BigFix Patch

Patch for VMware ESXi - User's Guide

Special notice

Before using this information and the product it supports, read the information in Notices *(on page xxi)*.

Edition notice

This edition applies to version 9.5 of BigFix and to all subsequent releases and modifications until otherwise indicated in new editions.

Contents

Chapter 1. Overview

BigFix Patch for VMware ESXi provides audit Fixlets for new patch bundle updates that VMware releases.

Patch for VMware ESXi provides a way to query the patch status of devices for VMware ESXi without installing an agent on the machine. It uses the management extender which communicates with the VMware API.

Patch management is available through the Patches for ESXi site.

Site subscription

Sites are collections of Fixlet messages that are created internally by you, by HCL, or by vendors.

Subscribe to a site to access the Fixlet messages to patch systems in your deployment.

You can add a site subscription by acquiring a Masthead file from a vendor or from HCL or by using the Licensing Dashboard. For more information about subscribing to Fixlet sites, see the *BigFix Installation Guide*.

For more information about sites, see the *BigFix Console Operator's Guide*.

Supported platforms

BigFix Patch for VMware ESXi supports VMware audit updates on different platforms.

The supported platforms are as follows:

- ESXi 7.0
- ESXi 7.0.0
- ESXi 7.0.1
- ESXi 8.0

Note:

- ESXi 6.0 was deprecated. ESXi 6.5 and ESXi 6.7 have reached its End of Life on October 15, 2022. BigFix no longer provides content or support for ESXi 6.0, ESXi 6.5, and ESXi 6.7 after the deprecation date. For more information, see https://core.vmware.com/blog/reminder-vsphere-6567-end-general-support and https://kb.vmware.com/s/article/89305.
- BigFix supersedes a bulletin Fixlet if a newer version of the vSphere Installation Bundle (VIB) that is associated with that bulletin is available. Sometimes this can happen in the same VMware patch update.

System requirements

Ensure that you meet the necessary system requirements for the BigFix Patch for VMware ESXi.

The requirements are as follows:

- BigFix Version 9.5.x or 10.0.x must be used.
- You must subscribe to the Patches for ESXi site.
- The management extender must be installed on a system that runs Windows (Windows 7, Windows Server 2008, Windows Server 2008 R2, Windows 10, Server 2016, and Server 2019).
- The BigFix relay must be installed on the system with the management extender.
- The vCenter user must have an Administrator role to configure the management extender. Having the Administrator role enables users to retrieve host patch status and to avoid relevance issues.

Subscribing to BigFix sites

Together with the Patches for ESXi site, you can subscribe to the Virtual Endpoint Manager site.

The Virtual Endpoint Manager site has content for offline patching, which uses the same management extenders that Patches for ESXi uses. For more information, see the Virtual Endpoint Manager User's Guide.

Managing the workload balance

The following diagram depicts a visual representation of how Patch for VMware ESXi is designed to work in big environments to optimize the workload balance. In these environments, the same Virtual Center is managed by two or more management extenders.

A management extender is setup using a BigFix relay that has the proxy agent installed on it along with the vSphere management extender plug-in installed and configured. It enables the communication between the proxy agent and the VMware vCenter.
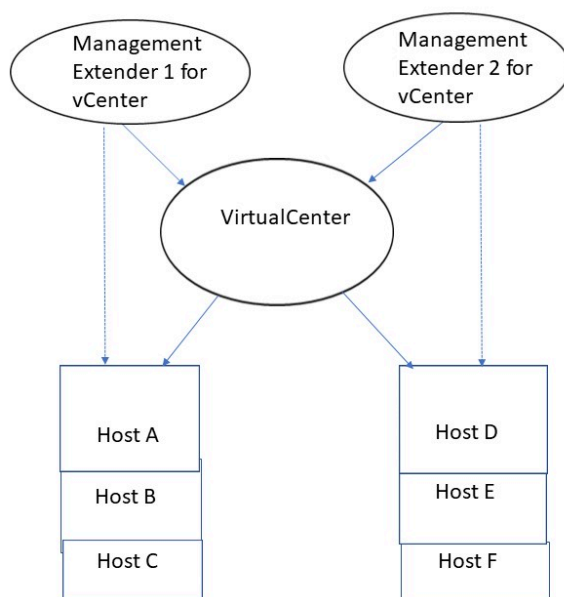
For each management extender you have, apply the following procedure in order to optimize the workload balance of your environment:

1. Stop the proxy agent service.
2. Clean up the contents of the `DeviceReports` folder located in the `C:\Program Files (x86)\BigFix Enterprise\Management Extender\Plugins\VMware ESXi 1\DeviceReports` directory, where:

   C:\Program Files (x86)\BigFix Enterprise\Management Extender

   Reflects the proxy agent installation.

