

Installing an operating system on an X-Architecture compute node

Prerequisites:

Make sure that you have met the following prerequisites before you complete the steps in this quick start guide:

- You are working with a chassis that includes one or more X-Architecture compute nodes. For more information see the following quick start guides:
 - *Installing the IBM Flex System Enterprise Chassis*
 - *Configuring components of the IBM Flex System Enterprise Chassis*

The X-Architecture compute nodes are configured. If you are going to deploy an operating system only for X-Architecture compute nodes, you must first make sure that the compute nodes have been configured.

For information about configuring the firmware and hardware configuration settings for an X-Architecture compute node, see the *Configuring an IBM X-Architecture compute node's settings using IBM Advanced Settings Utility (ASU)* quick start guide.

Tip: If you are using the IBM Flex System Manager management node to manage the chassis, you can set up configuration templates that can be applied to X-Architecture compute nodes instead of configuring the compute nodes using ASU. For more information about configuration templates (called configuration patterns), see the following topic:

In the information center (Internet):

http://pic.dhe.ibm.com/infocenter/flexsys/information/topic/com.ibm.acc.8731.doc/com.ibm.director.configuration.helps.doc/provisioning_with_configuration_patterns.html

The IBM Flex System product documentation is also available on the IBM Flex System Manager management node. To access the installed documentation, click Information Center from the IBM Flex System Manager Home page and then navigate to:

IBM Flex System information → Management devices and solutions → IBM Flex System Manager management node → Managing compute nodes → Provisioning compute nodes from the management software → Modifying firmware and hardware configuration settings

- Optionally, an IBM Flex System Manager management node is installed in a chassis and is managing the X-Architecture compute nodes. For more information, see the following quick start guides:
 - *Configuring the IBM Flex System Manager management node*
 - *Selecting one or more chassis to be managed in the IBM Flex Systems Manager domain or Adding a chassis to an existing Flex System Manager management domain*

Tip: If you are installing VMware vSphere ESXi, see “Installing VMware vSphere ESXi image with IBM Customization:” on page 6.

Steps:

Complete the following steps to deploy an operating system on an X-Architecture compute node:

1. Choose the image that you are going to deploy.
 - **Operating-system-vendor images.**

Tip: If you are managing a chassis from the IBM Flex System Manager management node, and you are intending to deploy VMWare vSphere Hypervisor (ESXi) 5.1 with IBM customization, or if you are intending to deploy Red Hat Enterprise Linux 6.2, 6.3, or 6.4 (including KVM), you can use the Deploy Compute Node Images task from the IBM Flex System Manager management node to import the image into the IBM Flex System Manager management node and deploy it to multiple X-Architecture compute nodes. More information about this option is available at the following location:

Information Center (Internet):

http://pic.dhe.ibm.com/infocenter/flexsys/information/topic/com.ibm.acc.8731.doc/com.ibm.director.osdeployment_ngui.helps.doc/fsm_deploying_compute_node_images.html

The IBM Flex System product documentation is also available on the IBM Flex System Manager management node. To access the installed documentation, click Information Center from the IBM Flex System Manager Home page and then navigate to:

IBM Flex System information → Management devices and solutions → IBM Flex System Manager management node → Managing compute nodes → Provisioning compute nodes from the management software → Using the deploy compute node images task to deploy operating systems

You can find installation instructions for specific operating systems by completing the following steps:

Note: The specific instructions for the operating systems also contain information about installing those operating systems on a virtual machine.

- a) Go to <http://www.ibm.com/support>.
- b) In the Search support and downloads search field, enter the machine type for the compute node and “operating system installation instructions.” For example, to find the operating system installation instructions for the IBM® Flex System x240 Compute Node Types 7863, 8737, and 8738 compute node, enter the following:

“8737 operating system installation instructions”

You can also choose to enter the name of the operating system, such as:

- RHEL5.7 x86_64 Install Instructions
- RHEL6.2 x86_64 Install Instructions
- SLES11 SP1 x86_64 Install Instructions
- SLES10 SP4 x86_64 Install Instructions
- Windows 2008 R2 Install Instructions
- Windows 2008 SP2 Install Instructions

- VMware ESX 4.1U2 Install Instructions
- VMware ESXi 4.1U2 Install Instructions
- VMware vSphere 5.0 CI Install Instructions

- **ServerGuide.** ServerGuide is an IBM server installation assistant that simplifies the process of installing and configuring compute nodes. It supports hardware configuration and operating system installation. For information about using ServerGuide, see the *Installing the Microsoft Windows operating system using IBM ServerGuide* quick start guide.

