Hewlett Packard
Enterprise

NonStop System Console Installer Guide

Part Number: 867479-007
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Edition: L15.02, J06.04, and all subsequent RVUs

Notices

Acknowledgments

Contents

About this document

This guide provides information about upgrading a system console to the latest versions of the system console applications delivered on the HPE NonStop System Console Installer QNSC-SWV2, BE141AW, BE141AWE, Update 31 DVD, and HPE NonStop System Console Installer BE141AWE, Update 31 Electronic Delivery.

This guide requires a working knowledge of the Microsoft operating system of your NonStop system console.

Supported Release Version Updates (RVUs)

This publication supports the system console applications delivered on the HPE NonStop System Console QNSC-SWV2, BE141AW, BE141AWE, Update 31 DVD, and HPE NonStop System Console Installer BE141AWE, Update 31 Electronic Delivery. Until otherwise indicated by its replacement publication, this guide supports:

- L15.02 and all subsequent L-series RVUs
- J06.04 and all subsequent J-series RVUs

Intended audience

This document is for operations staff and service providers who upgrade system console software.

New and changed information

New and changed information in the 867479-007 edition

This edition highlights the software upgrades available on NonStop System Console Installer DVD, Update 31. This version has been updated from the PDF version available on that DVD.

- Updated the software product revisions (SPRs) for OSM Console Tools, NonStop Leveraged software, and firmware for J-series for Non-SUT Firmware for L18.02 and J06.22 from DVD, Master Installer, and comforte MR-Win6530 Terminal Emulator, and NonStop Software Essentials 5.1.4 Windows client. To see the updates, click the links for these products in **Determining what to install** on page 12.
- Removed Java as it is not a standalone application from **Determining what to install** on page 12.
- Updated OSM Console Tools firmware version in **Installing OSM Console Tools (T0634 ACD)** on page 46
- Updated the non-SUT firmware for system components firmware version in **Copying non-SUT firmware for L18.02 and J06.22 from DVD (T0918 L02 AAG)** on page 36.
- Updated the comforte MR-Win6530 firmware version in **Installing and migrating to the comforte MR-Win6530 Terminal Emulator (T0819 AAY)** on page 63.
- Updated Table 1: MR-Win6530 software versions and associated SPRs in **Verify the software versions and Windows components on the NonStop system console** on page 15 to add 9.8.1, G06 AAY.
- Updated the NonStop Software Essentials 5.1.4 Windows client firmware version in **Installing NonStop Software Essentials Windows Client** on page 68.

- Removed references and topics for Windows Server 2003.
- Updated Insight Remote Support version to 7.x.

New and changed information in the 867479-006 edition

This edition highlights the software upgrades available on NonStop System Console Installer DVD, Update 30. This version has been updated from the PDF version available on that DVD.

- Updated the SPRs for Halted State Services for L-series, Copying Non-SUT Firmware for L18.02 and J06.21 from DVD, NonStop Leveraged software and firmware, Java 8, Update 161, Open SSH, and comforte MR-Win6530 Terminal Emulator. To see the updates, click the links for these products in **Determining what to install** on page 12.
- Updated Adobe Reader DC verification instructions in **Verify Adobe Acrobat Reader DC** on page 17
- Updated Adobe Reader DC installation instructions in **Installing Adobe Acrobat Reader DC** on page 35.
- Updated Halted State Services firmware version in **Installing Halted State Services firmware** on page 51.
- Updated the non-SUT firmware for system components firmware version in **Copying non-SUT firmware for L18.02 and J06.22 from DVD (T0918 L02 AAG)** on page 36.
- Added "Update 161" to the Java 8 occurrences **Installing the OSM Service Connection desktop application** on page 40 and **Java Runtime Environment considerations** on page 41.
- Updated OpenSSH version 7.6p1, part of Console CLIM Utilities version in **Installing OpenSSH (T0697 AAI)** on page 56.
- Updated Table 1: MR-Win6530 Software Versions and Associated SPR in **Verify the software versions and Windows components on the NonStop system console** on page 15 to add 9.8.0, G06 AAX.
- Added Windows Server 2016 throughout the guide where applicable.

New and changed information in the 867479-005a edition

- Updated Adobe Reader version in Installing Adobe Reader 11.0.20.
- Updated NonStop Maintenance LAN DHCP DNS Configuration Wizard in **Installing OSM Console Tools (T0634 ACD)** on page 46.

New and changed information in the 867479-005 edition

This edition highlights the software upgrades available on NonStop System Console Installer DVD, Update 29. This version has been updated from the PDF version available on that DVD to include:

- Updated the SPRs for OSM Console Tools, Halted State Services for L-series, NonStop Leveraged software and firmware, and comforte MR-Win6530 Terminal Emulator. To see the updates, click the links for these products in **Determining what to install** on page 12.
- Updated Table 1: MR-Win6530 Software Versions and Associated SPRs in **Verify the software versions and Windows components on the NonStop system console** on page 15 to add 9.7.7, G06 AAW.
- Added a note to **Running NonStop System Management Tools Master Installer** on page 37.
- Reformatted a procedure in **OSM client-based components** on page 40.

