IBM System x

# IBM Upward Integration for VMware vSphere Installation and User's Guide

*Version 2.0*

IBM System x

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*Version 2.0*

**Note**

Before using this information and the product it supports, read the information in “Notices” on page 57.

**Edition Notice**

This edition applies to version 2.0 of IBM Upward Integration for VMware vSphere and to all subsequent releases and modifications until otherwise indicated in new editions.

# Contents

# Figures

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# About this publication

This book provides instructions for installing IBM® Upward Integration for VMware vSphere V 2.0 and using the features to acquire system information, update firmware, monitor power usage, configure system settings, and create migration rules for the virtual machine in the VMware vCenter management environment.

## Conventions and terminology

Paragraphs that start with a bold **Note**, **Important**, or **Attention** are notices with specific meanings that highlight key information.

**Note:** These notices provide important tips, guidance, or advice.

**Important:** These notices provide information or advice that might help you avoid inconvenient or difficult situations.

**Attention:** These notices indicate possible damage to programs, devices, or data. An attention notice appears before the instruction or situation in which damage can occur.

The following table describes some of the terms, acronyms, and/or abbreviations used in this document.

*Table 1. Frequently used terms and acronyms*

| Term/Acronym | Definition |
|---|---|
| ASU | Advanced Settings Utility |
| DSA | IBM Dynamic System Analysis |
| IMM | Integrated Management Module |
| IVP | IBM Upward Integration for VMware vSphere |
| PFA | Predictive Failure Alert |
| UXSP | UpdateXpress System Packs |
| UXSPi | UpdateXpress System Package Installer |

# Information resources

You can find additional information about IBM Upward Integration for VMware vSphere, Version 2.0 in the product documentation and on the World Wide Web.

## PDF files

View or print documentation that is available in Portable Document Format (PDF).

### Downloading Adobe Acrobat Reader

You need Adobe Acrobat Reader to view or print these PDF files. You can download a copy from the Adobe website.

### Viewing and printing PDF files

You can view or print PDF files that can be found on the web pages listed in "World Wide Web resources."

## World Wide Web resources

The following web pages provide resources for understanding, using, and troubleshooting IBM System x, BladeCenter servers, and systems-management tools.

### IBM Upward Integration for VMware vSphere site

IBM Upward Integration for VMware vSphere site

Locate the latest downloads for the IBM Upward Integration for VMware vSphere.

### IBM Systems Technical support site

IBM Systems Technical support site

Locate support for IBM hardware and systems-management software.

### IBM Systems Management Software: Download Software Registration site

IBM Systems Management Software: Download/Registration site

Download IBM systems-management software, including IBM Systems Director.

## IBM® Systems Management site

IBM System x Systems Management site

This page provides an overview of IBM Systems Management using IBM Director Agent or IBM Director Core Services.

## IBM System x ServerProven® and BladeCenter ServerProven sites

System x ServerProven site

BladeCenter ServerProven site

Obtain information about hardware compatibility with IBM System x, IBM BladeCenter, and IBM IntelliStation® hardware.

## VMware vCenter Product Family site

VMware vCenter Product Family sites

# Chapter 1. IBM Upward Integration for VMware vSphere

The topics in this section provide information about IBM Upward Integration for VMware vSphere.

IBM Upward Integration for VMware vSphere is an extension for the VMware vSphere management environment. IBM Upward Integration for VMware vSphere provides enhanced management capability to run the following features:

- Dashboard
- Dynamitic System Analysis
- IBM UpdateXpress System Package Installer
- Power Metric on managed ESXi host
- View and change advanced system settings
- Predictive Failure Management

IBM Upward Integration for VMware vSphere provider bundle enables the management features on the managed ESXi endpoints. This component must be installed on the ESXi host manually to access all management functions of the IBM Upward Integration for VMware vSphere. The Provider bundle is contained in the offline-bundle.zip file and can be found in the IBM Upward Integration installation package.

## Dashboard

The Dashboard provides an overview of the host status including a system information summary and system health messages.

## Dynamic System Analysis

Dynamic System Analysis collects and analyzes system information to aid in diagnosing system problems.

## UpdateXpress System Package Installer

UpdateXpress System Package Installer is a firmware update function that applies the UpdateXpress System Packs and individual updates to your ESXi system. Use this function to acquire and deploy IBM UXSP firmware updates and individual firmware updates.

## Power Metric

Power Metric monitors power usage, thermal, and fan speed values of the ESXi host and graphically displays this information to aid in balancing workloads on hosts. Power Metric provides power capping and power throttling features. Power capping allows you to allocate less power and cooling to a system. Power throttling allows you to receive an alert once power consumption exceeds the value you set.

## Advanced Settings Utility

Advanced Settings Utility provides a system settings management interface. You can view and configure IMM, uEFI, and boot order settings on the managed endpoint. This utility provides an interface to view and change frequently used settings. Use the IMM and uEFI interfaces to change unsupported settings in IBM Upward Integration for VMware vSphere.

## Predictive Failure Management

Predictive failure management monitors the server hardware status and receives predictive failure alerts. You can set the management policy against the server based on a predictive failure alert. IVP will evacuate VMs from the host or notify you based on the policy you set. Predictive failure management is manually enabled or disabled on a host.

# Chapter 2. Installing IBM Upward Integration for VMware vSphere

The topics in this section provide information about installing IBM Upward Integration for VMware vSphere.

## System requirements for IBM Upward Integration for VMware vSphere

IBM Upward Integration for VMware vSphere is an extension to the vCenter server. It must be installed on the server that has VMware vCenter installed.

### Supported VMware vCenter Server

The plug-in is an extension to the VMware vCenter Server. It supports VMware vCenter Server 4.1 (U1, U2, U3), 5.0 (U1, U2), and 5.1(U1).

### Supported operating systems

The plug-in supports the same operating systems as VMware vCenter.

The following operating systems are supported:

- Windows Server 2003 SP2/R2 x64 (Enterprise Edition, DataCenter)
- Windows Server 2008 SP1/SP2 x64 (Enterprise Edition, Standard Edition)
- Windows Server 2008 R2 SP1

### Supported ESXi version

The plug-in only supports IBM customized ESXi 4.1 (U1, U2, U3), 5.0 (U1, U2), and 5.1 (U1) images. You can download IBM customized ESXi from IBM x86 solutions for VMware: `http://www-03.ibm.com/systems/x/os/vmware/`.

### Supported hardware

This topic provides information about the supported hardware for IBM Upward Integration for VMware vSphere.

The plug-in does not have hardware limitations. However, the hardware that the plug-in manages is limited to the IBM System x and Blade servers listed in the following table.

*Table 2. Supported hardware*

| System | Server number |
|---|---|
| System x Server | dx360 M2 (7321, 7323) |
| | dx360 M3 (6391) |
| | dx360 M4 (7912, 7913, 7918, 7919) |
| | Smart Analytics System (7949) |
| | x3100 M4 (2582) |
| | x3200 M2 (4367, 4368) |
| | x3200 M3 (7327, 7328) |
| | x3250 M2 (7657, 4190, 4191, 4194) |

*Table 2. Supported hardware (continued)*

| System | Server number |
|---|---|
| | x3250 M3 (4251,4252,4261) |
| | x3250 M4 (2583)* |
| | x3300 M4 (7382) |
| | x3400 M2 (7836, 7837) |
| | x3400 M3 (7378, 7379) |
| | x3500 M2 (7839) |
| | x3500 M3 (7380) |
| | x3500 M4 (7383) |
| | x3530 M4 (7160) |
| | x3550 M2 (7946, 4198) |
| | x3550 M3 (7944, 4254) |
| | x3550 M4 (7914) |
| | x3620 M3 (7376) |
| | x3630 M3 (7377) |
| | x3630 M4 (7158, 7518, 7519) |
| | x3650 M2 (7947, 4199) |
| | x3650 M3 (7944, 7945, 4254, 4255, 5454) |
| | x3650 M4 (7915) |
| | x3750 M4 (8722, 8733) |
| | x3755 M4 (7164) |
| | x3690 X5 (7148, 7149, 7147, 7192) |
| | x3850 X5/X3950 X5 (7145, 7146, 7143, 7191) |
| Flex Compute Node | Flex System x220 Compute Node (7906, 2585) |
| | Flex System x222 Compute Node (7916) |
| | Flex System x240 Compute Node (8737, 8738, 7863) |
| | Flex System x440 Compute Node (7917) |
| Blade System | HS22 (7870, 7809, 1911, 1936) |
| | HS22V (7871, 1949) |
| | HS23 (7875, 1882, 1929) |
| | HS23E (8038, 8039) |
| | HX5 (7872, 7873, 1909, 1910) |

* x3250M4 2583 supports only partial functions in the Dashboard and Dynamic System Analysis; update, power, and system configuration functions are not supported.

# Installing IBM Upward Integration for VMware vSphere

IBM Upward Integration for VMware vSphere must be installed on a server that has VMware vCenter installed, or the installation will fail.

## Before you begin

Administrator privileges are required to install IBM Upward Integration for VMware vSphere.

## About this task

IBM Upward Integration for VMware vSphere can be accessed with vSphere client or vSphere Web Client depending on the VMware vCenter version.

For VMware vCenter 5.0 and the previous version, you can only access the plug-in with vSphere client. For more information, see Chapter 4, "Using IBM Upward Integration for VMware vSphere Client," on page 31.

For VMware vCenter 5.1, you can choose to access the plug-in with vSphere client or vSphere Web client when you install the plug-in. It is recommended that you access the plug-in with vSphere Web client, IBM Upward Integration for VMware vSphere integrated with vSphere Web Client provides better usability and performance. For more information, see Chapter 3, "Using IBM Upward Integration for VMware vSphere with vSphere Web Client," on page 11.

## Procedure

1. Extract the files from the downloaded IBM Upward Integration for VMware vSphere install package.
2. Double click **IBM_Upward_Integration_for_VMware_vSphere_v2.0.exe** to launch the installer.
3. Click **Next** on the startup page of installer.
4. Read and agree to the IBM Upward Integration for VMware vSphere license.
5. Select the destination folder for installing IBM Upward Integration for VMware vSphere and click **Next**.
6. Input your **user** and **company** information.
7. Click **Confirm** to install. The installation of IBM Upward Integration for VMware vSphere begins.

   After the installation is complete, the configuration starts.
8. Enter the VMware vCenter server information and connection information for the product.

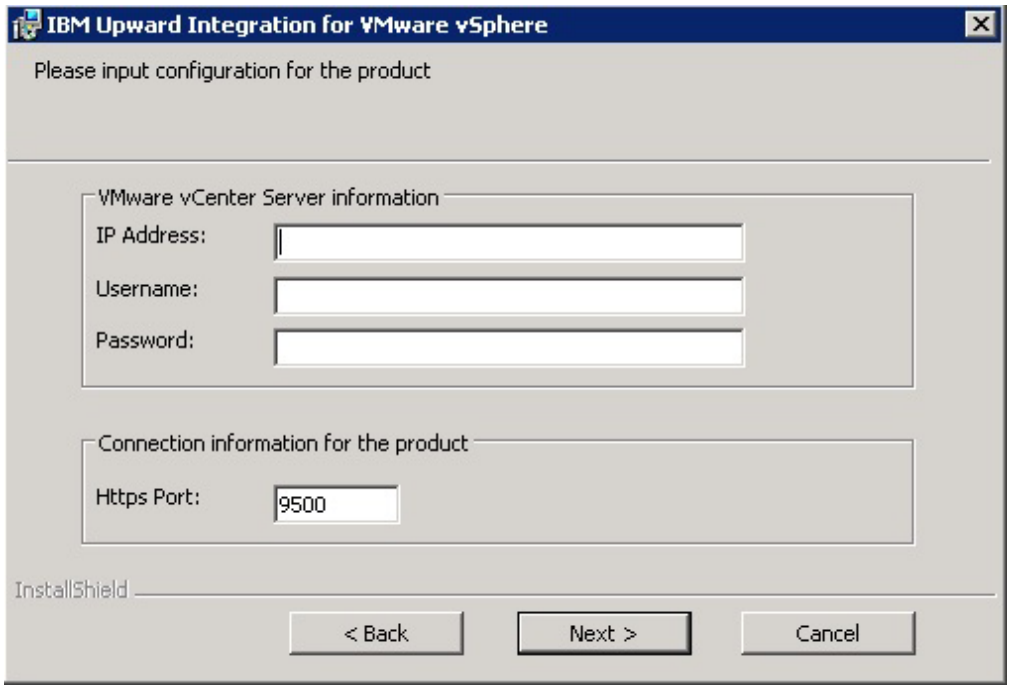


*Figure 1. VMware vCenter server configuration*

- The **IP address** is the IP of the management network (used to connect to the vCenter server).
- The **user name** and **password** must have administrative credentials that are used to manage the vCenter server.
- The **Https port** is the port that will be used by the product. The default value is 9500.

9. Click **Next** to start the configuration. A window opens while IBM Upward Integration for VMware vSphere is being configured. Wait for the configuration to complete.
10. Click **Finish**. IBM Upward Integration for VMware vSphere is successfully installed.

    **Note:** When you launch the install package, if an old version of IBM Upward Integration for VMware vSphere is detected, an upgrade dialog is displayed. Click **Upgrade** to upgrade the product. The installer will remove the old version and install the new version.

## Installing the IBM License Tool and activating the premium features

IBM Upward Integration for VMware vSphere provides a 90-day trial license by default. When the license expires after 90 days, all of the premium features are disabled. It is suggested that you install the IBM Upward Integration for VMware vSphere license tool to activate the product license. Activation licenses can be purchased by contacting your IBM representative or an IBM Business Partner.

After you purchase the IBM Upward Integration for VMware vSphere License Tool, you are only required to activate the license on the vCenter Server that is running IBM Upward Integration for VMware vSphere . It is not necessary to activate the license on each managed ESXi host. The license token will automatically be delivered to the ESXi host when it is managed by the vCenter server . For more information about activating the premium features, refer to the *IBM Upward Integration for VMware vSphere Installer Guide*.

## Installing and removing the IBM Upward Integration for VMware vSphere Provider bundle

The topics in this section describe how to install and remove the IBM Upward Integration for VMware vSphere Provider bundle.

The IBM Upward Integration for VMware VSphere Provider bundle enables advanced management capabilities on IBM servers. The bundle should be installed on all ESXi hosts that you want managed by VMware VSphere. It is recommended that you use the VMware vSphere Command-Line Interface (vSphere CLI) utility to install and remove the entire bundle.

**Important:** For IBM customized ESXi 5.1 U1 or a newer version, the IBM Upward Integration for VMware vSphere Provider bundle has already been bundled. If the host already has this ESXi version, you do not need to install the Provider bundle any longer. It is recommended that you update to the latest patch version on a managed esxi host at your earliest convenience. You can find VMware vSphere ESXi with IBM Customization Patch on Fix Central.

### Obtaining the VMware vSphere CLI

The VMware vSphere Command Line Interface (CLI) set allows you to use common system administration commands for ESX/ESXi systems from any workstation with network access to the ESX/ESXi systems.

Download the VMware vSphere CLI from the following URL:
**http://www.vmware.com/support/developer/vcli/**

**Important:** You must install this tool and open the VMware vSphere CLI command prompt before installing or removing the bundle.

# Installing the IBM Upward Integration for VMware vSphere bundle using VMware vSphere Command Line Interface

The topics in this section describe how to install the IBM Upward Integration for VMware vSphere bundle using the VMware vSphere Command Line Interface.

## Installing the bundle on a host using the IBM customized ESXi 4.1 image

This topic describes how to install the IBM Upward Integration for VMware vSphere bundle on a host using the IBM customized ESXi 4.1 image.

### About this task

Use the following procedure to install `IBM-ibmpowercim-ESX-4.1-00ACN-offline_bundle-1092011.zip` for a host using the IBM customized ESXi 4.1 image.