3. Modify the `vcenter-plugin-settings.txt` configuration file:

a. Uncomment the HOST_LIST key and set it as follows:

```
HOST_LIST="hostA,hostB,hostC"
```

b. Ensure that hostA, hostB and hostC match the ESXi host definition in Vcenter. Therefore, you cannot specify their IP address if they are registered with the Fully qualified domain name (FQDN) or otherwise.

4. Restart the proxy agent service.

After a cleanup of the environment (contents of the `DeviceReports` folder) and a restart of the proxy agent service, the management extender will handle only a subset of hosts, which are the ones added into the `vcenter-plugin-settings.txt` configuration file.

Important note: The Fixlet 829, if executed, does not recover the HOST_LIST key and its content, due to the customization of the parameter, different for each installation. Therefore, it is strongly recommended that you take note of the ESXi hosts configured, if any.
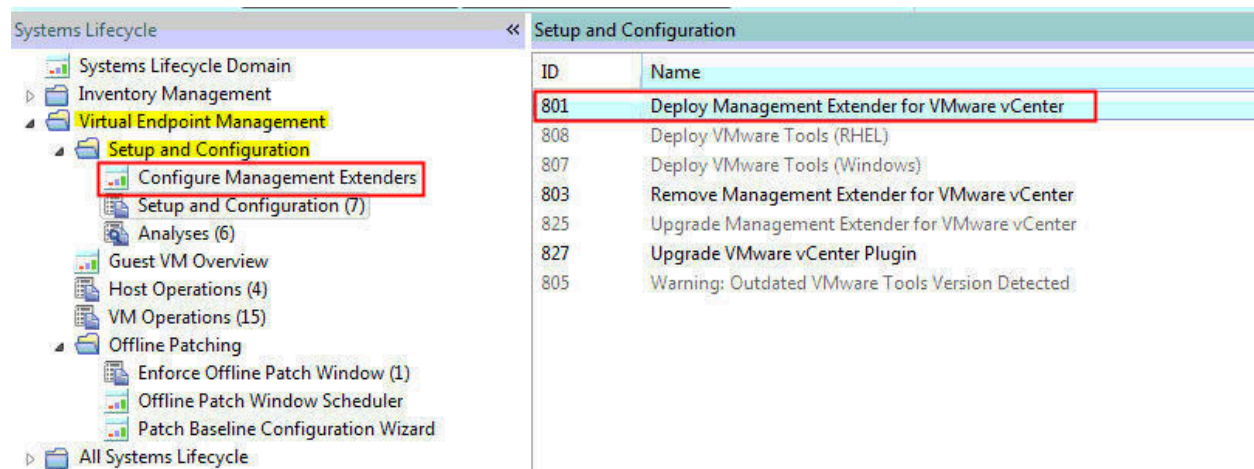
Configuring the Management Extender

Before you can begin working with the different Virtualization features, you must configure a relay server or a root server to communicate with a specific VMware vCenter or ESX host.

An Administrator role is required for you to configure the management extender.

Before you can configure the management extender, you must do the following steps:

1. Install the BigFix relay Version 9.2 or 9.5.
2. Deploy Fixlet 801: Deploy Management Extender for VMware vCenter from the Patches for ESXi site. This action appears as applicable when the BigFix relay is installed.
3. Activate analysis 905: Management Extender Status.

📝 **Note:** The management extender uses the following ports by default: 8080 and 8443.