- Updated **Installing the OSM Service Connection desktop application** on page 40.
- Added "Update 131" to the Java 8 occurrences **Installing the OSM Service Connection desktop application** on page 40 and **Java Runtime Environment considerations** on page 41.

New and changed information in the 867479-004 edition

This edition highlights the software upgrades available on NonStop System Console Installer DVD, Update 28. This version has been updated from the PDF version available on that DVD to include:

- Updated the SPRs for OSM Console Tools, NonStop Leveraged software and firmware, and NonStop Software Essentials. Click the links for these products in **Determining what to install** on page 12 to see the updates.
- Added a topic for the new version of OpenSSH and its new restrictions on allowed SSH hostkey algorithms from the server.
- Updated the **Verify Halted State Services (HSS)** on page 19 and **HSS and HCA for systems running L-series software (T0902 L03 AAF)** on page 52 topics to point to the *Virtualized NonStop Deployment and Configuration Guide*.
- Removed all references referring to HPE SIM and Insight Control and also to the DVD.

OSM Service Connection application

OSM Service Connection is now a Windows application that installs on the desktop of the NonStop System Console or a user work station. For more information, see the *OSM Service Connection User's Guide*.

New and changed information in the 867479-003 edition

This edition highlights the software upgrades available on NonStop System Console Installer DVD, Update 27, along with the HPE Insight Control for NonStop DVD that ships with it. This version has been updated from the PDF version available on that DVD to include:

Updated the SPRs for OSM Console Tools, OSM Low-Level Link, Halted State Services (L-series), Non-SUT firmware, Adobe Reader, and OpenSSH. Click the links for these products in **Determining what to install** on page 12 to see the updates.

New and changed information in the 867479-002 edition

This edition highlights the software upgrades available on NonStop System Console Installer DVD, Update 26, along with the HPE Insight Control for NonStop DVD that ships with it. This version has been updated from the PDF version available on that DVD to include:

- Enhancements that now allow designated J-Series and L-Series nonsuper group NonStop users to change commands on the CLIM. NonStop-based CLIM manageability scripts previously allowed only super group NonStop users to log in to the CLIM with root credentials and perform configuration changes on the CLIM.
- The `hss.exe` file has been replaced by the `hssx.exe` file for L-Series systems. See **HSS for systems running J-series software (T8004 B01 BAF)** on page 51 for more information.
- The supported HSS and HCA firmware versions have been updated to T0902 (L02 AAC). See **HSS and HCA for systems running L-series software (T0902 L03 AAF)** on page 52 for more information.

- Internet Explorer v11 is now the only version of Internet Explorer for which Microsoft issues patches. HPE recommends only installing IE11. See **Verify Internet Explorer 11.0** on page 15 and **Installing Internet Explorer 11.0** on page 24 for more information.
- The Java Configuration screen capture has been updated (see **Configuring Internet Explorer and Java** on page 26).
- OSM Console Tools installation procedures have been updated.
- Users are now required to remove all public LAN bindings before connection to any public LAN unless there are absolutely no DHCP clients on the public network.
- U23 is the last update supporting NonStop Console H-Series.
- Supported application versions include:
  - PuTTY version 0.67 (see **Installing PuTTY (T0697 AAI)** on page 55
  - MR-Win version 9.7.5 (see **Verify comforte MR-Win6530 Terminal Emulator** on page 16
  - OpenSSH version 7.1p1 (see **Installing OpenSSH (T0697 AAI)** on page 56
- Desktop monitor products have been added.

For a list of all console components, see **Determining what to install** on page 12.

NOTE: If you are viewing this manual from the NonStop System Console DVD, a more recent version of this manual might exist in the NonStop Technical Library (NTL). To determine the latest version, compare the publication dates and part numbers between the manuals.

Publishing history

Part number	Description	Date
867479-007	QNSC-SWV2, BE141AW, BE141AWE, Update 31	June 2018
867479-006	QNSC-SWV2, BE141AW, BE141AWE, Update 30	February 2018
867479-005a	BE141AW/BE141AWE/QNSC-SWV2, Update 29	September 2017
867479-005	BE141AW/BE141AWE/QNSC-SWV2, Update 29	August 2017
867479-004	BE141AW/BE141AWE/QNSC-SWV2/BE141AWE, Update 28	May 2017
867479-003	BE141AW/QNSC-SWV2/BE471A, Update 27	March 2017
867479-002	BE141AW/QNSC-SWV2, Update 26	June 2016

Configuring the NonStop system consoles

NonStop system consoles (NSCs) are Windows-based PCs shipped by Hewlett Packard Enterprise for managing and providing services for NonStop systems. For most NonStop systems, such as those running L-Series, J-Series, or H-Series with CLIMs, there must be two and only two NonStop system consoles on a dedicated service LAN to which one or more NonStop systems are connected.