### Procedure

1. Enter maintenance mode for the host using the following command:

   ```
   vicfg-hostops.pl  --server [TARGET_HOST_IP] --operation enter
   ```

2. Install the package using the following command:

   ```
   vihostupdate.pl --server [TARGET_HOST_IP] -install -bundle [BUNDLE_PATH]
   -c
   ```

   BUNDLE_PATH stands for the absolute path of the bundle on the host where you run VMware vSphere CLI, for example: vihostupdate.pl --server 10.0.0.1 -install -bundle c:\offline-bundle.zip –c

3. Exit maintenance mode using the following command:

   ```
   vicfg-hostops.pl --server [TARGET_HOST_IP] --operation exit
   ```

4. Reboot the ESXi server and use the following command to verify that the package installed successfully:

   ```
   vihostupdate.pl --server [TARGET_HOST_IP] --query
   ```

## Installing the bundle on a host using the IBM customized ESXi 5.x image

### About this task

Use the following procedure to install `IBM-ibmpowercim-ESX-5.0-00ACN-1054796.zip` for a host using the IBM customized ESXi 5.x image.

### Procedure

1. Extract `IBM-ibmpowercim-ESX-5.0-00ACN-1054796.zip`. You will get a VIB and an offline bundle.
2. Enter maintenance mode for the host using the following command:

   ```
   vicfg-hostops.pl  --server [TARGET_HOST_IP] --operation enter
   ```

3. Install the package using the following command:

   ```
   esxcli --server [TARGET_HOST_IP] software vib install –d [BUNDLE_PATH]
   ```

   **Note:** This is different from ESXi 4.1, the BUNDLE_PATH listed above should be either a network path or local path on ESXi 5.x host, not a path on the host where you run VMware vSphere CLI.

   **Examples**:

   - If you make the bundle downloadable from a http server, then install the bundle with this command: `esxcli --server 10.0.0.1 software vib install –d http://WEB_SERVER/VMW-ESX-5.0.0-ibmpowercim-1.0-2.0-offline_bundle-914982.zip`
   - If you manually upload the bundle to the target ESXi 5.0 host under directory such as /tmp, then install the bundle with this command: `esxcli --server 10.0.0.1 software vib install –d /tmp/VMW-ESX-5.0.0-ibmpowercim-1.0-2.0-offline_bundle-914982.zip`

4. Exit maintenance mode using the following command:

   ```
   vicfg-hostops.pl --server [TARGET_HOST_IP] --operation exit
   ```

5. Reboot the ESXi server and use the following command to verify that the package installed successfully:

   ```
   esxcli --server [TARGET_HOST_IP] software vib list
   ```

## Removing the bundle using VMware vSphere CLI

The topics in this section describe how to remove the IBM Upward Integration for VMware vSphere bundle using the VMware vSphere Command Line Interface.

### Removing the bundle on a host using the IBM customized ESXi 4.1 image

This topic describes how to remove the bundle on a host using the IBM customized ESXi 4.1 image.

#### About this task

Use the following procedure for removing the IBM Upward Integration for VMware vSphere bundle for a host using the IBM customized ESXi 4.1 image.

#### Procedure

1. Locate the ID of the bundle you want to remove using the following command:

   ```
   vihostupdate.pl --server [TARGET_HOST_IP] --query
   ```

2. Enter the maintenance mode of the host using the following command:

   ```
   vicfg-hostops.pl  --server [TARGET_HOST_IP] --operation enter
   ```

3. Remove the bundle using the following command:

   ```
   vihostupdate.pl --server [TARGET_HOST_IP] --remove  -B  [Bulletin ID]
   ```

4. Exit maintenance mode using the following command:
   ```
   vicfg-hostops.pl --server [TARGET_HOST_IP] --operation exit
   ```
5. Reboot the ESXi server and use the following command to verify that the package was removed:
   ```
   vihostupdate.pl --server [TARGET_HOST_IP] --query
   ```

## Removing the bundle on a host using the IBM customized ESXi 5.x image

This topic describes how to remove the bundle on a host using the IBM customized ESXi 5.x image.

### About this task

Use the following procedure for removing the IBM Upward Integration for VMware vSphere bundle for a host using the IBM customized ESXi 5.x image.

### Procedure

1. Locate the ID of the bundle you want to remove using the following command:
   ```
   esxcli --server [TARGET_HOST_IP] software vib list
   ```
2. Enter the maintenance mode of the host using the following command: .
   ```
   vicfg-hostops.pl --server [TARGET_HOST_IP] --operation enter
   ```
3. Remove the bundle using the following command:
   ```
   esxcli --server [TARGET_HOST_IP] software vib remove -n ibmpowercim
   ```
4. Exit maintenance mode using the following command:
   ```
   vicfg-hostops.pl --server [TARGET_HOST_IP] --operation exit
   ```
5. Reboot the ESXi server and use the following command to verify that the package was removed:
   ```
   esxcli --server [TARGET_HOST_IP] software vib list
   ```

# Chapter 3. Using IBM Upward Integration for VMware vSphere with vSphere Web Client

The topics in this section describe how to access and use the software with vSphere Web Client.

After installation, the IBM Upward Integration tab is added to the vSphere Web Client under the Manage tab in the host view. It provides the following functions:

- System
- Alerts and Events
- Firmware Updates
- Power and Cooling
- Predictive Failures Management
- Configuration

You can navigate to each of these functions from the navigation pane located at the top.

## Working with System

The System function collects and analyzes system inventory information and health status to aid in diagnosing system problems.

System collects information about the following aspects of a system:

- Basic system information
- System event logs
- Installed applications and hot fixes
- Network interfaces and settings
- Hardware inventory
- Vital product data and firmware information

System provides an organized view that you can use to perform the following functions:

- View the system information
- Launch system diagnostic collection
- View the categorized system inventory results

## Viewing System Overview

The System Overview page provides you with a snapshot view of the current system. You can view the basic system information such as the machine type, operating system, version, IMM firmware version, and uEFI firmware version. You can also view the system hardware event summary and system inventory collection history.


*Figure 2. System Overview page*

## Launching the system diagnostic collection

This topic describes how to the launch system diagnostic collection function to get the latest system inventory information.

### Procedure

Click **Collect** located in the bottom section of the System Overview page to launch a full analysis of the system. This operation can take up to five minutes to complete.

**Note:** During the collecting process, the Installed Applications page, Network Settings page, Hardware Inventory page, and Firmware/VPD page are blocked. It is recommend that you do not navigate to any other host.
When the collection process finishes, the last collection time is displayed on the System Overview page. The latest system diagnostic data can be viewed from each of the categorized pages.

## Viewing categorized analysis results for the vSphere Web Client

After you launch a full system diagnostic collection, you can view the following analysis categories: Installed Applications, Network Settings, Hardware Inventory, and Firmware/VPD. Each page contains detailed information for each category.

On the left-side of the System Overview page, click to select and view each of the analysis category pages.

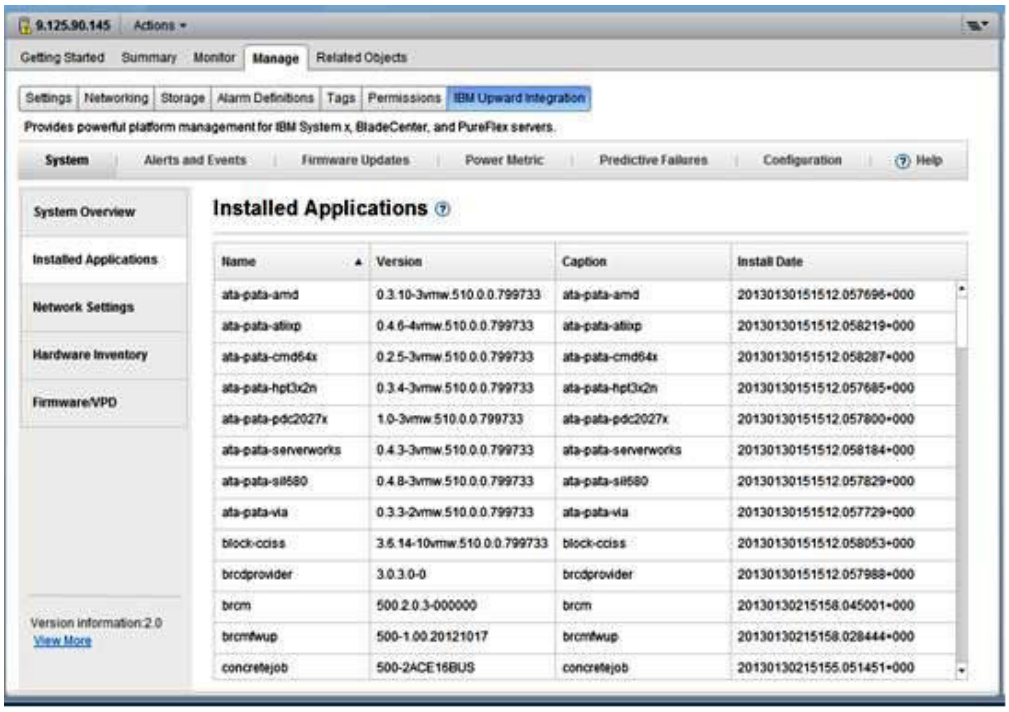


*Figure 3. Viewing categorized analysis results*

Results are displayed in tables with the applicable analysis category title.

## Working with Alerts and Events

The Events and Alerts function collects System Health information and displays hardware events and power throttling alerts.

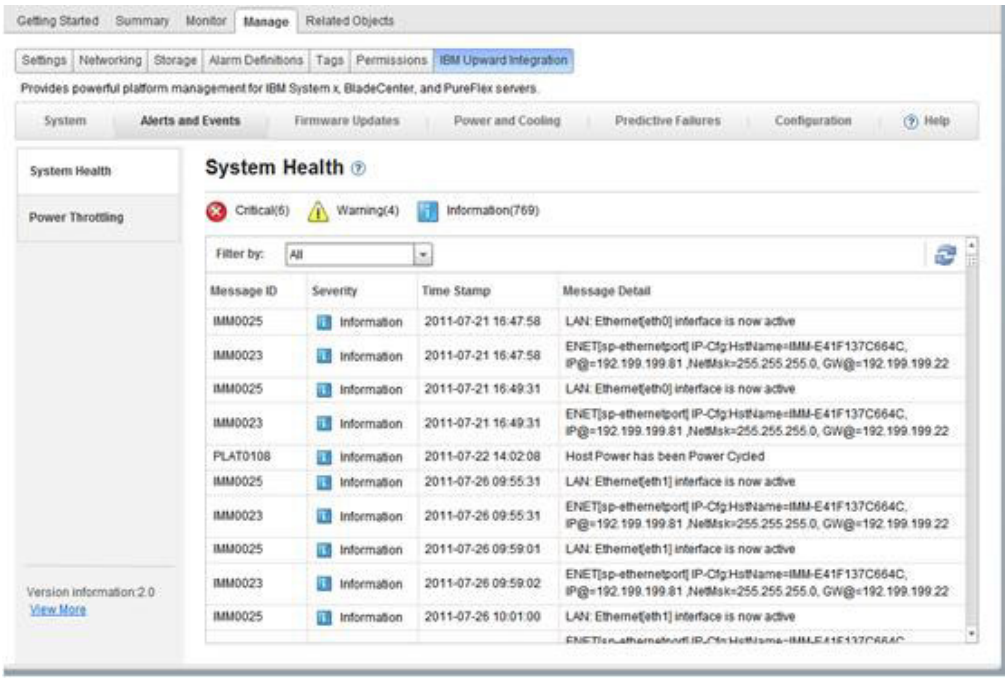


*Figure 4. Viewing Alerts and Events*

The System Health table containing events and alerts that can be sorted by clicking the table columns and also be filtered by choosing the severity from the filter drop-down menu. **Refresh** allows you to collect the latest alerts and events from the host.

## Working with Firmware Updates

The firmware updates function applies Recommended Updates (UXSP) and Individual Updates to your ESXi system. You can use this function to obtain and deploy UpdateXpress System Packs (UXSP) firmware updates and individual firmware updates.

The main functions of firmware updates are:

**Acquire Updates**

The Acquire Updates function downloads the UpdateXpress System Pack and individual updates for supported server types from a remote location such as IBM support.

**Compare and Update**

Inventories the system on which the update is being performed.

Queries the update directory for a list of applicable update packages.

Compares the inventory to the applicable update list.

Recommends a set of updates to apply.

Deploys the updates to the system

## Prerequisites for updating firmware

This topic provides information for completing the necessary prerequisites for updating firmware.

### Before you begin

Complete the following prerequisite steps before updating the firmware.

1. Enable **Commands** on the USB interface in uEFI by changing the uEFI settings.
2. Reboot the host.

## Selecting update preferences

The Firmware Updates function can update a remote ESXi host by using either Recommended (UXSP) or Individual updates acquired from the IBM website or a specific location. On the Updates Preferences page, you can select the method for acquiring the updates package .

### Procedure

1. Select **Firmware Updates** on the Manage IBM Upward Integration page. The Updates Preferences page is displayed.

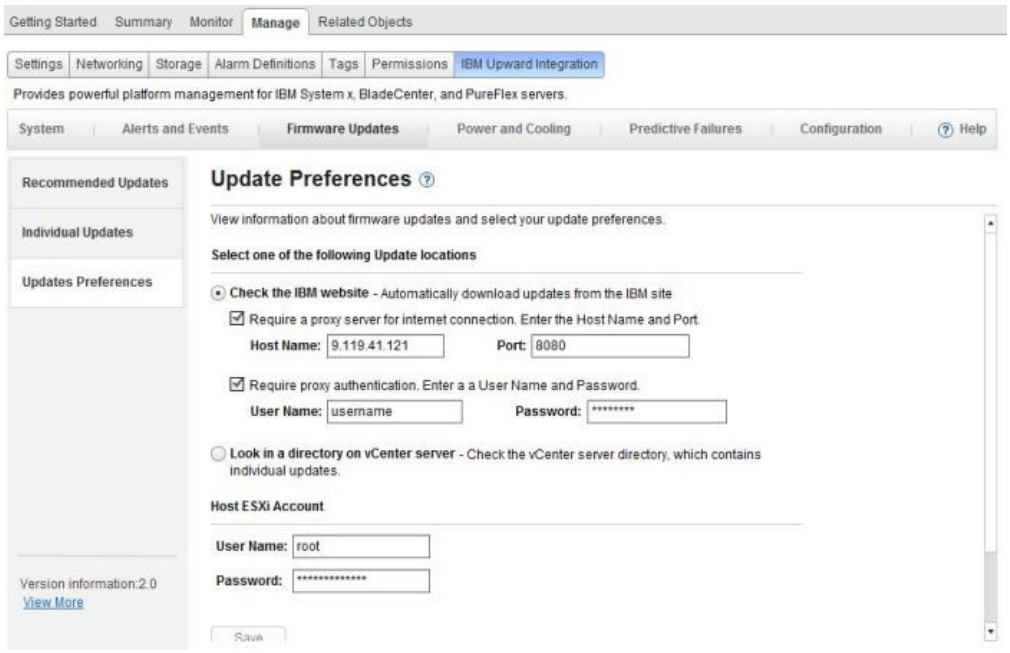


*Figure 5. Update Preferences page*

2. On the Update Preferences page, click to select one of the following update options.

   **Check the IBM web site:**
   Download the appropriate updates automatically from IBM site.

   **Look in a directory on vCenter Server:**
   A directory on the vCenter server file system containing specific individual updates.

   If the vCenter server cannot access the website directly, then you can enter the proxy server and port.

   When you select the **Look in a directory on vCenter server** option, the firmware updates acquire updates from a specified directory on vCenter server: `Installation folder\IVP\bin\data\uxspi\repository\`. However, you are not allowed to change the directory and put updates under this directory .

   **Note:** When you select the IBM website option to update firmware, the updates package is saved in `Installation folder\IVP\bin\data\uxspi\repository\` directory on the vCenter server after download. Select the location method to update the other host servers which have the same machine type. Before updating the host firmware, you need input the root account of host for updates.

## Firmware update scenarios

The topics in this section describe two scenarios for firmware updates: Recommended Updates (UXSP) and Individual Updates.

An UpdateXpress System Pack (UXSP) is an integration-tested bundle of online firmware and driver updates for IBM System x® and IBM BladeCenter® servers. UpdateXpress System Packs simplify the downloading and installation of all online driver and firmware updates for a given system, ensuring that you are always working with a complete, current set of updates that have been tested together and bundled by IBM.

### Recommended Updates (UXSP)

If you selected **Check the IBM web site** on the Update Preferences page, the Recommended Updates option will download and install firmware and drive updates from the latest UXSP for IBM System x and IBM BladeCenter servers. In the location mode, Recommended Updates will install firmware and drive updates from the latest UXSP of location for IBM System x and IBM BladeCenter servers.