Using the Configure Management Extenders dashboard

To use the dashboard, navigate to **Patch Management Domain > OS Vendors > VMware ESXi > Virtual Endpoint Manager > Setup and Configuration > Configure Management Extenders**. The Configure Management Extenders dashboard lists all the endpoints where you ran the Deploy Management Extender for VMware vCenter task. Select the management extender that you want to configure. Click **Configure**.

The **Configure Extender** window opens. Fill in the values for the following items in the window:

- Refresh interval minutes

  Set how often the management extender gathers data. A larger refresh cycle is highly suggested. The larger the VMware deployment is, the longer it takes to gather data.

- Server name
- Admin User

• Password

> **Note:** By default, the windows prompts for the server name only. If you choose to do that, the URL that connected is `https://(SERVER NAME)/sdk/webService.` When the URL is not correct, you can enter your own URL by selecting the **Enter vCenter's web service URL**.

The username and password are encrypted using the private key and public key. These keys are set during the deployment of the vCenter management extender. The public key is based on the computer name. The private key is generated during the deployment task. The username and password are then sent to the management extender, which uses the credentials to plug in to the VMware vCenter. The credentials are sent to the endpoint in an encrypted format.

You can configure the management extender again without removing the deployment and configuring it twice

Chapter 2. Using BigFix Patch for VMware ESXi

You can view the audit Fixlets when you subscribe to the Patches for ESXi site.

Select the Patch Management domain and click **OS Vendors > VMware ESXi**.
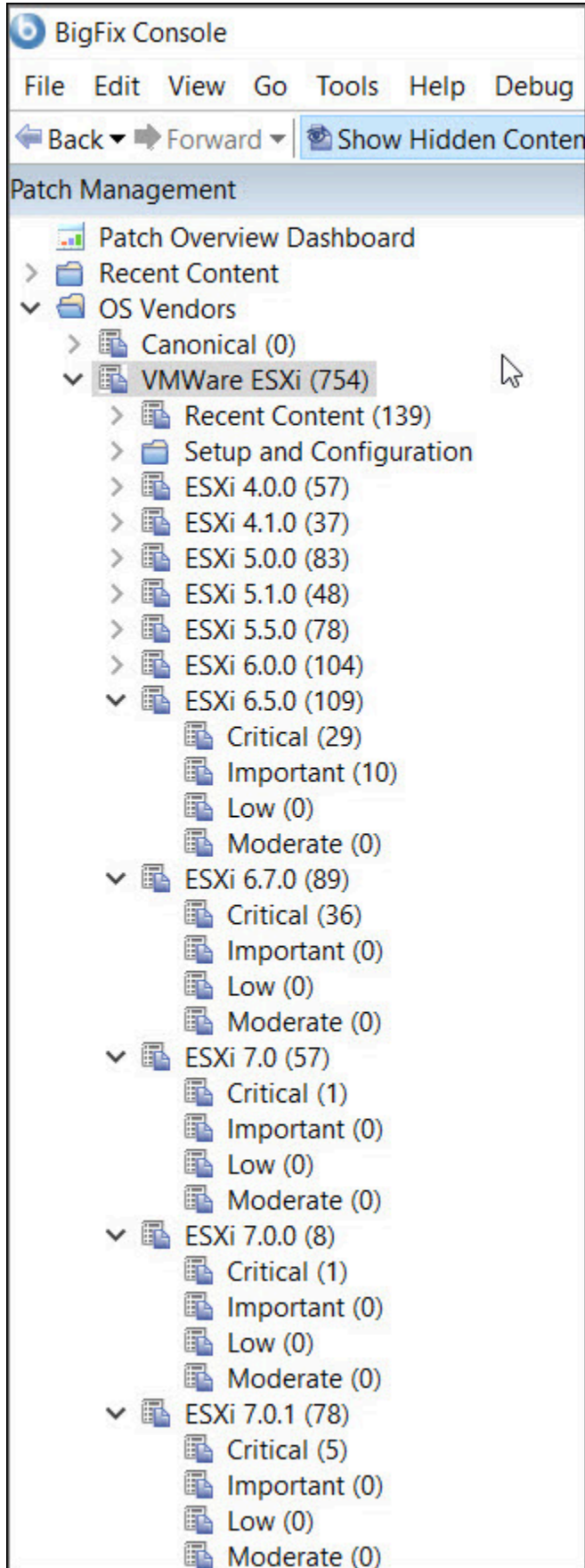
Note: BigFix only supports ESXi 7.0, ESXi 7.0.0, ESXi 7.0.1, and ESXi 8.0. BigFix no longer provides content or support for ESXi 6.0, ESXi 6.5, and ESXi 6.7 after October 15, 2022.