NonStop system console software is preinstalled on system consoles shipped with NonStop systems and is backwards-compatible. Hewlett Packard Enterprise recommends that you obtain and install the latest version of the NonStop System Console Installer DVD. The DVD includes some Microsoft Windows updates, Hewlett Packard Enterprise, and third-party products required for all NonStop systems.

Change default passwords

After you receive a new NonStop system console, you must change the passwords for the three default user IDs that are created by manufacturing and which exist on all NonStop System Console models.

Table 1: Default passwords for NonStop system consoles

User ID	Windows Server 2008 Password	Windows Server 2012 Password	Windows Server 2016 Password
Administrator	Win2008NSC!	Win2012NSC!	Win2016NSC!
NSC_Administrator	Win2008	Win2012	Win2016
GCSC	Austin!	Austin!	Austin!

CAUTION: Changing the Administrator password requires a corresponding change to the logon setting for the OpenSSH Service. For more information, see **OpenSSH troubleshooting tips** on page 60.

NOTE: Instructions for Windows-based consoles sometimes mention the Windows Start menu. However, with Windows_Server_2012, an update to the Start menu known as the "Start screen" was introduced. The Start screen covers the entire screen and no longer features the right column. Windows Server 2016 reintroduced the Start menu in a revised form. It uses a two-column design similar to the Windows 7 version, except that the right side is populated by tiles, similarly to the Windows Server 2012 R2 Start screen. Applications can be pinned to the right half, and their respective tiles can be resized and grouped into user-specified categories.

Add user IDs

New user IDs start with Internet Explorer default settings. To create a usable browser for a NonStop user, use the settings recommendations for **Installing Internet Explorer 11.0** on page 24.

If you rename a system console, you must re-enter the OpenSSH password.

Install or upgrade the system console software

Hewlett Packard Enterprise does not recommend installing unapproved software, excluding patches from Microsoft – or different versions of approved software – on a NonStop system console, or any PC on which the HPE NonStop Open System Management (OSM) Service Connection will be used. For more information on OSM, see **HPE NonStop Open System Management** on page 39.

However, Hewlett Packard Enterprise recommends installing an anti-virus (AV) software on all NonStop system consoles. Hewlett Packard Enterprise ships NonStop system consoles without any anti-virus software so that you can use your preferred AV package or site-license AV package.

You cannot upgrade the base Windows OS version (for example, from Microsoft Server 2008 to Microsoft Server 2016). You can upgrade the Java versions when prompted by OSM to install a required version that it provides, or when there are critical software bugs in the current version. OSM prompts you to install the minimum supported version of Java Runtime Environment (JRE) when you log on to the OSM Service Connection using the applet-based version. OSM Console Tools also prompt for the Java version when it is installed. For more information, see **Java next generation plug-in** on page 44 and **Clearing automatic Java update checking** on page 44.

Windows Active Directory considerations

If you are required to integrate your system consoles with your Windows Active Directory infrastructure and Windows Domains as part of a centralized Microsoft Windows server management strategy, you must be aware of possible issues. Those issues include, but may not be limited to, the following:

- Microsoft Windows administration is highly Windows-oriented, with few built-in exceptions for other operating systems or environments.
- There are several uses of the NonStop system consoles on the NonStop dedicated service LAN that centralized Windows administration can disrupt, potentially interfering with proper operation of the NonStop system.
- The NonStop System Consoles are true servers within the isolated NonStop dedicated service LAN, but not for purposes that make sense to a typical Windows Domain administrator. For example, the NonStop system console implements DHCP/BOOTP services, which are required for loading HSS into NonStop processors, only on the dedicated service LAN. Centralized Windows Domain default administrative tools or profiles might consider this a rogue service setup and either reconfigure it or shut it down entirely.
- Integrated Remote Support does not support integration with the Windows environment.

Supported remote support services for NonStop systems and consoles

Insight Remote Support 7.x is the go-forward remote support solution for NonStop systems.

Insight Remote Support (IRS) requires at least 8 MB of memory.

Hewlett Packard Enterprise recommends using NonStop system consoles with other Hewlett Packard Enterprise platforms while running Insight Remote Support 7.x, unless you want your Insight Remote Support Hosting Devices to be more centralized.

For more information on Insight Remote Support 7.x, see *Insight Remote Support for NonStop* in the HPE Integrity NonStop Service Information collection of the NonStop Technical Library (NTL) at: **https://support.hpe.com/hpsc/doc/public/display?docId=emr_na-c04623664**

For information about “dial-in” services, see **Installing Remote Desktop** on page 31.