#### Procedure

1. Verify that the vCenter Server has internet access to connect with the IBM website, or make sure the directory of vCenter Server has an UXSP which can apply to the target machine type when you selected location mode in Update Preferences.

2. Click **Start Update Wizard** on the Recommended Updates page. The Recommended Updates Wizard opens with the Check Compliance dialog box opened.

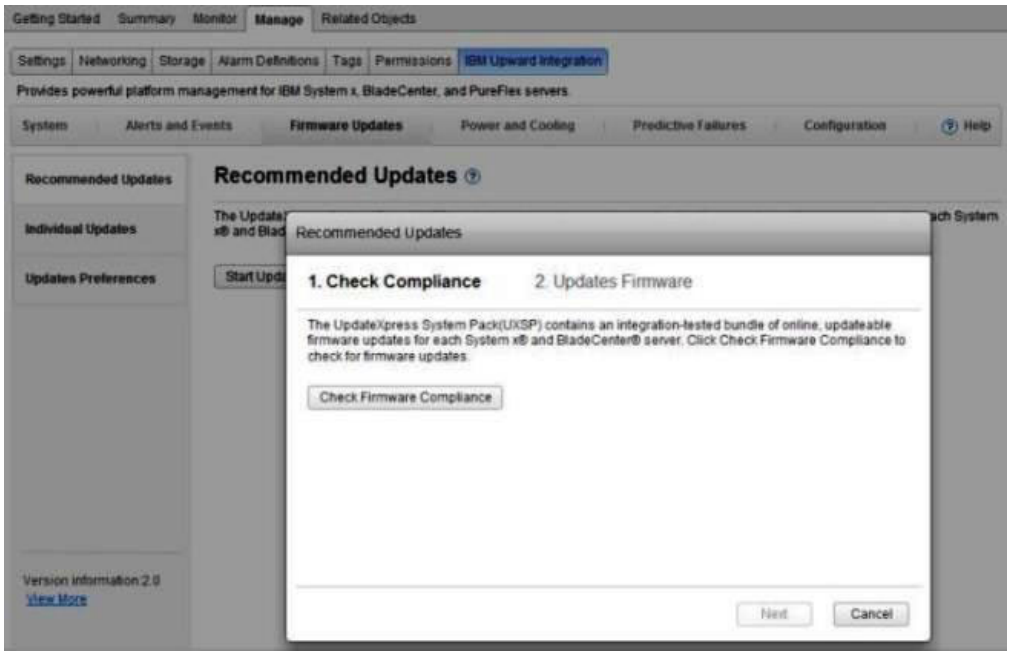


*Figure 6. Recommended Updates Wizard - Check Compliance dialog box*

3. Click **Check Compliance**. If you do not have this type of account for the target host or if the account is wrong, a dialog box opens to prompt for entering the host account information.
4. When the Check Compliance action has completed, make any necessary changes and click **Next**.

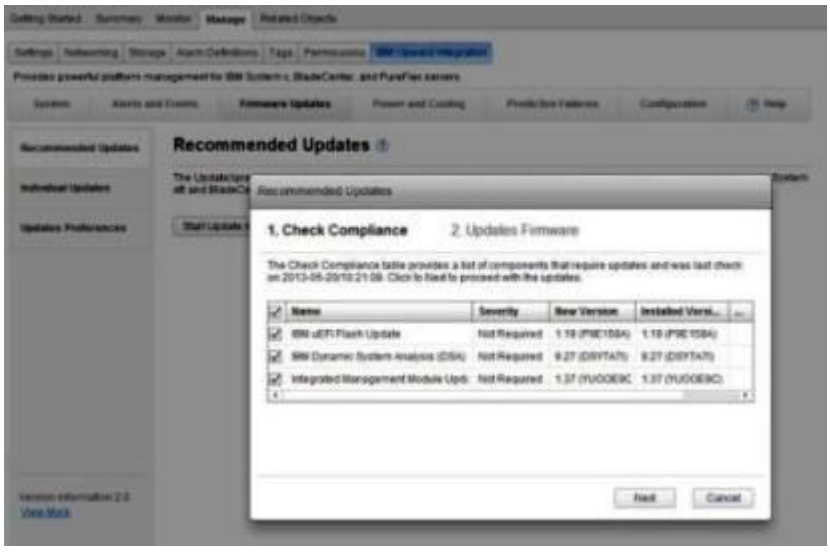


*Figure 7. Check Compliance complete*

After all the selected downloads are complete, the selected updates will update the target host.

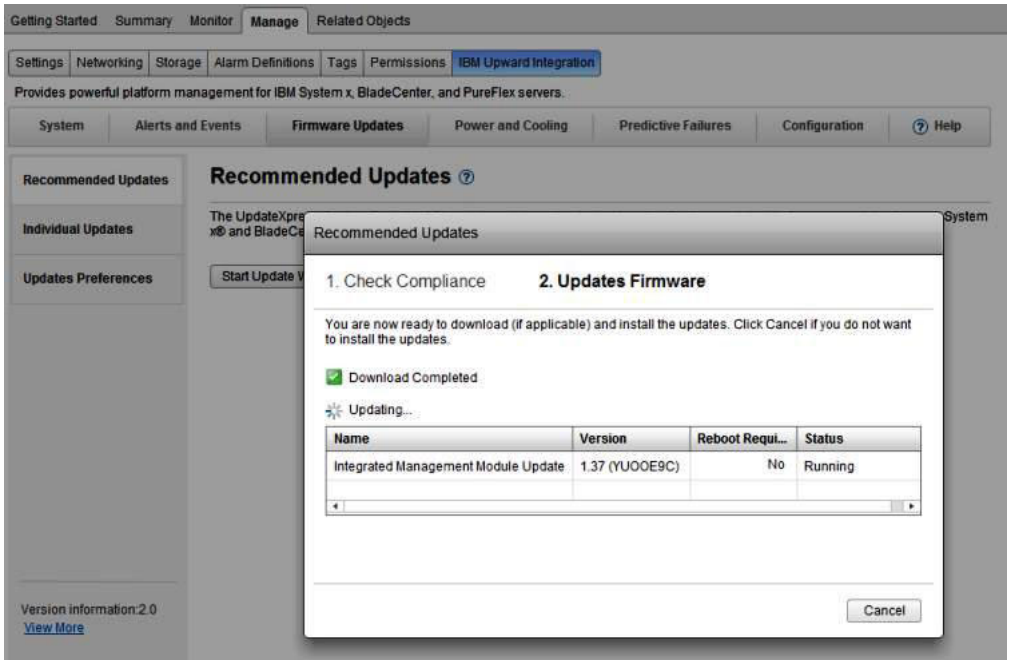


*Figure 8. Recommended Updates wizard - updating firmware*

5. After all of the updates have been applied, click **Close** to exit the update wizard.

## Individual Updates

If you selected **Check the IBM web site** on the Update Preferences page, the Individual Updates option will download and install the firmware and drive updates from the IBM website for IBM System x and IBM BladeCenter servers. In the location mode, Individual Updates will install firmware and drive updates from the latest UXSP of location for IBM System x and IBM BladeCenter servers.

### About this task

Perform the following steps to update a remote server using the Individual Updates option.

### Procedure

1. Verify that the vCenter Server has internet access to connect with the IBM website, or make sure the directory of vCenter Server has an UXSP which can apply to the target machine type when you selected location mode in Update Preferences.
2. Click **Start Update Wizard** on the Individual Updates page, and the Individual Updates Wizard opens.

3. Click **Check Firmware Compliance**. If you do not have this type of account for the target host or if the account is wrong, a dialog box opens to prompt for entering the host account information.
4. When the Check Compliance action has completed, make any necessary changes and click **Next**.

   After all the selected downloads are complete, the selected updates will update the target host.
5. After all of the updates have been applied, click **Close** to exit the update wizard.

# Working with Power and Cooling on the vSphere Web Client

The topics in this section describe Power® Metric options and provide you with the ability to manage power usage using power capping and power throttling.

## Power Metric page

The Power Metric page has options for viewing the Power Usage History, Thermal History, and Fan Summary. If the host is being monitored, the current power usage, thermal history, fan history, and the time of the monitor reading are displayed. This information is automatically refreshed every five minutes. This information is helpful for determining whether to reassign the workload.

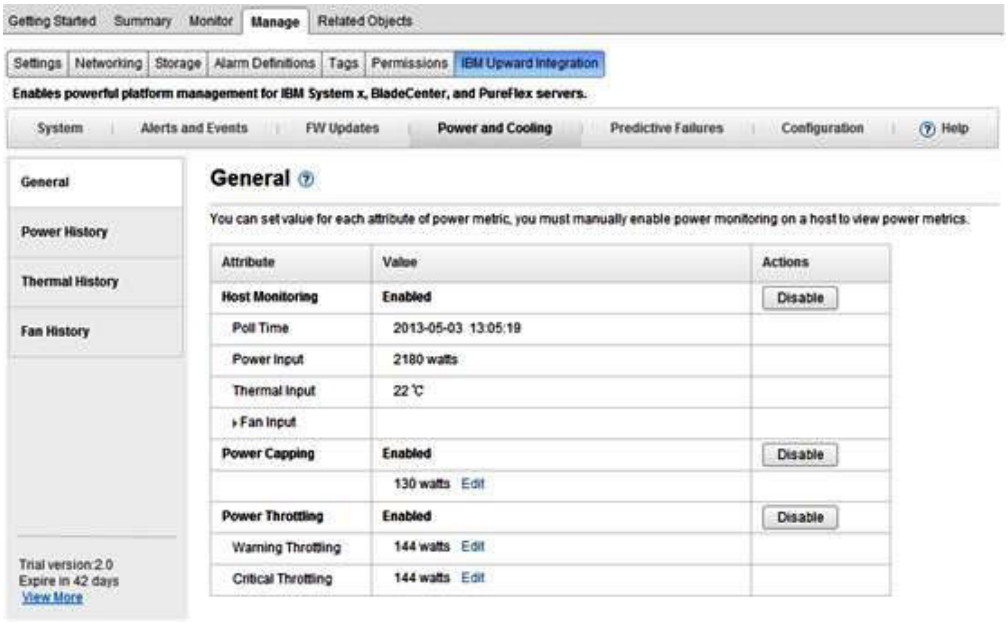


*Figure 9. Power Metric page*

## Enabling and disabling power monitoring

This topic provides a description of how to enable and disable power monitoring.

### Procedure

1. Select the **Power and Cooling** tab.
2. Click **Enable** to enable Power Monitor on a host. The Enable button is visible when Power Metric is not enabled on a host.
3. In the credentials dialog box, enter the credentials for the host and click **OK**. The host credentials will be saved in a database and the monitoring of power usage begins.
4. Click **Disable** to disable the monitoring.

   Enable **Commands** on the USB Interface in uEFI by changing the uEFI settings before OS booting.

## Setting Power Capping

Power capping allows you to allocate less power and cooling to a system if the firmware supports capping and it is enabled. This feature can help lower datacenter infrastructure costs and potentially allow more servers to be put into an existing infrastructure. Setting a power capping value ensures that system power consumption stays at or below the value defined by the setting. The power cap value is the value you set for a rack or blade server that will be capped by the firmware. The power cap value is persistent across power cycles for both rack and blade servers.

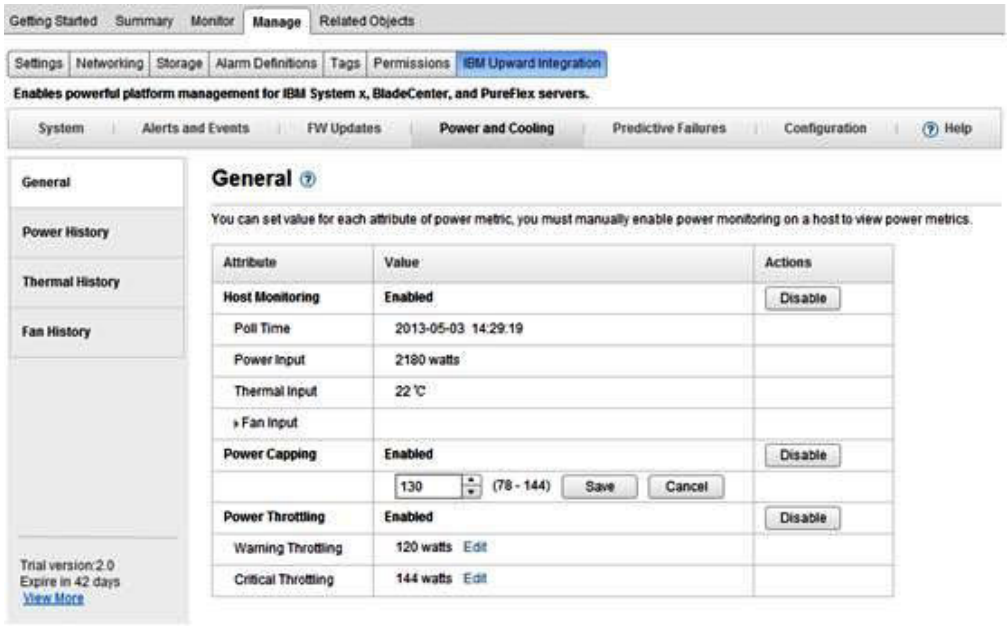


*Figure 10. Setting Power Capping on the vSphere Web Client*

## Setting Power Throttling

Setting power throttling allows you to receive alerts when power consumption exceeds a value you have set. You can set two power throttling values individually, one for a warning and one for a critical alert. When the power consumption exceeds a defined power throttling value, IVP receives a throttling event, which is then displayed in the Power Throttling Indications table.

Enable Power Throttling before setting Power Throttling.

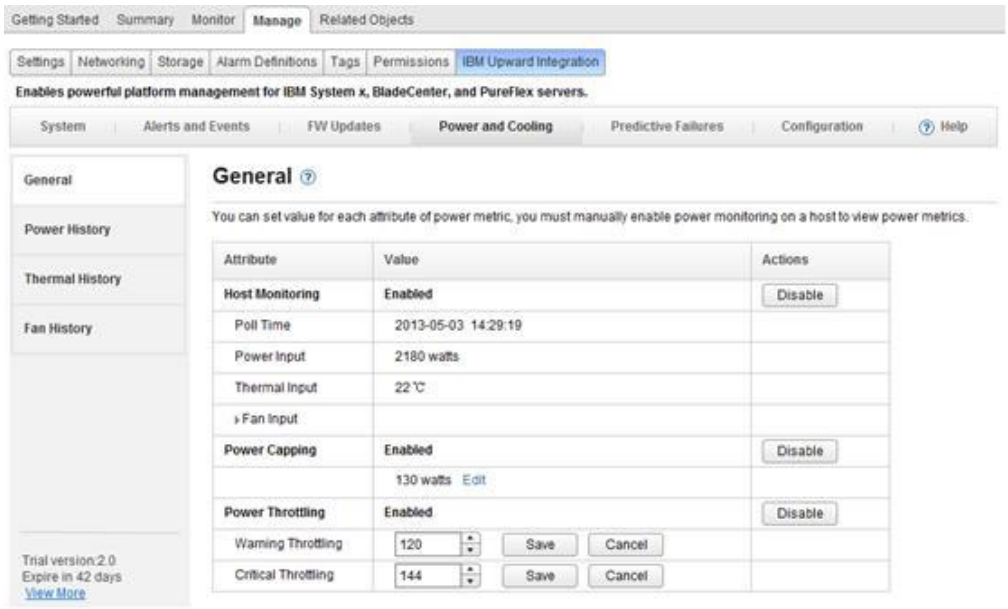


*Figure 11. Setting Power Throttling on vSphere Web Client*

## Viewing Power Usage History, Thermal Usage History, and Fan Usage History on the vSphere Web Client

The Power History, Thermal History, and Fan History charts are displayed on the right pane of the page. You can customize the duration and intervals for each of these charts.

### Procedure

1. Select the **Power and Cooling** tab. For each of the history charts, you can:
   - Use mouse wheel to zoom in/out of the charts, and use drag and drop to move a chart.
   - Click **Set Duration** to change the collection of history data to a different time interval.

2. Select one of the following options from the left pane.

**General**

On this page, you can set the value of each power metric attribute after enabling power monitoring on a host.