You can also find more information about ServerGuide at this location:

<http://www.ibm.com/support/entry/portal/docdisplay?Indocid=TOOL-CENTER>

- **ServerGuide Scripting Toolkit.** The ServerGuide Scripting Toolkit, Linux Edition (Linux Scripting Toolkit) enables you to tailor and build custom hardware deployment solutions. It provides hardware configuration and Linux operating system installation. For more information about using ServerGuide Scripting Toolkit. For information about using the ServerGuide Scripting Toolkit, see the *Installing Linux OS using IBM ServerGuide Scripting Toolkit, Linux Edition (LTK)* quick start guide.

You can find more information about ServerGuide Scripting Toolkit at this location:

<http://www.ibm.com/support/entry/portal/docdisplay?Indocid=SERV-TOOLKIT>

2. Choose the method that you will use to deploy the image to the system x compute node. You can choose one of the following options:

- From the IBM Flex System Manager user interface.
 - Using the Deploy Compute Node Images task to import images and deploy to multiple X-Architecture compute nodes.

Note: These operating systems are supported:

- VMware vSphere Hypervisor (ESXi) 5.1 with IBM customization
- Red Hat Enterprise Linux, version 6.2 or 6.3 (including KVM)

More information about this option is available at the following location:

Information Center (Internet):

http://pic.dhe.ibm.com/infocenter/flexsys/information/topic/com.ibm.acc.8731.doc/com.ibm.director.osdeployment_ngui.helps.doc/fsm_deploying_compute_node_images.html

The IBM Flex System product documentation is also available on the IBM Flex System Manager management node. To access the installed documentation, click Information Center from the IBM Flex System Manager Home page and then navigate to:

IBM Flex System information → Management devices and solutions → IBM Flex System Manager management node → Managing compute nodes → Provisioning compute nodes from the management software → Using the deploy compute node images task to deploy operating systems

- Using Remote Control to connect to the X-Architecture compute node. You can use Remote Control by directly attaching to the IBM Flex System Manager management node or from

any compute that has network access to the IBM Flex System Manager management node and the X-Architecture compute node.

For information about using remote control to install an operating system on an X-Architecture compute node, see the following link:

In the information center (Internet):

http://pic.dhe.ibm.com/infocenter/flexsys/information/topic/com.ibm.acc.8731.doc/remot_e_control_using_remote_control_to_deploy_oses.html

The IBM Flex System product documentation is also available on the IBM Flex System Manager management node. To access the installed documentation, click Information Center from the IBM Flex System Manager Home page and then navigate to:

IBM Flex System information → Management devices and solutions → IBM Flex System Manager management node → Managing compute nodes → Provisioning compute nodes from the management software → Using Remote Control to deploy operating systems

- From the Chassis Management Module (CMM) interface. You can choose to start a remote control session to the compute node from the CMM interface. For more information about starting a remote control session from the CMM interface, see the following link:

In the information center (Internet):

http://pic.dhe.ibm.com/infocenter/flexsys/information/topic/com.ibm.acc.cmm.doc/cmm_ui_s_tarting_remote_compute_node_session.html

The IBM Flex System product documentation is also available on the IBM Flex System Manager management node. To access the installed documentation, click Information Center from the IBM Flex System Manager Home page and then navigate to:

IBM Flex System information -> Management devices and solutions -> Chassis Management Module -> Using the Web interface -> Starting a remote compute node session

- From the integrated management module (IMM) interface for the compute node. You can log into the IMM interface and start a remote control session where you can mount an .ISO image. For more information about accessing the IMM Web interface, see the following link:

Note: The following link is for the IBM Flex System x240 compute node. The process is the same for accessing the IMM Web interface for the IBM Flex System x220 compute node or the IBM Flex System x440 compute node.

In the information center (Internet):

http://pic.dhe.ibm.com/infocenter/flexsys/information/topic/com.ibm.acc.8737.doc/logging_on_to_the_Web_interface.html

The IBM Flex System product documentation is also available on the IBM Flex System Manager management node. To access the installed documentation, click Information Center from the IBM Flex System Manager Home page and then navigate to:

IBM Flex System information -> Compute nodes -> x240 compute node -> Accessing the IMM2 -> Accessing the IMM2 remotely -> Logging on to the Web interface

- Locally connect using the console breakout cable to the compute node using a USB-enabled device. For information about the console breakout cable, see the following link:
Note: This link describes how to connect to an IBM Flex System x240 compute node. The process for connecting to other X-Architecture compute nodes is similar.