Determining what to install

To record current console software versions and determine what upgrades must be done for your system console, use the following table and the section on how to **Verify the software versions and Windows components on the NonStop system console** on page 15.

Before upgrading software other than the software on the NonStop System Console DVD, see the policy under **Install or upgrade the system console software** on page 10.

Applications on the NonStop System Console DVD	Version on console	Upgrade ?	For installation instructions, see ...
HPE NonStop System Console Software Master Installer, T0354 H06 ABI			**Running NonStop System Management Tools Master Installer** on page 37
Windows Server 2008 Service Pack 1, plus Hotfixes for Windows Server 2008 without SP1			**Installing and updating Windows components** on page 21
Determine which of the following versions of Internet Explorer you want to install on your console: • Internet Explorer 9.0 (supported on Windows 2008 only) • Internet Explorer 11.0 (recommended)			• **Installing Internet Explorer 9.0** on page 23 • **Installing Internet Explorer 11.0** on page 24
Adobe Acrobat Reader DC			**Installing Adobe Acrobat Reader DC** on page 35

Table Continued

Applications on the NonStop System Console DVD	Version on console	Upgrade ?	For installation instructions, see ...
OSM Console Tools T0634 ACD (Virtualized NonStop changes). Installs the following applications together: • OSM System Startup Tool (L-Series only) • OSM System Configuration Tool (L-Series only) • HSS and HCA Firmware Management Tool (L-Series only) • OSM Quick Start Tool • CLIM Management Tool • NonStop Maintenance LAN DHCP DNS Configuration Wizard • OSM Certificate Tool • OSM System Inventory Tool • Apache OpenOffice			• **Running NonStop System Management Tools Master Installer** on page 37 • **Installing OSM Console Tools (T0634 ACD)** on page 46
Halted State Services firmware, including: • T8004 (B01 BAF) for most systems running J-Series software • T0902 (L03 AAF) for systems running L-Series software			• **Running NonStop System Management Tools Master Installer** on page 37 • **Installing Halted State Services firmware** on page 51
Non-SUT firmware for system components: T0918 L02 AAG, which contains non-SUT firmware for the L18.02 and J06.22 RVUs			**Copying non-SUT firmware for L18.02 and J06.22 from DVD (T0918 L02 AAG)** on page 36
PuTTY version 0.67, part of Console CLIM Utilities, T0697 H01 AAI			• **Running NonStop System Management Tools Master Installer** on page 37 • **Installing PuTTY (T0697 AAI)** on page 55

Table Continued

Applications on the NonStop System Console DVD	Version on console	Upgrade ?	For installation instructions, see ...
OpenSSH version 7.6p1, part of Console CLIM Utilities, T0697 H01 AAI			• **Running NonStop System Management Tools Master Installer** on page 37 • **Installing OpenSSH (T0697 AAI)** on page 56 • **OpenSSH version 7.6p1** on page 59
comforte MR-Win6530 Terminal Emulator (T0819 AAY)			• **Running NonStop System Management Tools Master Installer** on page 37 • **Installing and migrating to the comforte MR-Win6530 Terminal Emulator (T0819 AAY)** on page 63
OSM Low-Level Link (T0633 ACB)			• **Running NonStop System Management Tools Master Installer** on page 37 • **Installing OSM Low-Level Link (T0633 ACB)** on page 66
SP Tool Version 2.8			• **Running NonStop System Management Tools Master Installer** on page 37 • **Installing SP Tool Version 2.8** on page 49
WAN Wizard Pro Client 5.00 (T0501 AAE)			• **Running NonStop System Management Tools Master Installer** on page 37 • **Installing WAN Wizard Pro Client Version 5.00** on page 50
NonStop Software Essentials 5.1.4 Windows client (AAN)			**Installing NonStop Software Essentials Windows Client** on page 68

Verify the software versions and Windows components on the NonStop system console

Use the following procedures to determine the application and version information for the software and service packs on your system console.

Verify Windows Service Packs

As of J06.13/H06.24, Hewlett Packard Enterprise no longer tests OSM NonStop System Console tools on operating systems before Windows Server 2008.

Prerequisites

Windows Service Pack 1 is installed on your Windows Server 2008 console.

Procedure

1. To display the system properties window, right-click **Computer** on the Windows desktop, and then click **Properties**.

   The operating system version and service pack information are displayed on the first screen.

   Hewlett Packard Enterprise recommends that you install Windows Server 2008 R2, Service Pack 1 onto your Windows Server 2008 NonStop System Consoles as well as other Microsoft patches. Service Pack 1 and additional patches are required for IE 11.0. For more information, see **Guidelines for installing Internet Explorer 11.0** on page 24. Hewlett Packard Enterprise recommends that you keep your NonStop System Consoles current with Microsoft patches.
2. For installation instructions, see **Installing and updating Windows components** on page 21.