**Power History**

The Power Usage History chart provides power consumption readings for a 24-hour period.

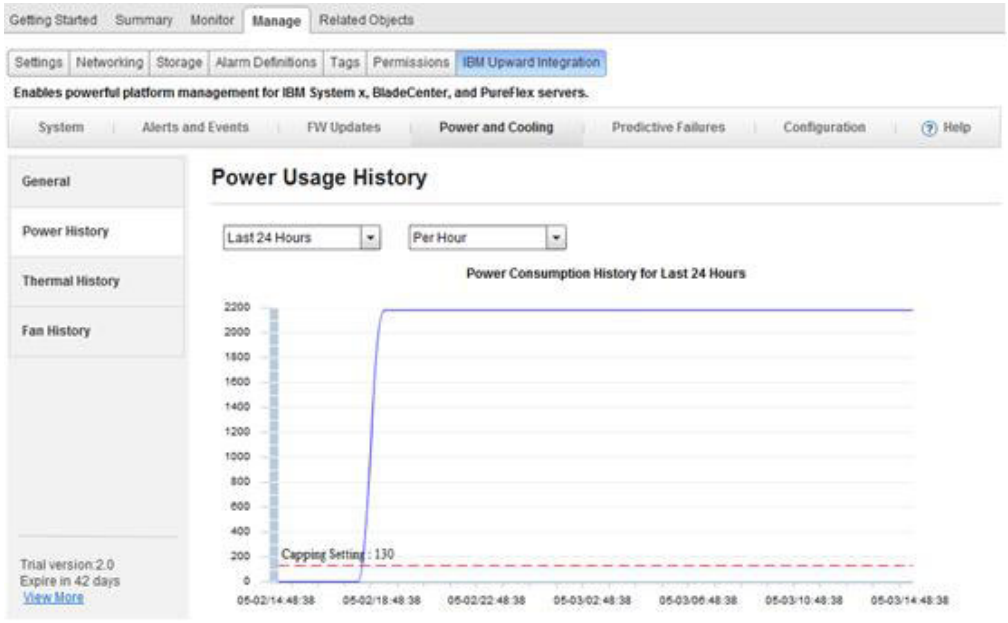


*Figure 12. Power Usage History for vSphere Web Client*

**Thermal History**

The Thermal Usage History chart provides temperature readings for a 24-hour period.

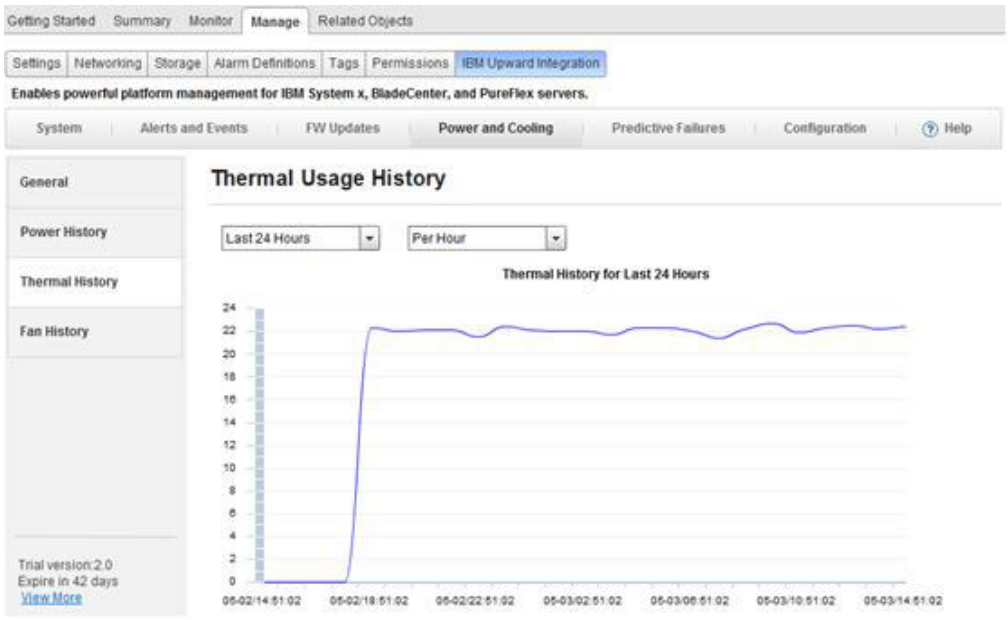


*Figure 13. Thermal Usage History for vSphere Web Client*

**Fan History**

The Fan Usage History chart provides fan usage readings for a 24-hour period.

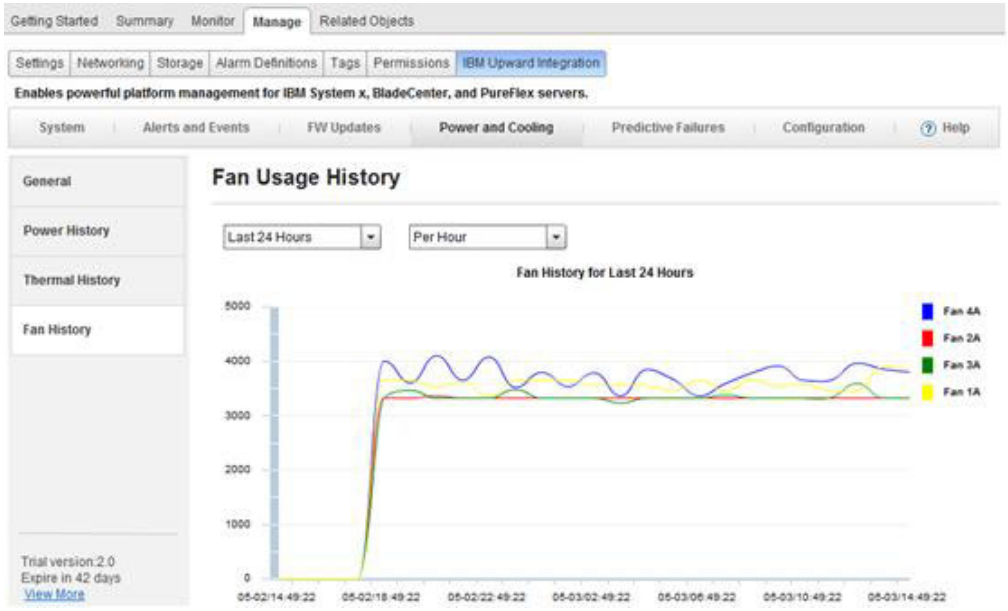


*Figure 14. Fan Usage History for vSphere Web Client*

# Working with Predictive Failure management

The topics in this section provide information for working with Predictive Failures on the vSphere Web Client.

The Policy and Rules page allows you to set management policies against the server based on a hardware predictive failure alert. IBM Upward Integration for VMware vSphere with vSphere Web Client evacuates VMs from the server or notifies you based on defined policy. You can view predictive failure alerts from the server and the triggered policy history on the Predictive Failures page.

**Note:** IBM Upward Integration for VMware vSphere with vSphere Web Client cannot receive predictive failure alerts from the server until you install the CIM providers and enable host monitoring on the Power and Cooling page.

## Prerequisites

This topic describes the prerequisites for using Predictive Failures for the vSphere Web Client.

Before using Predictive Failures, verify the following prerequisites are met.

- Predictive failure policy relies on the hardware Predictive Failure Alert (PFA) capability. The IMM of the server should have the ability to send out predictive failure alerts when a failure is detected.
- Proper configuration of the network management policy on the vCenter server is required to enable TCP on the https port that you selected for IBM Upward Integration for VMware vSphere use. The default is 9500 when you install IBM Upward Integration for VMware vSphere. IBM Upward Integration for VMware vSphere listens on this port for incoming indications.
- If you want to evacuate VMs from a host when a set policy is launched, the host must be put in a properly configured DRS (Dynamic Resource Scheduler) cluster. IBM Upward Integration for VMware vSphere with vSphere Web Client puts the host in maintenance mode, and the VMWare DRS cluster should ensure VM migration to another host.

## Policy and Rules

This topic describes how to set a management policy against a server based on a hardware predictive failure alert (PFA).

Policy and Rules allows you to add, edit, and delete a rule which defines the conditions and corresponding actions being executed on the target server. The conditions are various hardware PFA indications that IMM can generate. You can select some of these conditions to form your own rules.

An action indicates what instruct IBM Upward Integration for VMware vSphere to do when all of the conditions in a rule are triggered for the managed endpoint. The available actions are:

**Migration:**

Migration evacuates all of the VMs from the server. IBM Upward Integration for VMware vSphere only puts the server in maintenance mode. The cluster should verify VM migration to other servers after the server enters maintenance mode.

**Note:** The server must be placed in a properly configured VMware Dynamic Resource Scheduler (DRS) cluster.

**Notify:**
Provides a message log.

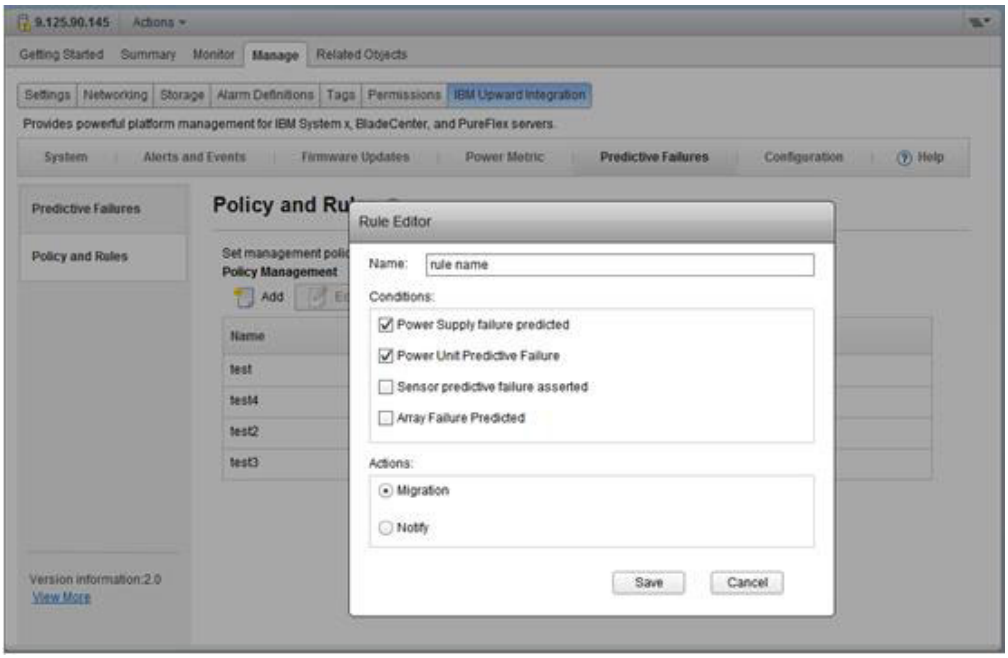


*Figure 15. Policy editor*

## Viewing Predictive Failure Events

IBM Upward Integration for VMware vSphere with vSphere monitors Predictive Failure Alerts (PFAs) from IMM. All alerts are listed in the Event log table.

### Results

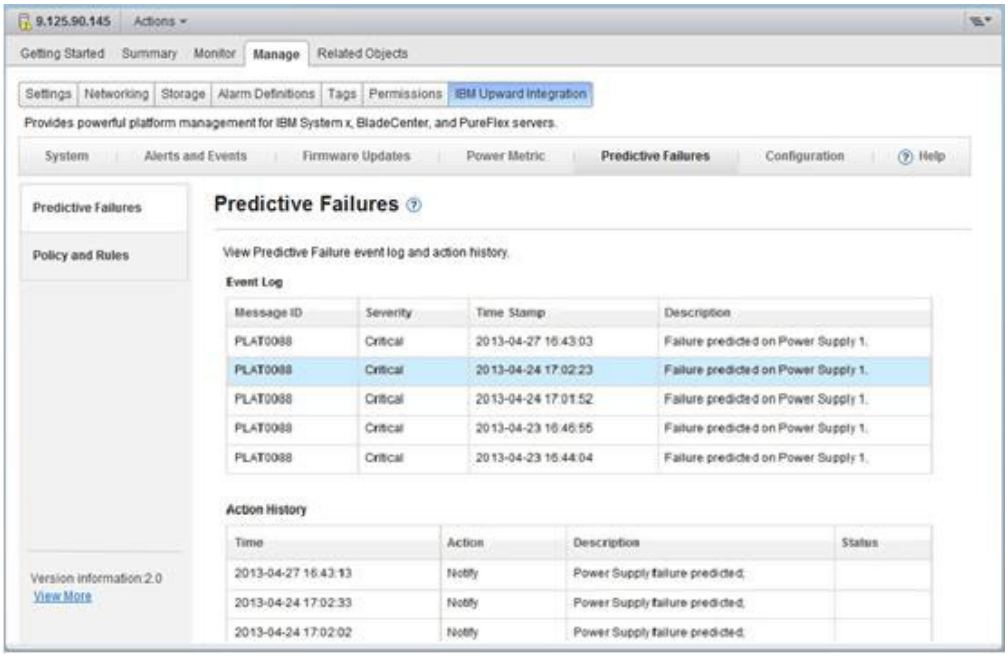


*Figure 16. Event log table*

### Viewing the Action History table

This topic describes how to view the Action History table. When the conditions of a rule are met, the defined action of the rule is launched on the managed endpoint. All of the triggered rules and action results are listed in the Action History table.

### Results

**Note:** A Notify action record has no status information. The action record only indicates that the notify action was successfully triggered.

## Working with Configuration

The configuration page manages the system settings on the host. This includes settings for IMM, uEFI, and the boot order of the host.

# Viewing advanced system settings

Settings are categorized into sections which are displayed in different links in the left pane. You can easily find a setting by viewing the different links. The values of the settings are displayed in each link and based on the last refresh. The last update date and time is displayed to the right of Refresh button.

## About this task

The following procedure provides examples of the steps for viewing two different advanced system settings. The values of the settings are displayed in each link and based on the last refresh. The last update date and time is displayed to the right of Refresh button.

## Procedure

1. Click **IMM Port Assignments** in the left pane.
2. Click **Refresh** to get latest advanced system settings values for IMM Port Assignments.

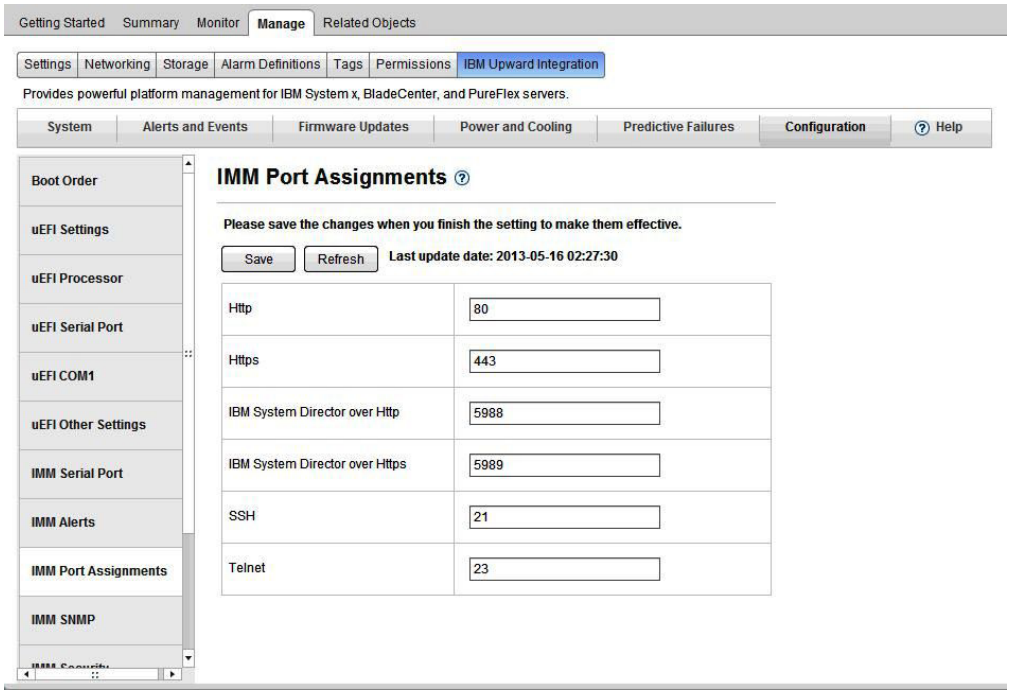


*Figure 17. Viewing IMM Port Assignments*

Some settings, such as uEFI settings, are only supported on a certain machine type or firmware version. If your host does not support a setting, it would be disabled to indicate this setting is currently not supported on your host.

