file with implementation for the new option.

4.2.2 Adding annotation messages

Two-way email Device notifications (not FYI) can add extra annotations that will be added to the incident as a message on the Journal Updates tab. To add an extra annotation, respond to an email notification with the following format in the subject line:

```
RESPONSE <Choice> <Message>
```

`<Choice>` can be any of the response choices listed in the table above, and `<Message>` can be any content you want to add as the annotation.

4.2.3 Responses for sync errors

Sync Error notifications are based on the Sync Error Alert form. These create an event within xMatters and the available responses do not have any effect on the HP Service Manager system.

4.3 Delivery Annotations

This integration extensively annotates the originating HP Service Manager incident for each device to which a notification is delivered, but this may not be desirable in all environments. To prevent the delivery annotation of a change request, change the `"ANNOTATE_DELIVERY"` constant in the `configuration.jsp` file to `false`.

4.4 Adding custom trigger rules

To add a custom trigger rule that will trigger a notification to be injected into xMatters:

1. Click **Menu Navigation > Tailoring > Script Library**.
2. Type `AlarmPointEvent` in the **Name** field.
3. Click **Search**.
4. Modify the following methods to suit your requirements:
 - **getTriggerRule()** - This method is used to determine whether a notification should be injected into xMatters.
 - **getDeviceFilter()** - This method is used to return a device filter string that will limit the devices to which that notification will be sent.
 - **getRecipients()** - This method returns a list of recipients that this notification should target in the format 'recipient1, recipient2, ...'

For example, the default behavior is to inject a notification into xMatters only upon incident creation when the urgency is either critical or high. To modify this to always inject a notification on creation, change the following lines

From:

```
else{
    if(record.severity <= 2)
        triggerRule = "Assignment";
}
```

To:

```
else{
    triggerRule = "Assignment";
}
```

4.5 Filtering and suppression

The xMatters integration agent's Portable Filtering and Suppression Module is a built-in module that maintains a rolling record of previously injected events, and allows for the suppression of duplicates (also referred to as "deduplication"). This helps avoid disruption of traffic due to inadvertent loads that can result when, for example, improperly configured management systems inject duplicated events.

The `deduplicator-filter.xml` file is installed in the `<IAHOMES>\conf` folder and is configured to suppress duplicate events for 30 minutes (up to a maximum of 100 events in that period).

This filter can be modified to extend the time period over which an event is considered to be a duplicate, the number of events in that period and the tokens that are used to determine what makes the event unique.

For example, to add `NEW_VALUE_NAME` to the tokens, open the `deduplicator-filter.xml` file in a text editor and add the following line to the `<predicates>` collection:

```
<predicate>NEW_VALUE_NAME</predicate>
```

Save the file and restart the integration agent for the changes to take effect.

Note: *To see a complete list of predicates available in the integration, review the Event Data in the Event Summary Report in the xMatters web user interface.*

4.6 HP Service Manager logging

All of the integration actions and errors are printed out to the messages panel and logged to the standard HP Service Manager log file specified in the `sm.ini` configuration file. These messages are defined in the AlarmPointUtil script library and are in the following format:

```
var RECIPIENT_UPDATE_FAIL = "Failed updating xMatters %% %% - %%";
```

Messages are displayed using the following function:

```
logMessage(messageId, <args>)
```

where `messageId` matches the variable used to define the message and `<args>` is replaced by as many arguments as you want. These extra arguments are used in order to replace all occurrences of `%%` in the defined message.

For example, to log the message 'Failed updating xMatters Team TELECOMS-24x7 - UNKNOWN_GROUP', you would use the following:

```
logMessage("RECIPIENT_UPDATE_FAIL", "Team", "TELECOMS-24x7", "UNKNOWN_GROUP");
```

This would print in the Service Manager log file as:

```
3204( 2656) 12/04/2007 11:15:26 JS I Failed updating xMatters Team TELECOMS-24x7 - UNKNOWN_
GROUP
```

4.7 Uninstalling

For instructions on removing an xMatters deployment, refer to the *xMatters installation and administration guide*.

This integration does not include an uninstall utility; you must remove the installed components manually. For a list of the components, see "Configuring xMatters" on page 5



www.xmatters.com

Online Support: <http://support.xmatters.com>

International: **+1 925.226.0300** and press **2**

US/CAN Toll Free: **+1 877.XMATTRS (962.8877)**

EMEA: **+44 (0) 20 3427 6333**

Australia/APJ Support: **+61-2-8038-5048** opt **2**

xMatters enables any business process or application to trigger two-way communications (voice, email, SMS, etc.) throughout the extended enterprise. The company's cloud-based solution allows for enterprise-grade scaling and delivery during time-sensitive events. More than 1,000 leading global firms use xMatters to ensure business operations run smoothly and effectively during incidents such as IT failures, product recalls, natural disasters, dynamic staffing, service outages, medical emergencies and supply-chain disruptions.