Verify Internet Explorer 9.0

Procedure

1. Start Internet Explorer.
2. To display version information, click **Help** > **About Internet Explorer**.

You can upgrade to Internet Explorer 9.0 on a Windows Server 2008 console only. I.E. 9.0 is not supported on Windows 2012, or Windows 2016. You must also have OSM server T0682 H02 ADL (or later) on each system managed by the console. There is no G-Series version of OSM compatible with Internet Explorer 9.0. To upgrade to Internet Explorer 9.0, see **Installing Internet Explorer 9.0** on page 23.

Hewlett Packard Enterprise recommends that you use Internet Explorer 11.

Verify Internet Explorer 11.0

Procedure

1. Start Internet Explorer.
2. To display version information, click **Help** > **About Internet Explorer**.

You can upgrade to Internet Explorer 11.0 on a Windows Server 2008 console. Internet Explorer 11.0 is the default on Windows Server 2012 and Windows Server 2016. For more information, see **Installing Internet Explorer 11.0** on page 24.

Verify comforte MR-Win6530 Terminal Emulator

Procedure

1. Click **Start** > **All Programs** > **MR-Win6530** > **MR-Win6530**.
2. From the Help menu, click **About MR-Win6530** to display the software version for MR-Win6530.
3. Map your MR-Win6530 software version to the SPR version per the following table.

Table 2: MR-Win6530 software versions and associated SPRs

MR-Win6530 software version	SPR
9.0.10	G06
9.0.11 (includes 9.0.10)	G06AAA
9.0.12 (includes 9.0.11)	G06AAB
9.0.15 (includes 9.0.13 and 9.0.14)	G06AAC
9.0.17 (includes 9.0.16)	G06AAD
9.1.3 (includes 9.1.1 and 9.1.2)	G06AAE
9.1.4	G06AAF
9.2	G06AAG
9.2.3	G06AAH
9.3	G06AAI, G06AAJ, G06AAK, and G06AAL
9.4	G06AAM
9.5	G06AAN
9.5.1	G06AAO
9.6.2	G06AAP
9.6.4	G06AAQ
9.7.0	G06AAR
9.7.1	G06AAS

Table Continued

MR-Win6530 software version	SPR
9.7.2	G06AAT
9.7.3	G06 AAU
9.7.5	G06 AAV
9.7.7	G06 AAW
9.8.0	G06 AAX
9.8.1	G06 AAY

4. If the current version of comforte MR-Win6530 Terminal Emulator version is not installed, install it as described in **Installing and migrating to the comforte MR-Win6530 Terminal Emulator (T0819 AAY)** on page 63.

Verify Adobe Acrobat Reader DC

Procedure

1. Click **Start** > **All Programs** > **Adobe Reader DC**.
2. To display application information, from the Help menu, click **About Adobe Acrobat Reader DC**.

If you do not have Adobe Acrobat Reader DC installed on your system console, see **Installing Adobe Acrobat Reader DC** on page 35.

Verify OSM Console Tools

The OSM Console Tools product includes many tools designed to help configure, manage, or service your NonStop servers. For a list and description of the individual tools, see **Installing OSM Console Tools (T0634 ACD)** on page 46. The tools are packaged such that the OSM Console Tools installer automatically launches the individual installers for each of them. Therefore, it is not necessary to check the version of each of them to determine whether you must upgrade to the latest OSM Console Tools product.

Verify OSM Inventory Tool

The OSM System Inventory Tool is installed as part of the OSM Console Tools (and shares the product number).

Procedure

1. To start the OSM System Inventory Too, click **Start** > **All Programs** > **HP OSM**.
2. To close the Get System Inventory dialog box, click **Cancel**.
3. To display application information, click **About** in the Inventory dialog box.

For installation instructions, see **Running NonStop System Management Tools Master Installer** on page 37.

Verify OSM Certificate Tool

The OSM Certificate Tool is installed as part of the OSM Console Tools (and shares the product number).

Procedure

1. To launch the OSM Certificate Tool, click **Start** > **All Programs** > **HP OSM** > **OSM Certificate Tool**.
2. To display application information, click **About**.
   For information on how to use the OSM Certificate Tool, see the online help available within the tool.

For installation instructions, see **Running NonStop System Management Tools Master Installer** on page 37.

Verify CLIM Management Tool

Procedure

1. To launch the CLIM Management Tool, click **Start** > **All Programs** > **HP OSM** > **CLIM Management Tool**.
2. To check the version of the CLIM Management Tool, click the **About** button.

For installation instructions, see **Running NonStop System Management Tools Master Installer** on page 37.

For information on how to use the CLIM Management Tool, see the online help available within the tool.