3. To view boot order, click **Boot Order** in the left pane.

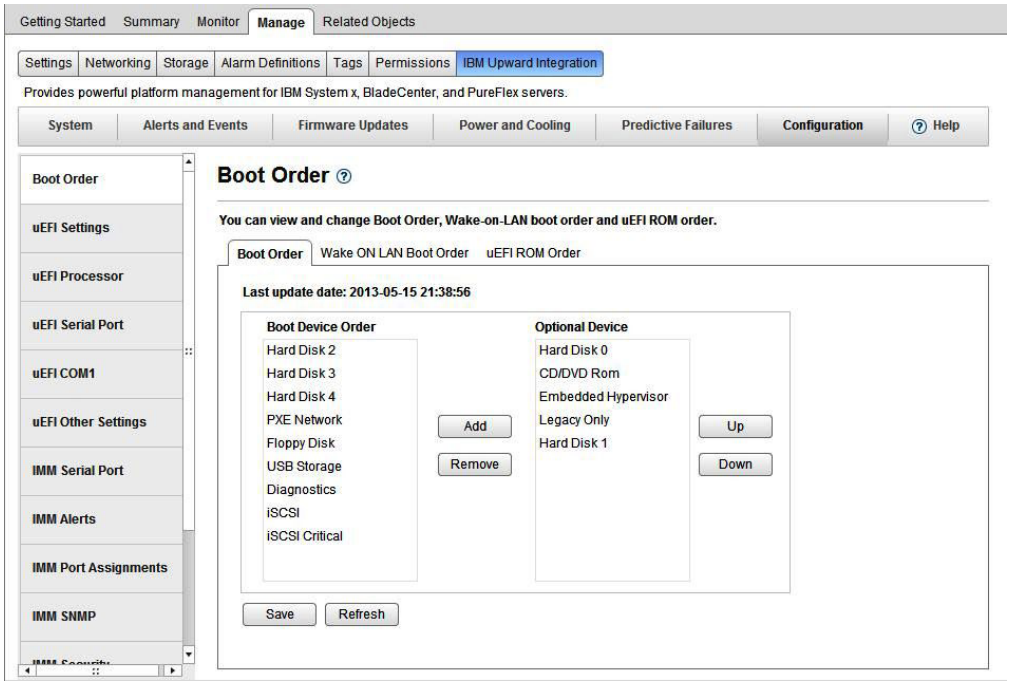


*Figure 18. Viewing Boot Order*

# Changing System Settings

This topic describes how to change Advanced System Settings on the host.

## Procedure

1. To change an advanced system setting, enter the new value and click **Save**. The change is executed on the endpoint.
   - If the change is successfully executed, the following symbol is displayed.

*Figure 19. Setting change success symbol*

   - If the change is not successfully executed, the following symbol is displayed.

*Figure 20. Setting change not success symbol*

   To view detailed information about why the setting change failed, place the cursor over the symbol.

2. Click **IMM Alerts** to view the Alerts section of IMM Settings.

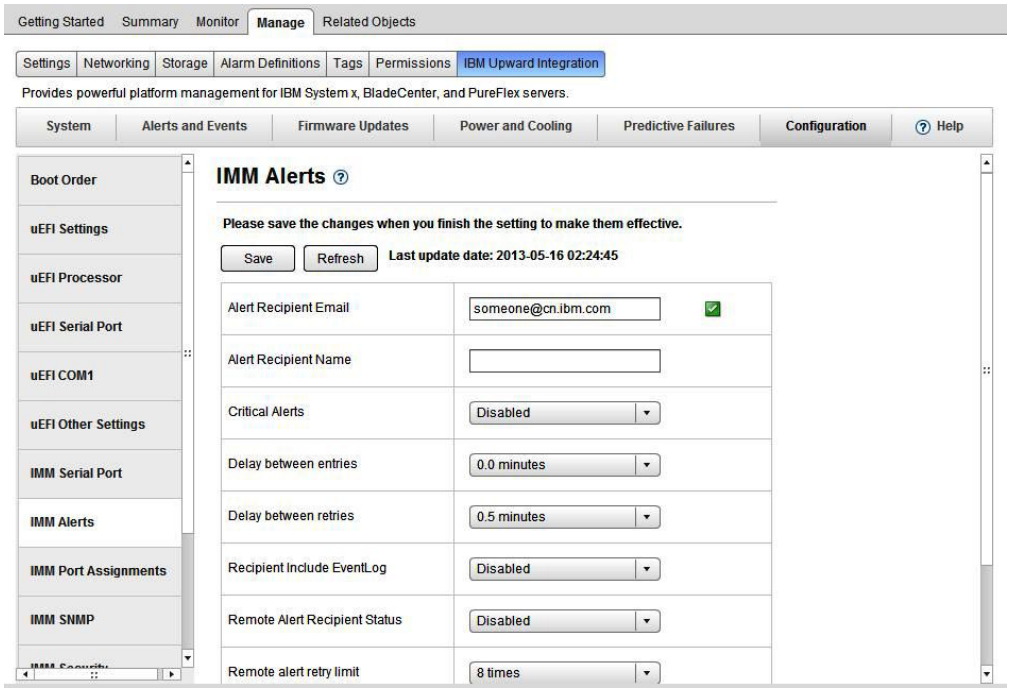


*Figure 21. Viewing IMM Alerts*

## Example

The following list provides an example for some of the different types of settings and how to change these settings. The manner in which each setting is changed varies.

**text string:**
Before you enter any information, a prompt showing the requirements is displayed. If the information you entered does not match the requirements, place the cursor over the text string to view the description.

**selection type:**
Select the value from the drop-down menu.

**boot order:**
The left column displays the current boot order, and the right column displays the optional device. To change the order, you can move a boot order option up or down and between the two columns, by clicking the corresponding button.

# Chapter 4. Using IBM Upward Integration for VMware vSphere Client

The topics in this section describe how to use IBM Upward Integration for VMware VSphere with vSphere Client.

IBM Upward Integration for VMware VSphere with vSphere Client provides the following functions:

- Dashboard
- Dynamic System Analysis
- Firmware updates
- Power Metric
- Advanced System Settings
- Predictive Failure Management

You can navigate to each of these functions from the navigation pane on the left side.

## Working with the Dashboard

The Dashboard displays an overview of the host status.

It includes the following summaries:

- System Information Summary
- System Health Summary
- Power Throttling Summary
- Predictive Failure Alert Summary

### System Information Summary

System Information Summary contains information of the managed host.

The System Information Summary provides the following information:

- manufacturer
- model
- serial number
- operating system
- operating system version
- last boot

## The System Health, Power Throttling, and Predictive Failure Alert Summaries

These summaries contain an overview of the system running status (health messages from the host), the power throttling status and PFA status.

All the messages are grouped into the following three categories by severity.

- *Critical events* are events that can or already have caused a host failure that requires your immediate attention.
- *Attention events* are events that indicate that there is something abnormal on the host but the abnormality will not cause immediate failure of the host.
- *Information Events* are events that indicate that something happened on the host that will not inhibit the host running.

Each of the Summary categories is grouped in an accordion box. The title indicates how many events are in the category. Since the events are effective for a limited period, a maximum of 20 events are shown in each category; however, you can check all power throttling events on the Power Metric page and all PFA indication events on the Predictive Failure Management page.

If you click on the title, the box extends and lists the following information details:

- Message
- Event time
- MessageID

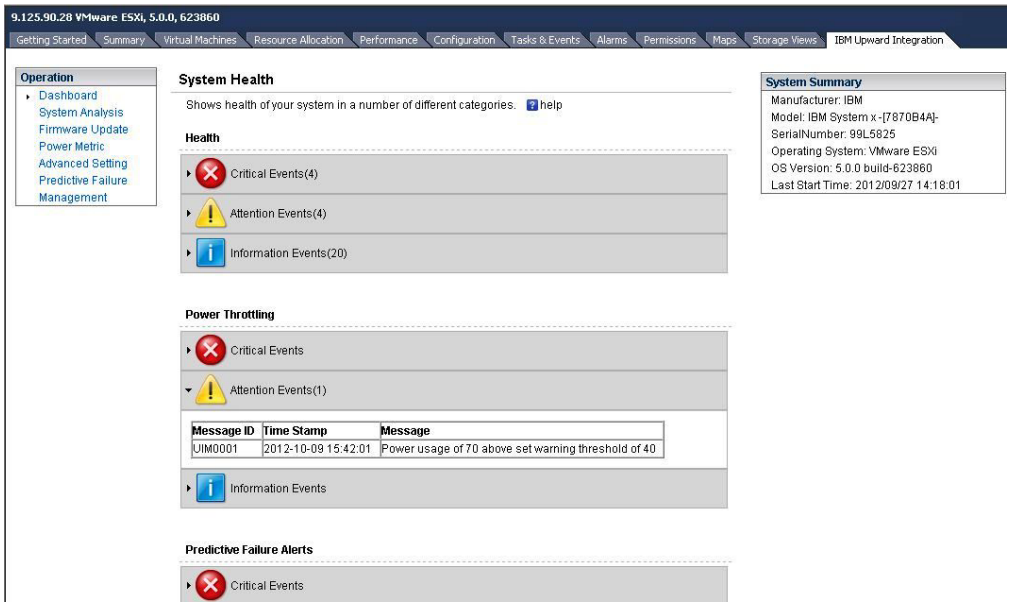


*Figure 22. System Health Summary Dashboard view*

# Working with Dynamic System Analysis

Dynamic System Analysis collects and analyzes system information to aid in diagnosing system problems.

Dynamic System Analysis collects information about the following aspects of a system:

- System configuration
- Installed applications and hot fixes
- Device drivers and system services
- Network interfaces and settings
- Performance data and running process details
- Hardware inventory, including PCI information
- Vital product data and firmware information
- SCSI device sense data
- ServerRAID configuration
- Application, system, security, ServeRAID, and service processor system event logs

The plug-in provides functions inherited from the standalone Dynamic System Analysis, and provides an organized view that you can use to do the following functions:

- Launch system inventory collection
- View and manage system inventory history
- View the categorized system inventory results

## Launching system inventory collection

This topic describes how to launch the system inventory collection function using the System Analysis operation on the System Information page.

### About this task

This task is performed from the System Information page.

Click the **Refresh** button located in the Diagnostic Actions section to complete a full analysis of the system. This operation can take up to five minutes to perform.

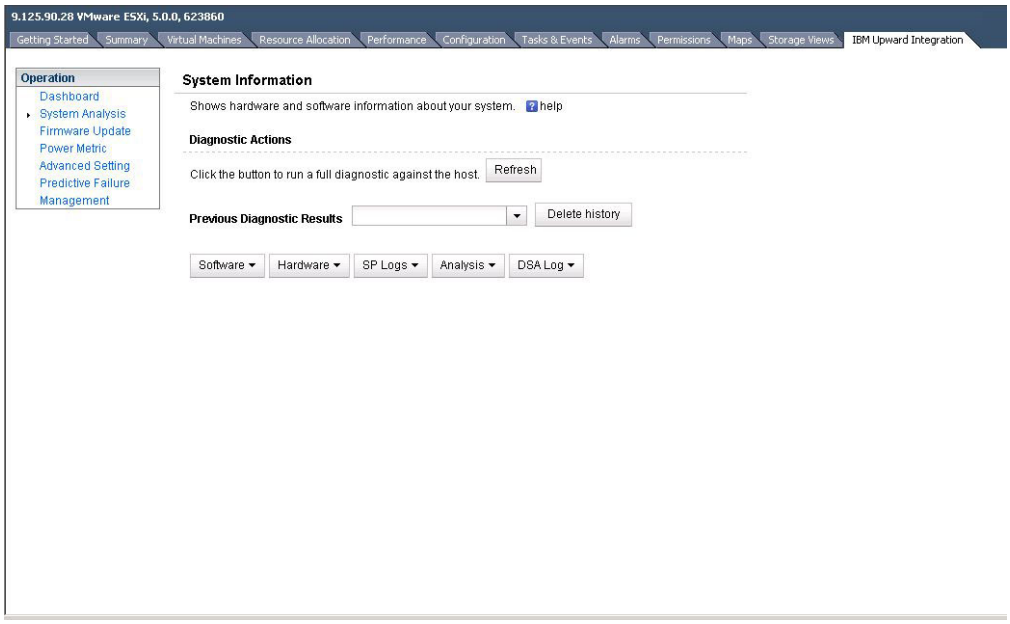


*Figure 23. Launching the system inventory collection function*

When the analysis is complete, the results of the analysis and the software system overview are displayed.

## Viewing and managing the analysis history

This topic describes how to view and manage the history of analyzed results.

To access the history of the analyzed results, click the dropdown menu, and select the analysis you want to view. The result page displays analysis.

You can also use the **Delete** button to delete a specific history analysis that is no longer necessary.

## Viewing categorized analysis results

After you launch a full analysis or select a history analysis, the categorized analysis result area is displayed.

The categorized analysis result area is composed of a category selection menu and a section with the results tables. The default view displays the generic system information of the host. You can switch to any section you are interested in viewing, including the information listed in “Working with Dynamic System Analysis” on page 33.

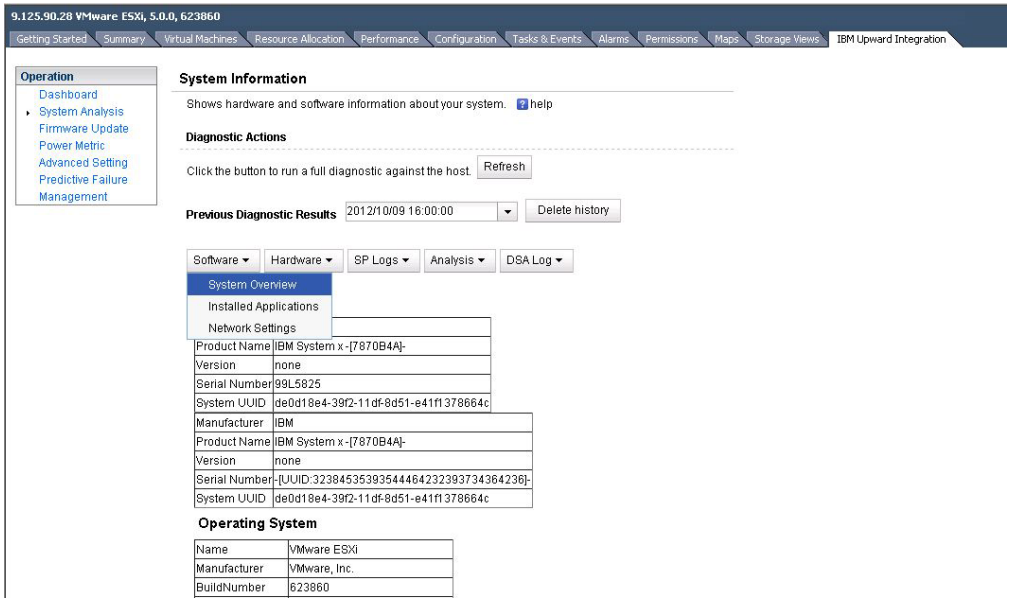


*Figure 24. Categorized analysis result area*

Results are displayed in tables with titles that indicate the subcategory of the results table. The dates displayed in the table are derived from a new analysis or the analysis history.

## Working with Firmware Updates

The firmware update function applies the latest UpdateXpress System Packs and individual updates to your ESXi system. The UpdateXpress System Packs contain updates for Windows and Linux firmware.

Use this function to obtain and deploy UpdateXpress System Packs firmware updates and individual firmware updates.

The main functions of firmware updates are:

- *Acquire Updates*

  The Acquire Updates function downloads the UpdateXpress System Pack and individual updates for supported server types from a remote location such as IBM support.
- *Compare and Update*

  Compare and Update performs the following functions:
  - Inventories the system on which the update is being performed
  - Queries the update directory for a list of applicable update packages
  - Compares the inventory to the applicable update list
  - Recommends a set of updates to apply
  - Deploys the updates to the system

# Prerequisites

This topic provides information for completing the necessary prerequisites for updating firmware.