From the navigation tree, you can view recent Fixlet content, configuration, and the ESXi patches according to their version. Select the appropriate ESXi version node. You can view the patches according to their severity: Critical, General, and Security. After you select an appropriate ESXi node, you can see audit Fixlets in the Work Area. Deprecated patches can be found in the Superseded node in the navigation tree.

Chapter 3. Supersedence

Please refer to Supersedence in Non-Windows to know more about the supersedence.

Appendix A. Support

For more information about this product, see the following resources:

- Knowledge Center
- BigFix Support Center
- BigFix Support Portal
- BigFix Developer
- BigFix Wiki
- HCL BigFix Forum

Appendix B. Frequently asked questions

The questions and answers found in this section are designed to help you better understand Patch for ESXi.

Why are some things not showing up on my console?

Check to make sure that your management configure is configured properly and has the correct credentials to your vCenter machine. By default, the location of this file is at: `C:\Program Files\BigFix Enterprise \Management Extender\Plugins\VMware ESXi 1\plugin\plugin-settings.ini`. For 64-bit systems, it is found in `C:\Program Files (x86)\BigFix Enterprise\Management Extender\Plugins\VMware ESXi 1\plugin\plugin-settings.ini`).

I've set up an offline patch window but I'm seeing unusual behavior. What might be wrong?

Check to see that a BigFix agent is installed on each of the machines targeted by the offline patch window. Check to see if you have multiple actions in the action history of the 'Enforce Offline Patch Window task' affecting the same endpoints.

What should I configure to have a running offline window?

Check that you have the following items setup:

- The BigFix agent is installed on each of the machines targeted by the offline patch window.
- A patch window is set through the offline patch window dashboard.
- The Enforce Offline Patch window task is set as a policy action.

My virtual machines are no longer powering on during a patch window. What happened?

Check to see if you are at the maximum number of concurrent running machines. That setting can be found by default in this directory: `C:\Program Files\BigFix Enterprise\Management Extender\Plugins \VMware ESXi 1\Patch Windows\(name of patch window)\(host - operations.txt)`. For 64-bit systems, it is found in `C:\Program Files (x86)\BigFix Enterprise\Management Extender\Plugins \VMware ESXi 1\Patch Windows\(name of patch window)\(host - operations.txt)`. The number inside represents the number of concurrently running virtual machines per host. If the number is at the limit that was initially set, consider setting a higher concurrent virtual machine number.

Can I have more than one offline window at a time targeted at the same endpoint?

Yes, you can have more than one offline window at a time targeted at the same endpoint.

Does the offline patch window scheduler workflow work for more than just patch content?

Yes, it does. You can run any BigFix action from any site via this offline workflow.

Why can't I apply any ESXi patches?

The Patches for ESXi content is audit only. In order to remediate ESXi issues, use the VMware Update Manager or download and apply patches manually from the VMware website.

Why is it that I cannot install an agent on ESXi?

This is a restriction that VMware introduced in their ESXi hypervisors.

Can I install the management extender on a non windows machine?

Currently, the proxy agent can only be installed on Windows-based machines.

Can I run the BigFix for Mobile Management Extender alongside the vCenter Management Extender?

Yes, you can run both management extenders.

What is the difference between proxied machines and normal machines on the BigFix Console?|

Normal machines have a full BigFix agent installed on them, with the full standard set of inspectors and actions. Instead of a full BigFix agent, proxied machines use APIs to pull back information about devices and feed that information into the console as a computer report. Proxied machines have a more limited set of inspectors and actions.

Will having proxied machines affect my machine count?

Yes. Proxied machines will also count as normal machines on licensing. Talk with your sales representative to figure out how to adjust the license agreement to accommodate your virtual infrastructure.

Why are some fields different between what a proxied VM reports and what the BigFix agent reports?