Verify NonStop Maintenance LAN DHCP DNS Configuration Wizard

Procedure

1. To launch the NonStop Maintenance LAN DHCP DNS Configuration Wizard, click **Start** > **All Programs** > **HP OSM** > **NonStop Maintenance LAN DHCP DNS Configuration Wizard**.
2. To check the version of the NonStop Maintenance LAN DHCP DNS Configuration Wizard, click the **About** button.

For installation instructions, see **Running NonStop System Management Tools Master Installer** on page 37.

Verify OSM Quick Start Tool

Procedure

1. To launch the Quick Start Tool, click **Start** > **All Programs** > **HP OSM** > **OSM Quick Start Tool**.
2. To check the version of the OSM Quick Start Tool, click the **About** button.

For installation instructions, see **Running NonStop System Management Tools Master Installer** on page 37.

Tools for L-Series only

The OSM Console Tools are used exclusively for NonStop systems running L-Series software:

- System Startup Tool
- System Configuration Tool
- HSS and HCA Firmware Management Tool

The tools, already installed on NonStop System Consoles shipped with NonStop X systems, can be launched from the Windows Start menu by clicking **All Programs** > **HP OSM** > **L-Series Tool** > ***Name of the tool***.

Verify Apache OpenOffice

OpenOffice provides a method to view spreadsheets, documents, and presentations on the system console. For example, files created by OSM in the `.csv` (or comma-delimited) format, such as hardware inventories created by the OSM System Inventory Tool, and Access Control List reports or saved Multi-Resource Views created in the OSM Service Connection.

Procedure

1. To launch OpenOffice, click **Start** > **All Programs** > **OpenOffice**.
2. To check the version of OpenOffice, click **Help** > **About OpenOffice**.

For installation instructions, see **Running NonStop System Management Tools Master Installer** on page 37.

Verify OSM Low-Level Link

Procedure

1. Click **Start > All Programs > HP OSM**, and start OSM Low-Level Link.
2. To display application information, click **Help > About HP OSM**.

To install the current version of OSM Low-Level Link, see **Running NonStop System Management Tools Master Installer** on page 37 and **Installing OSM Low-Level Link (T0633 ACB)** on page 66 for instructions.

Verify Halted State Services (HSS)

NOTE: For information about HSS in an HPE Virtualized NonStop system (supported on L17.02+ RVUs), see the *Virtualized NonStop Deployment and Configuration Guide*.

NonStop System Console-based HSS firmware applies as follows:

- T8004 is for all NonStop systems running J-Series software except NS2000 series
- T0902 is for all systems running L-Series software

If one or both apply, check C:\HSS\T8004 and/or C:\HSS\T0902, as appropriate, to see the currently available versions on the NonStop System Console. If a newer version is available on the DVD, see **Installing Halted State Services firmware** on page 51 for download and upgrade instructions.

Verify PuTTY

PuTTY is an implementation of Telnet and SSH for Win32 and UNIX platforms. Use PuTTY to provide the secure file transfer protocol (SFTP).

All systems that use CLIMs require PuTTY.

Procedure

1. Click **Start** > **All Programs** > **PuTTY** > **PuTTY**.

   The PuTTY Configuration dialog box appears.
2. Click **About** at the bottom of the dialog box.

For instructions on installing or upgrading to the latest version, see **Running NonStop System Management Tools Master Installer** on page 37 or **Installing PuTTY (T0697 AAI)** on page 55.

Verify OpenSSH (T0697)

Procedure

To determine the version of OpenSSH installed on the NonStop System console, enter the `ssh -V` command at the command prompt.

For instructions on installing or upgrading to the latest version, see **Running NonStop System Management Tools Master Installer** on page 37 or **Installing OpenSSH (T0697 AAI)** on page 56.

Verify SP Tool

The SP Tool is installed through the NonStop System Management Tools Master Installer, both as part of the OSM Low-Level Link, and as a standalone application. You can install and use either version.

SP Tool Help cannot be displayed on Windows 2012 or Windows 2016.

Procedure

1. Click **Start** > **All Programs** > **HP SP Tool** > **SP Tool**.
2. Click **Help** in the SP Tool Logon dialog box.
3. Click **Help** > **Version**.

If you do not have SP Tool version 2.8 installed, see **Running NonStop System Management Tools Master Installer** on page 37 for instructions.

Verify WAN Wizard Pro Client

Procedure

1. Click **Start** > **All Programs** > **HP WAN Wizard Pro** > **WAN Wizard Pro**.
2. Click **Help** > **About**.

The NonStop System Console DVD includes the WAN Wizard Pro client version 5.00 (T0501 AAE). This client version is compatible with J06.03 and later J-Series RVUs, and H06.03 and later H-Series RVUs. For installation instructions, see **Running NonStop System Management Tools Master Installer** on page 37.