## Before you begin

Complete the following prerequisite steps before updating the firmware.

## Procedure

1. Enable **Commands** on the USB interface in uEFI by changing the uEFI settings.
2. Reboot the host.

# Firmware update scenarios

The topics in this section describe two scenarios for firmware updates: updating a remote server from the IBM website and updating a remote server from a local directory.

## Updating a remote server from the IBM website

The firmware update function can update a remote ESXi host with either UXSP(s) or individual updates acquired from the IBM website.

### About this task

Perform the following steps to update a remote server from the IBM website.

### Procedure

1. Click **Update Link** in the navigation pane on the left.
2. On the Updates Location page, select **IBM website**.

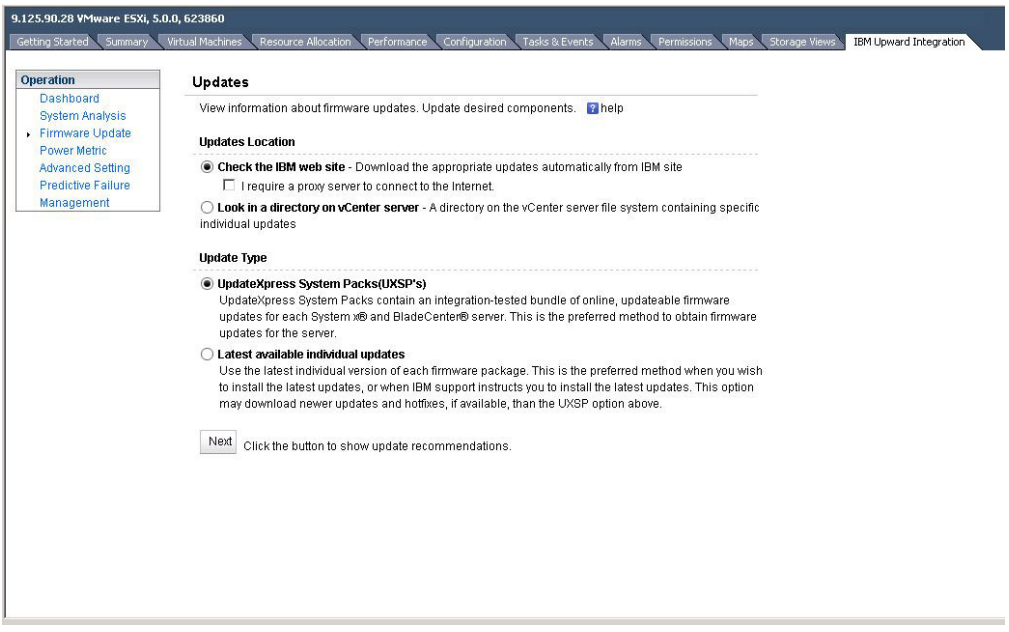


*Figure 25. Updates Location page*

3. On the HTTP Proxy Setting page, specify the proxy information if required.
4. On the Update Type page, select the type of updates you want to acquire. Possible updates are:
   - **UpdateXpress System Packs (UXSPs)** contain an integration-tested bundle of online, updatable firmware and device driver updates for each system. This is the preferred method for obtaining firmware updates for the server.
   - **Individual updates** use the latest individual version of each firmware and device driver package. This is the preferred method when you want to install the latest updates, or when IBM support instructs you to install the latest updates. This option can download newer updates and hotfixes, if available, than the UXSP option.
5. Click **Next**. The Update Recommendation page is displayed.

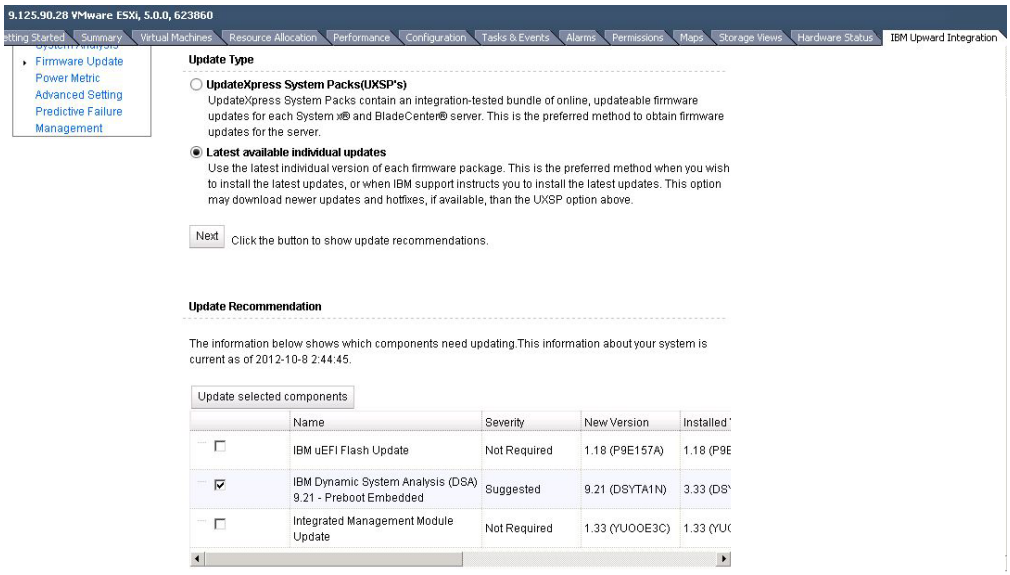


*Figure 26. Update Recommendation page*

6. On the Update Recommendation page, make the required changes and then click **Update**.

   The plug-in acquires the updates from IBM website. The progress bar indicates that the installer is processing, and shows the percentage of progress completed. If necessary, click **Cancel** to stop the download. Once you click **Cancel**, the **Cancel** button is replaced with the **Begin** button. Use the **Begin** button to resume the download.

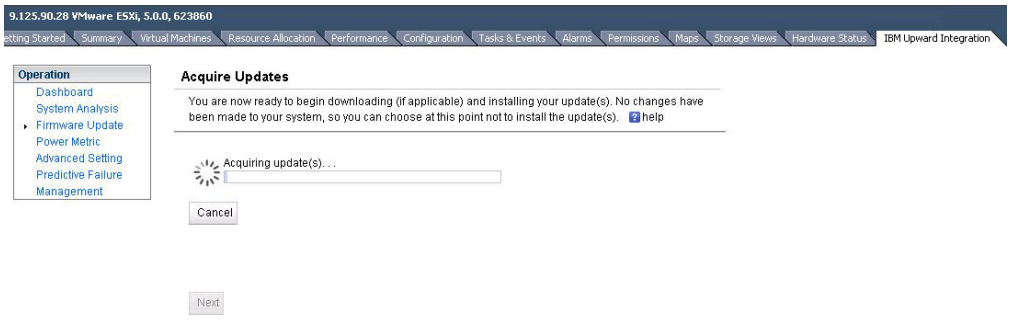


*Figure 27. Acquire Updates*

7. After all the selected downloads are complete, click **Next**.

   On the ESXi credentials page, enter the administrative account information of the target ESXi, and click **Next**.

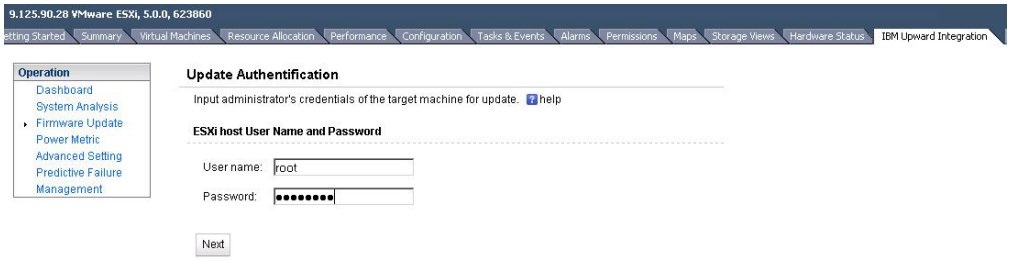


*Figure 28. ESXi credentials page*

The Update Execution page is displayed while the updates are installing to the target host. The progress bar indicates that the installer is processing, and shows the percentage of progress completed.

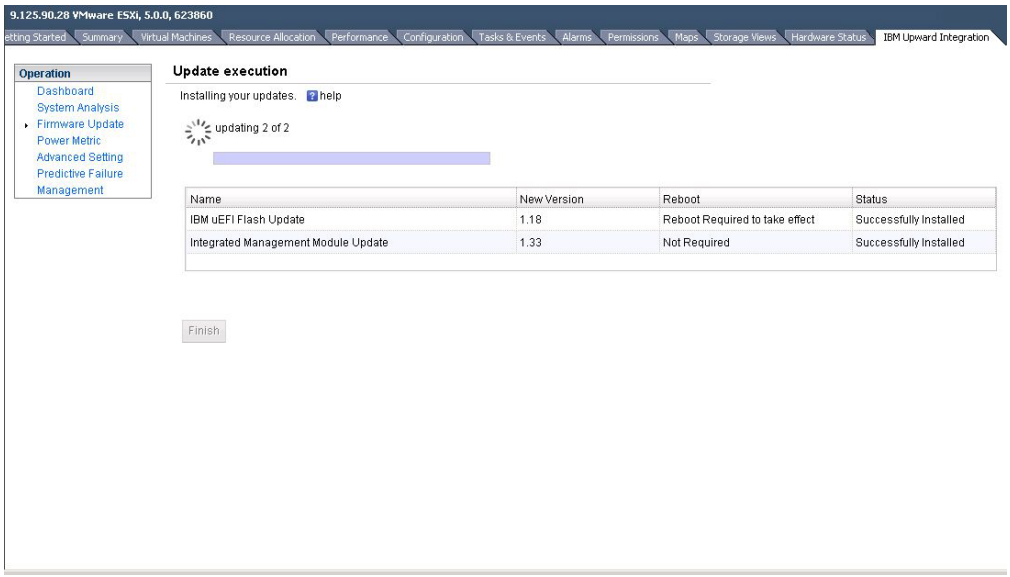


*Figure 29. Update execution page*

8. After the updates are applied, click **Finish** to complete the update.

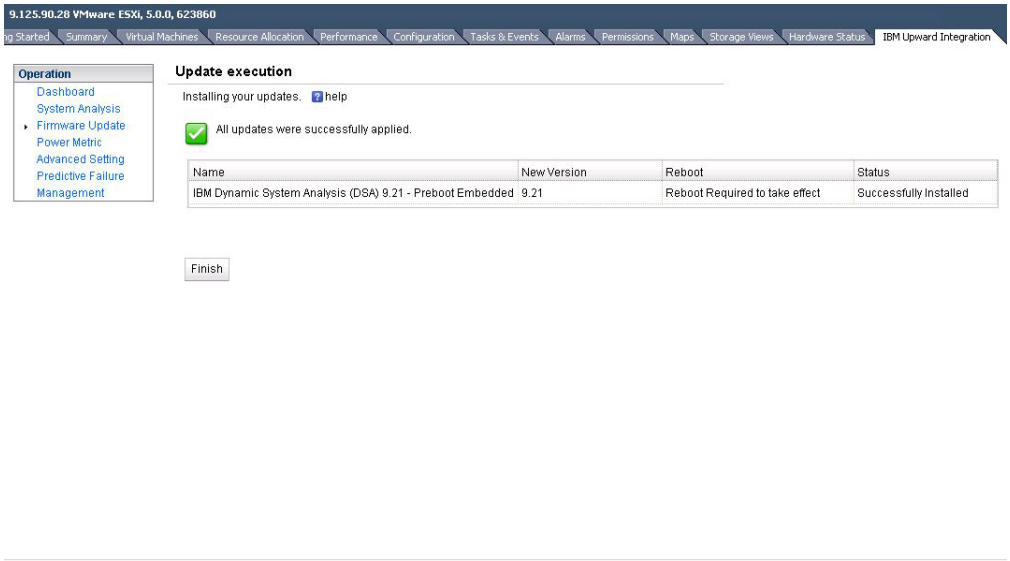


*Figure 30. All updates successfully applied*

### Updating a remote server from a local directory

The firmware update function can update a remote ESXi host with either UXSP(s) or individual updates stored in a directory (repository) on the vCenter server.

#### About this task

Perform the following steps for updating a remote server from a local directory.

#### Procedure

1. Click **Update** in the navigation pane on the left.
2. On the Updates Location page, select **Look in a directory on vCenter server**. A gray text box displays the absolute path of the directory. Once the plug-in is installed, it is a fixed directory. You must save all updates there manually, before the update.
3. On the Update Type page, select the type of updates you want to acquire.
4. Click **Next**. The Update Recommendation page is displayed.
5. On the Update Recommendation page, make the required changes and then click **Update**.
6. On the ESXi credential page, enter the administrative account information of the target ESXi host, and then click **Next**.

   The Update Execution page is displayed while installing updates on the target host. The progress bar indicates the installer is processing, and shows the percentage of progress completed.
7. After the updates are applied, click **Finish** to complete the updates.

## Working with Power Metric

Power Metric shows the power usage, thermal, and fan speed values and the trend for a managed host. This information is helpful for determining whether to reassign the workload. Power capping sets the upper limit of power work. Power throttling allows you to receive warning or critical alerts when power consumption exceeds the values you set.

### Enabling and Disabling Power Metric

To use the Power Metric features, enable Power Metric on a host.

The **Enable** button is visible when Power Metric is not enabled on a host. When you click **Enable**, a dialog requiring credentials for the host is displayed. After you enter the correct credentials for the host, the monitoring of power usage begins.

You can disable the monitoring by clicking **Disable**.

Enable **Commands** on the USB Interface in uEFI by changing the uEFI settings before OS booting.

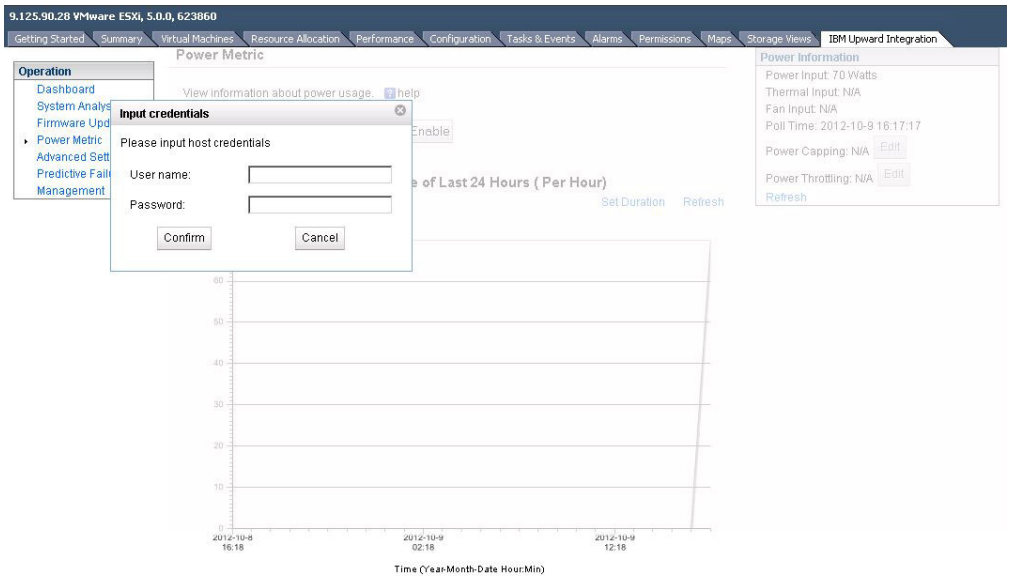


*Figure 31. Enabling Power Metric*

## Viewing the Power Usage, Thermal History, and Fan Summary

The power usage, thermal history, and fan summaries are displayed on the right pane of the page. If the host is being monitored, the current power usage, thermal history, fan summary, and the time of the monitor reading are shown. Click **Refresh** to see the latest reading for the power usage, thermal history, and fan summary.

## Viewing the Power Usage, Thermal History, and Fan Summary Chart

The default Power Usage, Thermal History, and Fan Summary Chart provides power usage information for the past 24 hours in 1-hour intervals.

You can customize the duration and intervals of the chart. Click **Set Duration** to view the power usage history data for a different period. Select the required duration and interval.