In the information center (Internet):

http://pic.dhe.ibm.com/infocenter/flexsys/information/topic/com.ibm.acc.8737.doc/console_breakout_cable.html

The IBM Flex System product documentation is also available on the IBM Flex System Manager management node. To access the installed documentation, click Information Center from the IBM Flex System Manager Home page and then navigate to:

IBM Flex System information -> Compute nodes -> x240 compute node -> Introduction -> Power, controls, and indicators -> Console breakout cable

3. If you are managing chassis using the IBM Flex System Manager software, you need to make sure that you discover the operating systems from the IBM Flex System Manager node after you finish the installation.

Note: If you chose to install an operating system using the operating system deployment task through IBM Flex System Manager user interface, the IBM Flex System Manager management node will discover and inventory the compute node automatically using the credentials you specified when you configured the image deployment.

For more information about discovering compute nodes, see the following link:

In the information center (Internet):

http://pic.dhe.ibm.com/infocenter/flexsys/information/topic/com.ibm.acc.8731.doc/com.ibm.director.discovery.helps.doc/fqm0_t_disc_imm_for_oob.html

The IBM Flex System product documentation is also available on the IBM Flex System Manager management node. To access the installed documentation, click Information Center from the IBM Flex System Manager Home page and then navigate to:

IBM Flex System information -> Management devices and solutions -> IBM Flex System Manager management node -> Managing all resources -> Discovering systems and collecting inventory data -> Discovering systems with system discovery

Installing VMware vSphere ESXi image with IBM Customization:

Note: It is important that you install the correct image (and patch) that is supported by the version of software installed on the IBM Flex System Manager. The most current version of software is version 1.3.1. You must install one of the following versions of ESXi with IBM Customization:

- VMware vSphere ESXi 5.0. Make sure that, at a minimum, you are running version 5.0u2 (update 2)
- VMware vSphere ESXi 5.1. Make sure that, at a minimum, you are running version 5.1u1 (update 1).

And you must install patch 8 for customization.

There are two methods for installing VMware vSphere ESXi image with IBM Customization:

- From the IBM Flex System Manager:
VMware vSphere ESXi 5.1u1 (update 1) with IBM Customization is provided with the IBM Flex System Manager. Complete the following steps to deploy ESXi 5.1u1 with IBM Customization:
 1. Deploy the operating system to an X-Architecture compute node using the IBM Flex System Manager Operating System deployment task. For information about using the deployment task, see the following location:
http://pic.dhe.ibm.com/infocenter/flexsys/information/topic/com.ibm.acc.8731.doc/com.ibm.director.osdeployment_ngui.helps.doc/fsm_deploying_compute_node_images.html
Note: You can also download an ESXi with IBM Customization .ISO from the following location:
<http://www.ibm.com/systems/x/os/vmware/index.html>
 2. Apply IBM Customization patch 8, which can be download from Fix Central. Directions for obtaining and installing the patch can be found at this location:
<https://www.ibm.com/support/entry/myportal/docdisplay?brand=5000008&Indocid=MIGR-5092679>
 3. Follow the steps in the Flex and PureFlex Firmware Updates Best Practices Guide to update the firmware for the compute node to which the image is installed. The guide is available at this location:
<https://www.ibm.com/support/entry/myportal/docdisplay?Indocid=migr-5091991>
- From VMware vCenter:
 1. Obtain the VMware vSphere ESXi 5.1u1 with IBM Customization .ZIP file from:
<http://www.ibm.com/systems/x/os/vmware/index.html>
 2. After installing the image, apply IBM Customization patch 8, which can be download from Fix Central. Directions for obtaining and installing the patch can be found at this location:
<https://www.ibm.com/support/entry/myportal/docdisplay?brand=5000008&Indocid=MIGR-5092679>
 3. Follow the steps in the Flex and PureFlex Firmware Updates Best Practices Guide to update the firmware for the compute node to which the image is installed. The guide is available at this location:
<https://www.ibm.com/support/entry/myportal/docdisplay?Indocid=migr-5091991>