Installing and updating Windows components

Installing Windows Server 2008 Service Pack 1

Procedure

1. Open **Console System Patches\Win6.1\2008 R2 SP1** on the DVD.
2. To start installation, double-click the **Windows6.1-KB976932-x64.exe** file.

   The setup program starts extracting files. The Windows Server 2008 Service Pack 1 Setup Wizard dialog box appears.
3. Click the **Next** button.

   The License Agreement dialog box appears.
4. Read the license agreement.
5. Select the **I Agree** button, and then click the **Next** button.

   The Select Options dialog box appears.
6. To accept the default location for the backup files, click **Next**.

   The Windows Server 2008 Service Pack 1 Setup Wizard indicates the setup progress.

   When the setup is finished, the Wizard informs you that Windows Server 2008 Service Pack 1 is installed, and you are prompted to restart the console.
7. To restart the system console, click the **Finish** button.

   After you have restarted the system console, the operating system asks whether you want to turn on Automatic Updates.
8. Choose not to accept Automatic Updates, and then click **Next** to log on to Windows.

To install additional patches required for using IE 11.0 on Windows Server 2008, see **Installing Internet Explorer 11.0** on page 24.

Required services on the NonStop system console

The NonStop system console is shipped with the required ports open to provide the following services. If a firewall package is installed on the NSC, ensure that the ports corresponding to the services are open. Consult with your network security personnel and see the documentation of your firewall package on how to ensure that the ports are open.

NonStop system console port	Protocol	Required for...
20	FTP	FTP for CLIM update
21	FTP	FTP for CLIM update
22	SSH/SFTP	Running secure shell access to the NonStop System Console

Table Continued

NonStop system console port	Protocol	Required for...
53[1]	DNS	Using this console as a DNS server
67[1]	DHCP/BOOTP	Using this console as a DHCP server
69[1]	WDS	HSS files on Windows Server 2008 system console
161	SNMP traps	Using the NSC monitoring feature in OSM
162	SNMP	Only if running as HPE Systems Insight Manager CMS
280	HTTPS	Only if running as Systems Insight Manager CMS
3389	RDP	Enabling Remote Desktop
50000	HTTPS	Only if running as Systems Insight Manager CMS

[1] If the service exists on a CLIM, they do not have to be enabled on the NonStop System Console.

DHCP, DNS, and BOOTP server considerations

For all NonStop systems running L-Series, J-Series, or H-Series with CLIMs installed, there must be two sources of DHCP and DNS services on the dedicated service LAN, located either on two NonStop system consoles or two CLIMs. If there is more than one system on the dedicated service LAN, then all systems on this dedicated service LAN will share DHCP and DNS services.

The NonStop system consoles must be running **at least** Windows Server 2003 for J-Series and H-Series; L-Series requires Windows Server 2008, Windows Server 2012, or Windows Server 2016. The DHCP and DNS servers are already installed on those NonStop System Consoles. The DHCP and DNS servers are enabled/configured by default for NonStop System Consoles shipped with AC-powered systems, but are not enabled/configured for NonStop System Consoles shipped with DC-powered systems, where the default is having DHCP and DNS servers configured on two CLIMs instead.

For all NonStop systems running L-Series and J-Series software (with the exception of NS2000), BOOTP services are also hosted on those two DHCP and DNS servers. The BOOTP servers on those NonStop system consoles or CLIMs make available the HSS firmware required for the systems to boot. DC-powered systems use CLIMs instead of the systems consoles to host DHCP, DNS, and BOOTP services.

DHCP, DNS, and BOOTP services are configured by your service provider when creating the necessary dedicated service LAN or when adding or changing the NonStop System Consoles or CLIMs that provide those services on the LAN. For more information, see the *NonStop Dedicated Service LAN Installation and Configuration Guide* or *NonStop Dedicated Service LAN Installation and Configuration Guide for the NonStop X System*. For information on installing the NonStop Maintenance LAN DHCP DNS Configuration Wizard, see **Installing OSM Console Tools (T0634 ACD)** on page 46. For information on updating those HSS files required for BOOTP services, see **Verify Halted State Services (HSS)** on page 19.

Installing Internet Explorer 9.0

Hewlett Packard Enterprise recommends that you use Microsoft Internet Explorer 11. Internet Explorer 11 is the only version for which Microsoft issues patches. For more information on installing and configuring Internet Explorer 11, see **Installing Internet Explorer 11.0** on page 24.

Internet Explorer 9.0 is used by OSM browser-based applications (OSM Service Connection and OSM Event Viewer).

Prerequisites

- Your system console has Windows server 2008.
- To upgrade to Internet Explorer 9.0, you must have OSM server T0682 H02 ADL (or later) on each system managed by the console. For more information on requirements and considerations for the OSM, see **OSM server-based components** on page 39.
- When connecting from a PC other than a NonStop system console using IE 9.0 or IE 10.0 (IE 10.0 is supported in compatibility mode only), it might be necessary to add the IP address or DNS name of the NonStop system to the Trusted Sites of Internet Explorer as described in the *OSM Configuration Guide*.