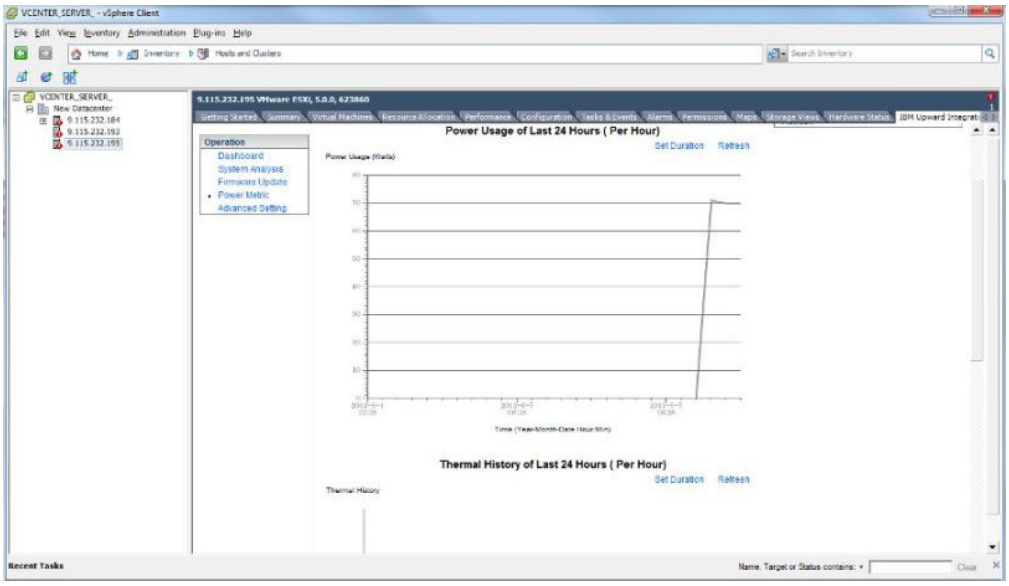


*Figure 32. Power Usage Chart*

The following figure provides an example of the Thermal Chart.

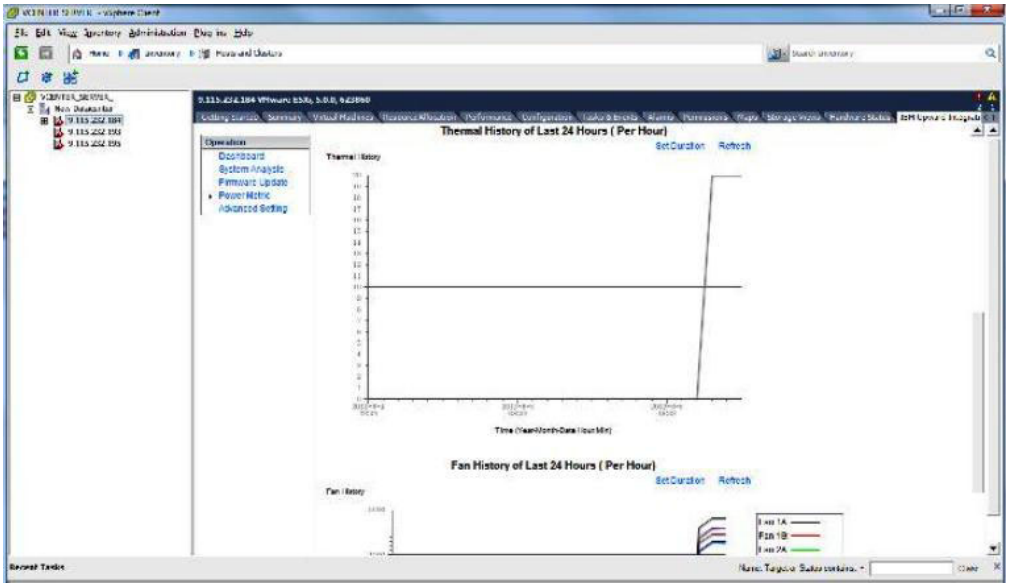


*Figure 33. Thermal Chart*

The following figure provides an example of the Fan Chart.

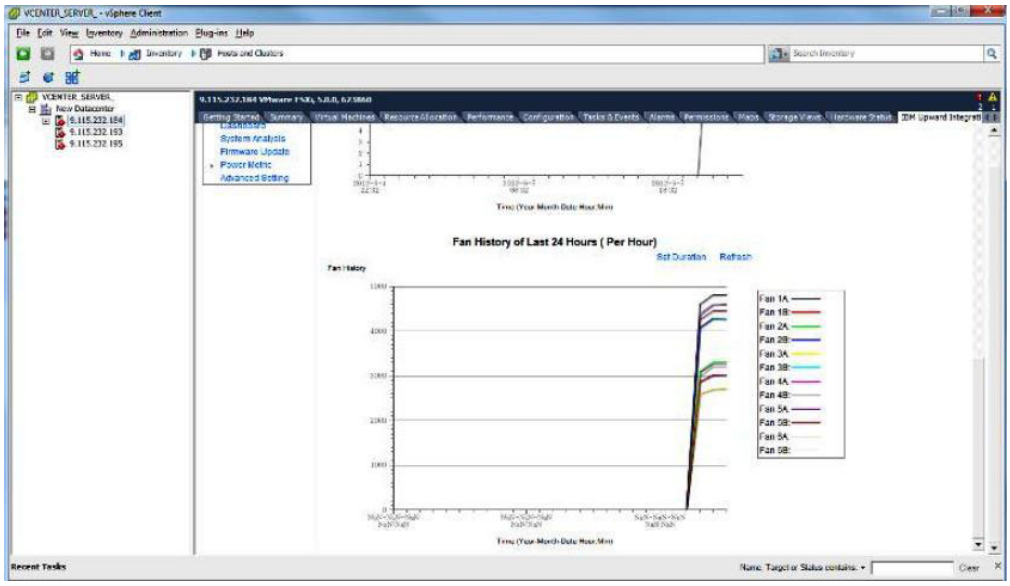


*Figure 34. Fan Chart*

## Setting Power Capping

Power capping allows you to allocate less power and cooling to a system. This feature can help lower datacenter infrastructure costs and potentially allow more servers to be put into an existing infrastructure. Setting a power capping value ensures that system power consumption stays at or below the value defined by the setting. The power cap value is the value you set for a rack or blade server that will be capped by the firmware, if the firmware supports capping. The power cap value is persistent across power cycles for both rack and blade servers.

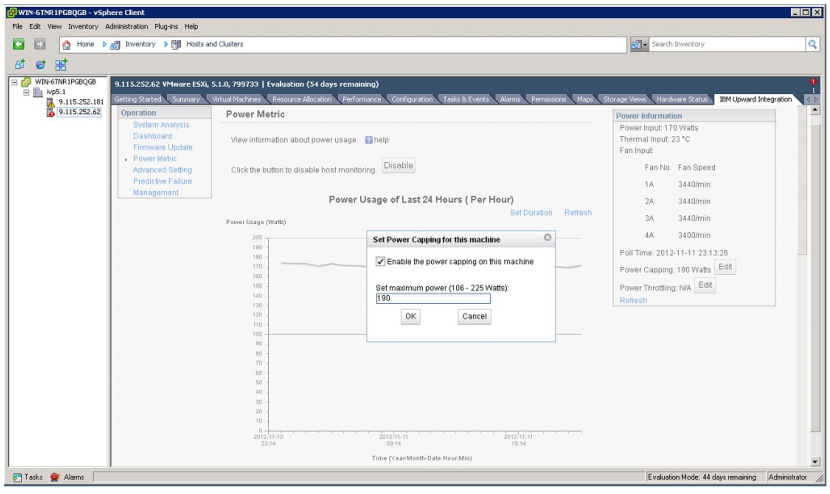


*Figure 35. Setting Power Capping*

## Setting Power Throttling

Setting power throttling allows you to receive alerts when power consumption exceeds a value you set. You can set two power throttling values individually, one for a warning and one for a critical alert. When the power consumption exceeds a defined power throttling value, IBM Upward Integration for VMware VSphere with vSphere Client receives a throttling event, which is then displayed in the Power Throttling Indications table.

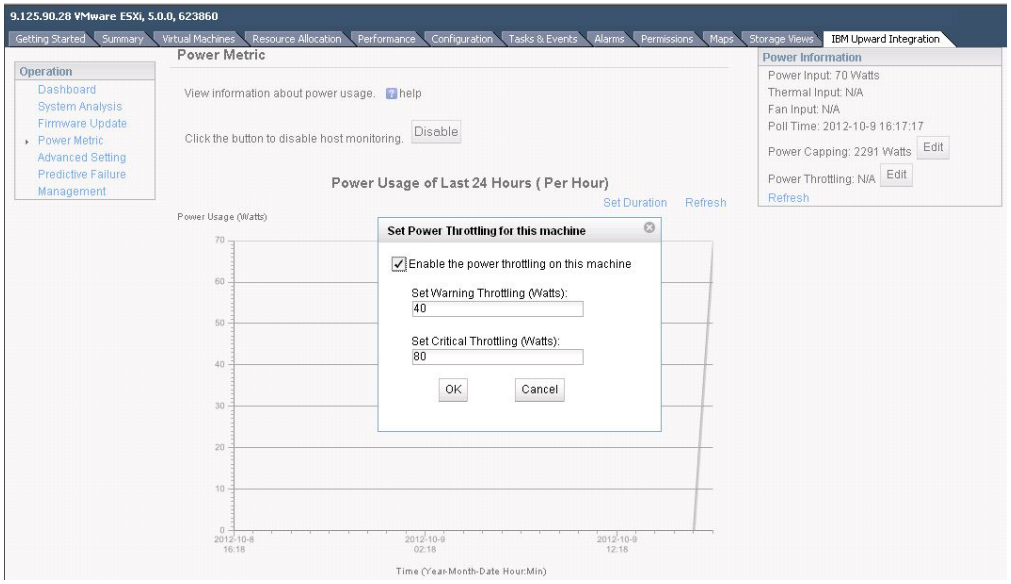


*Figure 36. Set Power Throttling*

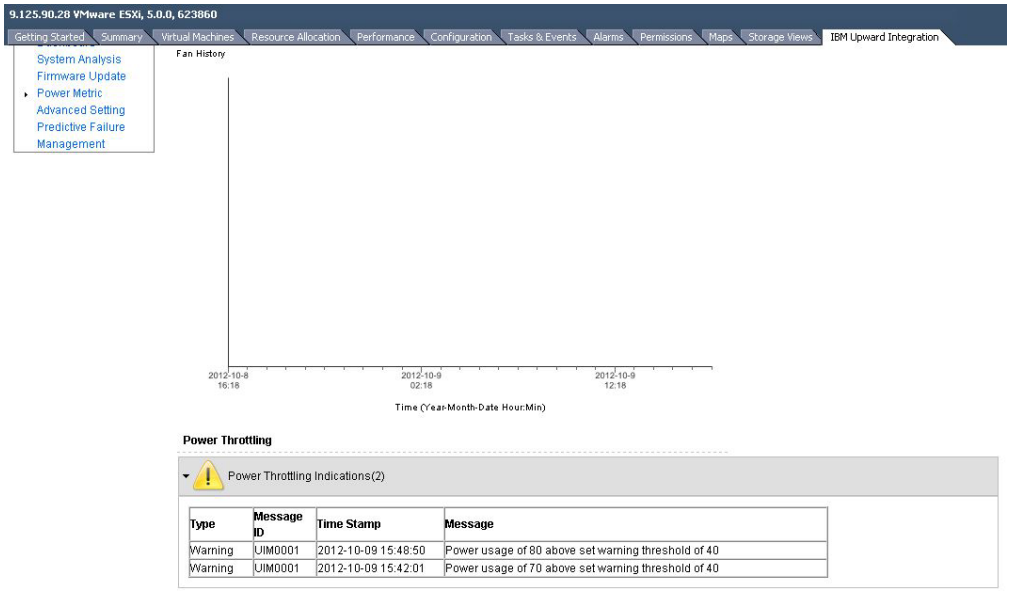


*Figure 37. Power Throttling Indications*

# Working with Advanced System Settings

The Advanced System Settings page shows the current system settings on the host. This includes settings for IMM, uEFI, and the boot order of the host.

## Viewing Advanced System Settings

This topic describes how to view Advanced System Settings on the host.

Settings are grouped into three categories represented by the following three tabs:

- IMM Settings
- uEFI Settings
- Boot Order Settings

Settings in each tab are further categorized into sections which are displayed as different accordions. You can easily find a setting by viewing the different accordions. On the initial view, a description accordion provides a description of the field functions. Scroll down to view all of the fields.

To view a setting, click to expand and display all of the settings with an accordion.

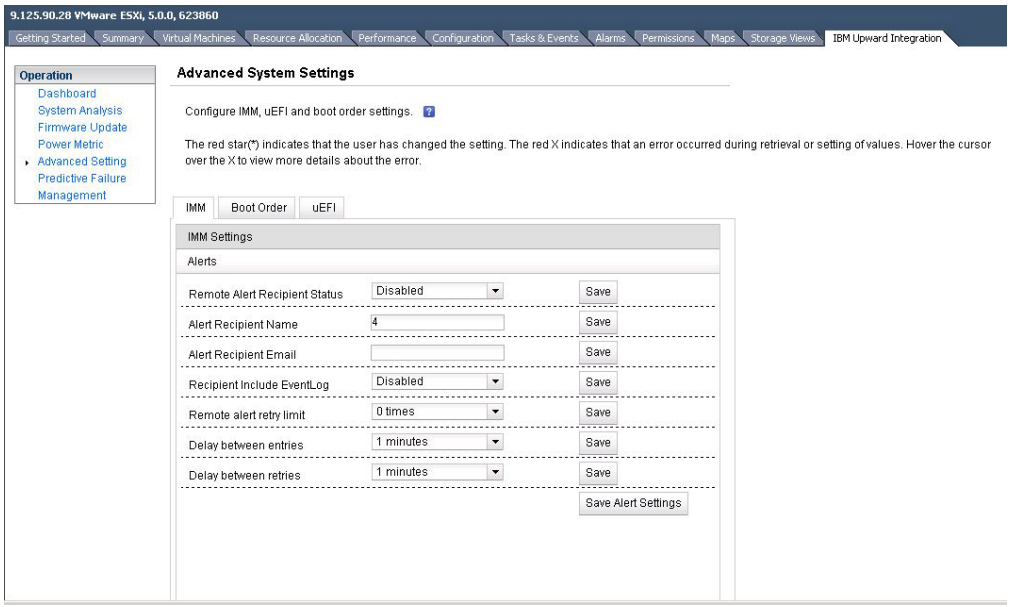


*Figure 38. Viewing Advanced System Settings*

Some settings, such as uEFI settings, are only supported on a certain machine type or firmware version. If your host does not support a setting, the following symbol is displayed to indicate this setting is currently not supported on your host:

*Figure 39. Setting not supported symbol*

## Changing Advanced System Settings

This topic describes how to change Advanced System Settings on the host.

To change an advanced system setting, change the value to the required value, and then click **Save**. The change is executed on the endpoint, and the following symbol is displayed when complete.

*Figure 40. Setting change is successful symbol*

If there is a problem with the setting change, the following symbol is displayed:

*Figure 41. Setting change is not successful symbol*

To view detailed information about why the setting change failed, place the cursor over the symbol.

You can also click **Save xxx Settings** in each section, to save all the settings contained within that section. This will not impact settings in other sections. The setting result for each setting will show up as a single setting result. The following image provides an example of the Alert section in IMM Settings. To save all settings in the IMM section, click **Save Alert Settings**.