The vCenter plug-in grabs data directly from the VMware APIs and then translates them into BigFix properties. However, because a lot of these fields are set by the user, sometimes they can mismatch what gets reported in the BigFix agent. For example, it is possible to set the Guest Operating System version to be something very different from what is actually installed on virtual machine.

What kind of best practices or highly suggested settings do you have for this management extender?

The device refresh interval should be at least 5 minutes. On a medium to large size deployment, this refresh interval time should be set to 15 minutes or beyond. The Enforce Management Extender policy action should be set to however long it takes to run a substantial amount of BigFix actions before it is forced to power down. The maximum time limit that can be set is an hour long.

What kind of machine should the Management Extender be?

For medium to larger size deployments, the main limiting factor is most likely going to be the CPU. As long as it is something running quad cores, the machine should be able to handle all of the management extender tasks.

If I revert a snapshot, can I expect a different computer report on the console?

No, it will be the same computer report on the BigFix console.

Notices

This information was developed for products and services offered in the US.

HCL may not offer the products, services, or features discussed in this document in other countries. Consult your local HCL representative for information on the products and services currently available in your area. Any reference to an HCL product, program, or service is not intended to state or imply that only that HCL product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any HCL intellectual property right may be used instead. However, it is the user's responsibility to evaluate and verify the operation of any non-HCL product, program, or service.

HCL may have patents or pending patent applications covering subject matter described in this document. The furnishing of this document does not grant you any license to these patents. You can send license inquiries, in writing, to:

HCL
330 Potrero Ave.
Sunnyvale, CA 94085
USA
Attention: Office of the General Counsel

For license inquiries regarding double-byte character set (DBCS) information, contact the HCL Intellectual Property Department in your country or send inquiries, in writing, to:

HCL
330 Potrero Ave.
Sunnyvale, CA 94085
USA
Attention: Office of the General Counsel

HCL TECHNOLOGIES LTD. PROVIDES THIS PUBLICATION "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore, this statement may not apply to you.

This information could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be incorporated in new editions of the publication. HCL may make improvements and/or changes in the product(s) and/or the program(s) described in this publication at any time without notice.

Any references in this information to non-HCL websites are provided for convenience only and do not in any manner serve as an endorsement of those websites. The materials at those websites are not part of the materials for this HCL product and use of those websites is at your own risk.

HCL may use or distribute any of the information you provide in any way it believes appropriate without incurring any obligation to you.

Trademarks

HCL Technologies Ltd. and HCL Technologies Ltd. logo, and hcl.com are trademarks or registered trademarks of HCL Technologies Ltd., registered in many jurisdictions worldwide.

Adobe, the Adobe logo, PostScript, and the PostScript logo are either registered trademarks or trademarks of Adobe Systems Incorporated in the United States, and/or other countries.

Java and all Java-based trademarks and logos are trademarks or registered trademarks of Oracle and/or its affiliates.

Microsoft, Windows, Windows NT, and the Windows logo are trademarks of Microsoft Corporation in the United States, other countries, or both.

Linux is a registered trademark of Linus Torvalds in the United States, other countries, or both.

UNIX is a registered trademark of The Open Group in the United States and other countries.

Other product and service names might be trademarks of HCL or other companies.

Terms and conditions for product documentation

Permissions for the use of these publications are granted subject to the following terms and conditions.

Applicability

These terms and conditions are in addition to any terms of use for the HCL website.

Personal use

You may reproduce these publications for your personal, noncommercial use provided that all proprietary notices are preserved. You may not distribute, display or make derivative work of these publications, or any portion thereof, without the express consent of HCL.

Commercial use

You may reproduce, distribute and display these publications solely within your enterprise provided that all proprietary notices are preserved. You may not make derivative works of these publications, or reproduce, distribute or display these publications or any portion thereof outside your enterprise, without the express consent of HCL.

Rights

Except as expressly granted in this permission, no other permissions, licenses or rights are granted, either express or implied, to the publications or any information, data, software or other intellectual property contained therein.

HCL reserves the right to withdraw the permissions granted herein whenever, in its discretion, the use of the publications is detrimental to its interest or, as determined by HCL, the above instructions are not being properly followed.