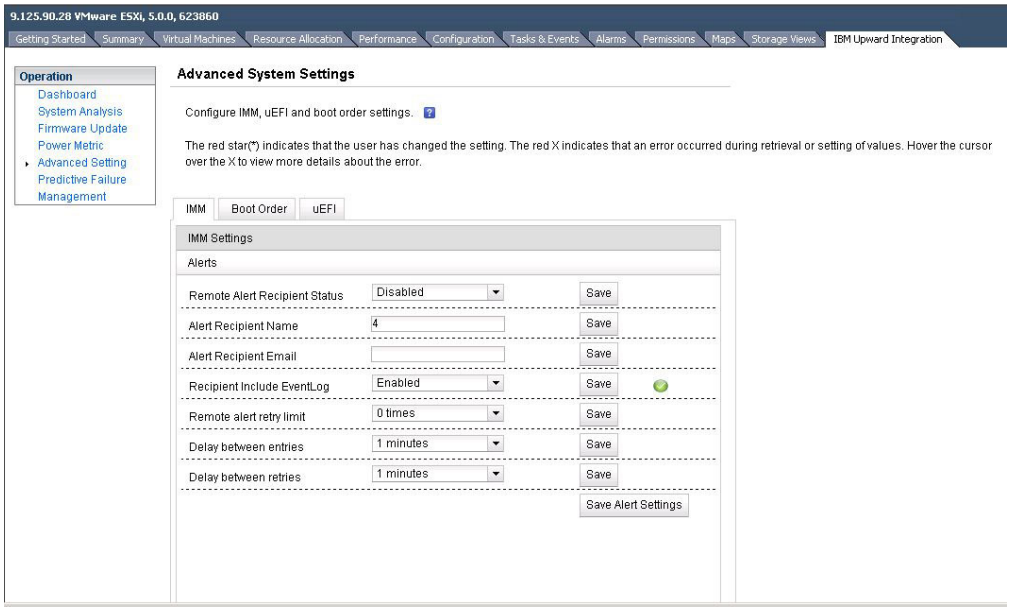


*Figure 42. Changing Advanced System Settings*

The following list provides an example for some of the different types of settings and how to change these settings. The manner in which each setting is changed varies.

- *text string*: Place the cursor on the text string to view the type of required input.
- *selection type*: Select the value from the drop-down menu.

- *password*: Enter the password and then re-enter the password to confirm the new password. Click **Clear the password** to clear the password field.

  **Note: Save** and **Clear the password** are executed immediately on the managed endpoint.
- *boot order*: The left column shows the current boot order, and the right column shows the optional device. To change the order, you can move a boot order option up or down and between the two columns, by clicking the corresponding button.

## Working with Predictive Failures Management

The topics in this section provide information about working with Predictive Failure Management.

The Predictive Failure Management page allows you to set a management policy against the server based on a hardware predictive failure alert. IBM Upward Integration for VMware VSphere with vSphere Client evacuates VMs from the server or notifies you based on defined policy. You can view predictive failure alerts from the server and the triggered policy history on this page.

**Note:** IBM Upward Integration for VMware VSphere with vSphere Client cannot receive predictive failure alerts from the server until you install the CIM providers and enable host monitoring on the Power Metric page. The following figure shows an overview of the Predictive Failure Management page:

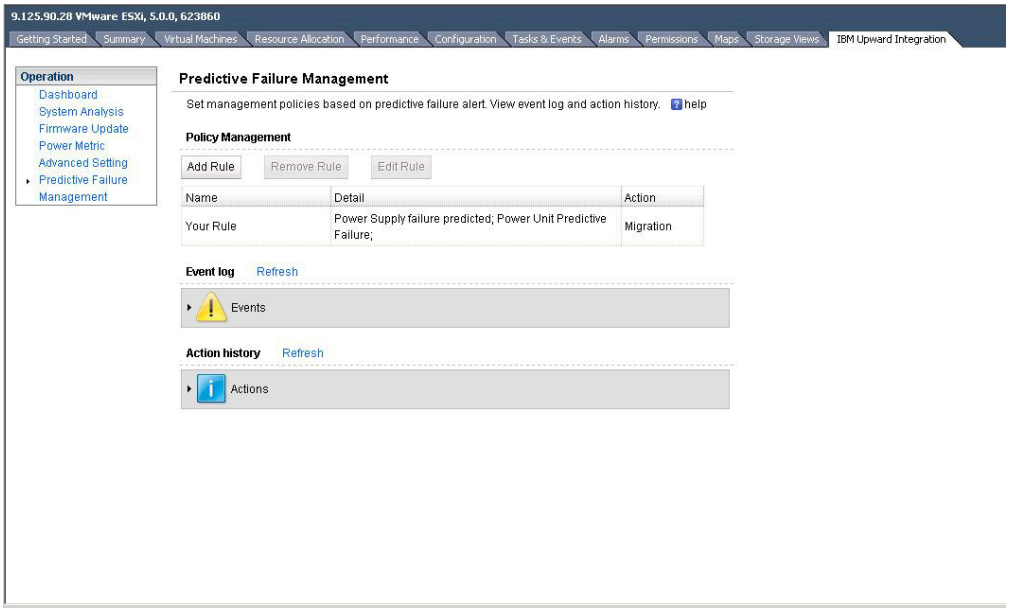


*Figure 43. Predictive Failure Management Overview*

## Prerequisites

This topic provides information about prerequisites for using Predictive Failure Management.

Before using Predictive Failure Management, verify the following prerequisites are met.

- Predictive failure management relies on the hardware PFA capability. The IMM of the server should have the ability to send out predictive failure alerts when a failure is detected.
- Proper configuration of the network management policy on the vCenter server is required to enable TCP on the https port that you selected for IBM Upward Integration for VMware VSphere with vSphere Client use. The default is 9500 when you install IVP. IBM Upward Integration for VMware VSphere with vSphere Client listens on this port for incoming indications.
- If you want to evacuate VMs from a host when a set policy is launched, the host must be put in a properly configured DRS (Dynamic Resource Scheduler) cluster. IBM Upward Integration puts the host in maintenance mode, and the VMWare DRS cluster should ensure VM migration to another host.

## Policy Management

This topic describes how to set a management policy against the server based on a hardware predictive failure alert (PFA).

Policy Management allows you create, edit, and delete a rule which defines the conditions and corresponding action to be executed on the target server. Conditions are various hardware PFA indications that IMM can generate. You can select some of these conditions to form your own rules. Action indicates what you expect IBM Upward Integration for VMware VSphere with vSphere Client to do when all of the conditions in a rule are triggered for the managed endpoint. The available actions are:

**Migration**
: Evacuates all VMs from the server. Note that the server must be put in a properly configured VMware Dynamic Resource Scheduler (DRS) cluster. IBM Upward Integration for VMware VSphere with vSphere Client only puts the server in maintenance mode. The cluster should ensure VM migration to other servers once the server enters maintenance mode.

**Notify** Shows a message log to the user.

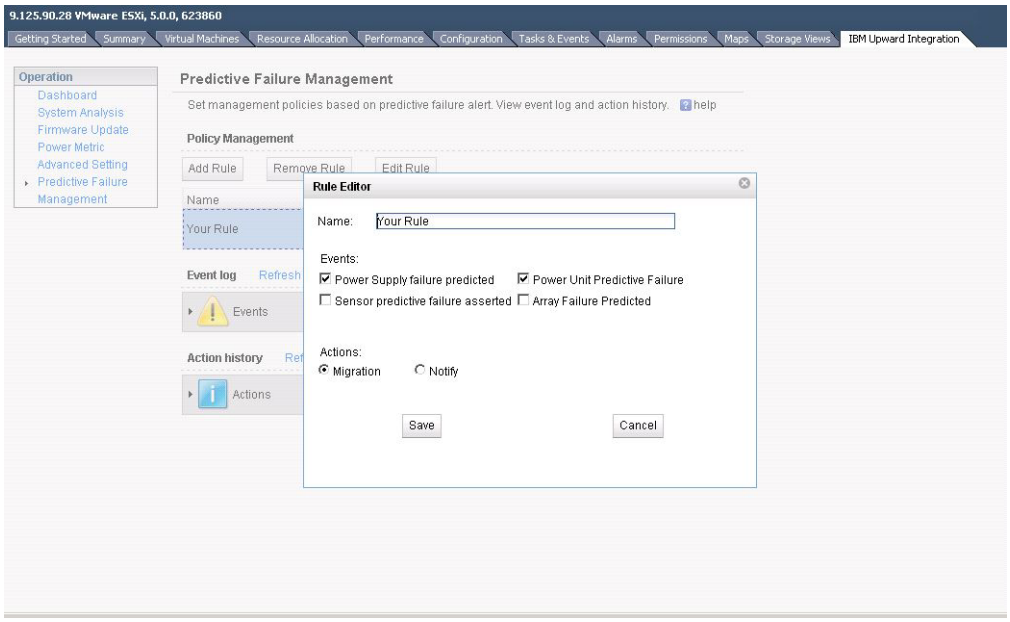


*Figure 44. Migration Policy Editor*

## Viewing Predictive Failure Events

This topic describes how to view Predictive Failure Events.

IBM Upward Integration for VMware VSphere with vSphere Client monitors PFAs from IMM and all alerts are shown in the Event log table.

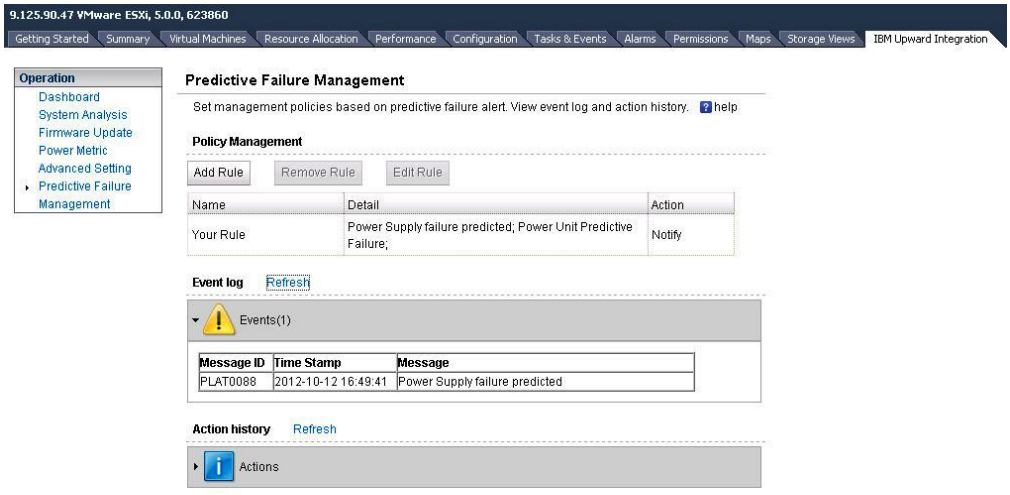


*Figure 45. Predictive Failure Events*

## Viewing the Action history table

This topic describes how to view the Action history table.

When the conditions of a rule are met, the defined action of the rule is launched on the managed endpoint. You can see all triggered rules and action results in the Action history table.

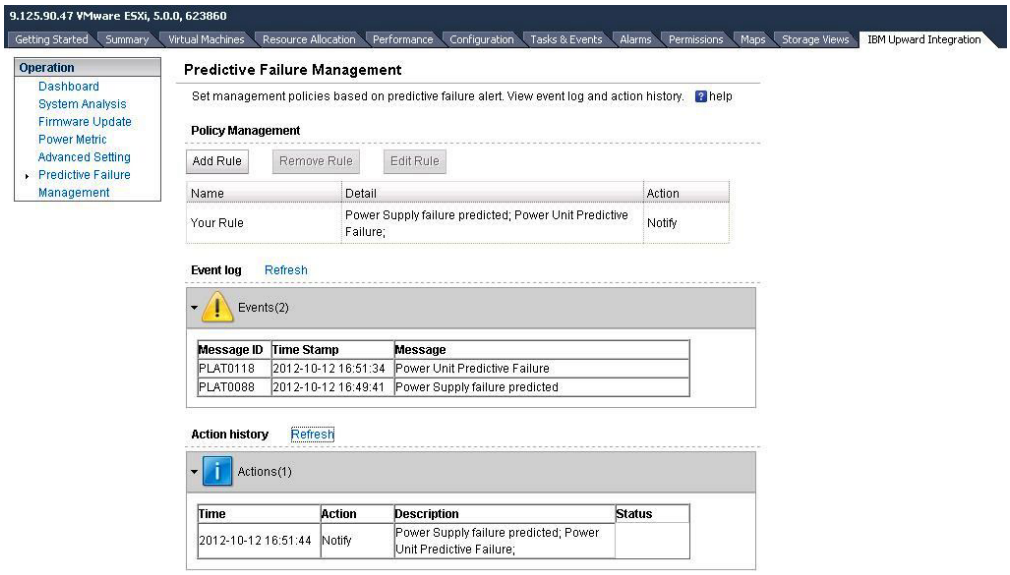


*Figure 46. Action History Table*

# Appendix A. Troubleshooting

The topics in this section will assist you with troubleshooting.

## Help Information

On each page, there is one or more help information links. When you click on one of these links, online help is displayed.

## Finding the version of the plug-in

This topic describes how to find the plug-in version.

1. In the vCenter interface, select **Plug-in** > **Manage Plug-in**.
2. Locate **IBM Upward Integration for VMware vSphereIBM Upward Integration for VMware vSphere**. The version column displays the version of the installed plug-in.

## Site Certification

Each time you activate the plug-in on a host, you are asked to trust the certification of the site. Click **Yes** to trust the certification.

This also occurs the first time you access a help link. Click **Yes** to trust the certification.

## First time loading page

Each time you switch to hosts and activate the plug-in, a loading page is displayed. Loading typically lasts about 1 or 2 minutes. During that time the plug-in is gathering the required host information for the managed host.

## Poll Status displays N/A on Power Metric

The Poll Status represents the status of the latest poll.

### About this task

If the Poll Status displays N/A, perform the following steps:

### Procedure

1. Verify that Power monitoring is enabled for a host. You must wait for a few minutes after power monitoring is enabled.

   The Power monitoring windows service is started.
2. Click **Refresh** to view the latest power information.

## Poll Status displays Failed on Power Metric

This topic can assist you with resolving why a Poll Status displays Failed.

### About this task

If the Poll Status displays Failed, verify the following:

### Procedure

1. The host is Alive.
2. Network connection between vCenter and the host is OK.
3. The CIM Object Manager (CIMOM) is running on the host.
4. Ensure that the credentials for the host are not changed since you enabled the power monitoring on the host.

   If you changed the credentials for the host, you will need to disable and enable the power monitoring again to input new credentials for polling.

## Acquire Ticket Failure

If an acquire ticket failure occurs on the Dashboard, during Dynamic System Analysis, or during Firmware Updates, the vCenter Server status is incorrect or the vCenter connection to the managed ESXi endpoint is temporary inaccessible.

### Procedure

1. Wait and retry.
2. Restart the vSphere Client.
3. Restart the vCenter Server.

   **Note:** You must have administrator privileges to restart this server.
4. Check the network connectivity from the vCenter Server to the ESXi endpoint.

## Installed version field shows "Undetected" in Firmware Updates

The **Installed version** field in the firmware update recommendation table indicates "Undetected".

### About this task

If the **Installed version** field is the current firmware version, and if "Undetected" is displayed, try restarting the IMM and ESXi host.

## Connection to the plug-in

After loading the plug-in, an error message is displayed indicating "Fail to connect server" or "Unable to find the server".

### About this task

The vSphere client uses the Internet Explorer proxy to connect to the plug-in server.

### Procedure

1. Check your Internet Explorer configuration.
2. Verify that it can connect to the server where the plug-in is installed.

# Appendix B. Accessibility features

Accessibility features help users who have a physical disability, such as restricted mobility or limited vision, to use information technology products successfully.

IBM strives to provide products with usable access for everyone, regardless of age or ability.

IBM Upward Integration for VMware vSphere, Version 2.0 Installation and User's Guide supports the accessibility features of the system-management software in which they are integrated. Refer to your system-management software documentation for specific information about accessibility features and keyboard navigation.

**Tip:** The VMware vSphere topic collection and its related publications are accessibility-enabled for the IBM Home Page Reader. You can operate all features using the keyboard instead of the mouse.

You can view the publications for IBM Upward Integration for VMware vSphere, Version 2.0 in Adobe Portable Document Format (PDF) using the Adobe Acrobat Reader. You can access the PDFs from the IBM Upward Integration for VMware vSphere, Version 2.0 Installation and User's Guide download site.

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## Important notes

View important assumptions about terminology and claims.

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CD or DVD drive speed is the variable read rate. Actual speeds vary and are often less than the possible maximum.

When referring to processor storage, real and virtual storage, or channel volume, KB stands for 1024 bytes, MB stands for 1•048•576 bytes, and GB stands for 1•073•741•824 bytes.

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# V



# W

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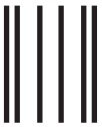

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