Procedure

1. Determine if Windows Server 2008 Service Pack 1 or the Update for Microsoft Windows (KB2454826) patch has been installed. If not, install it from the NonStop System Console DVD:
   a. Open the **Console System Patches\Win6.1** folder on the NonStop System Console DVD.
   b. Double-click the **Windows6.1-KB2454826-v2-x64.msu** file, and then, to install the patch, click the **Install** button.
   c. Restart the NonStop system console.
2. Open the **IE9.0** folder on the NonStop System Console DVD.
3. Double-click the **IE9-Windows7-x64-enu.exe** file.
4. In the Install Windows Internet Explorer screen, select the **I do not want to participate right now** radio button, and then click the **Next** button.
5. Read the license agreement, and then click the **I accept** button.
6. In the Get the latest updates screen, clear the **Install Updates** button, and then click the **Next** button.

   A progress box keeps you informed as components are installed.
7. After the installation is complete, click the **Restart Now** button.
8. If the system console is connected to the Internet, run Windows Update from the tools menu to get the latest updates for Internet Explorer 9.0.

Installing Internet Explorer 11.0

The OSM Service Connection supports Internet Explorer 11.0. Internet Explorer 11.0 can be installed on system consoles running Windows Server 2008. IE 11.0 is installed by default on Windows Server 2012, and Windows Server 2016.

OSM requirements for using IE 11.0 are:

- H/J-Series: T0682 H02 ADP or later
- L-Series: T0682 H02 ADM or later

Guidelines for installing Internet Explorer 11.0

- If your Windows Server 2008 R2-based NonStop System Console is up to date with Microsoft updates, you might not have to perform the IE 11.0 installation.
- Service Pack 1 is required and is already installed on most Windows Server 2008 NonStop System Consoles shipped by HPE.
- For older models, SP1 must be installed from the NonStop System Console DVD before installing IE 11.0. For more information, see **Installing Windows Server 2008 Service Pack 1** on page 21.
- The IE 11.0 installer tries to automatically install some prerequisite components. If this part of the installation fails, Internet Explorer stops the installation process. In this situation, you must install the prerequisite software manually before you can install Internet Explorer 11. For more information, see **Manually installing the prerequisite software for Internet Explorer 11.0** on page 24.
- The NonStop System Console DVD contains additional patches – some required and optional – for using IE 11.0 on Windows Server 2008.

Manually installing the prerequisite software for Internet Explorer 11.0

The installer will notify you if a patch is not applicable to your computer and can be skipped.

For more information about specific updates, see the Microsoft Knowledge Base.

Prerequisites

- Required patches to install:
  - Windows6.1-KB2729094-v2-x64.msu
  - Windows6.1-KB2731771-x64.msu
  - Windows6.1-KB2533623-x64.msu
  - Windows6.1-KB2670838-x64.msu
  - Windows6.1-KB2786081-x64.msu
  - Windows6.1-KB2834140-v2-x64.msu
- Optional patches you can install:

- Windows6.1-KB2639308-x64.msu
- Windows6.1-KB2888049-x64.msu
- Windows6.1-KB2882822-x64.msu

Procedure

1. On the NonStop System Console DVD, click **Console System Patches** > **Win6.1**
2. Double-click the patch name.

   The application will download and install the selected patch.

   After installing the patches, you can confirm the installation.
3. To confirm the installation, click **Control Panel** > **System and Security** > **Windows Updates**.

   The newly installed patches will be displayed.
4. Reboot the NonStop System Console.

   Now you can proceed to installing Internet Explorer 11.0.

Install Internet Explorer 11.0

Prerequisites

- For consoles with Windows Server 2008, you have at least Windows Server 2008 with Service Pack 1 installed in your system.
- The IE 11.0 installer tries to automatically install prerequisite components. If this part of the installation fails, you must install the prerequisite software manually. For more information, see **Guidelines for installing Internet Explorer 11.0** on page 24 and **Manually installing the prerequisite software for Internet Explorer 11.0** on page 24.

Procedure

1. Open the **IE11.0** folder on the NonStop System Console DVD.
2. Double-click **IE11-Windows6.1-x64-en-us.exe**.
3. Read and accept the license agreement.

   A Progress window keeps you informed as components are installed.
4. After the installation is complete, click the **Restart Now** button.

To ensure compatibility with the OSM Service Connection, perform the steps for **Configuring Internet Explorer and Java** on page 26.

Configuring Internet Explorer and Java

Prerequisites

- You have systems earlier than J06.21 and L-Series systems without OSM EPD T0682BAJ.
- You have performed the necessary to ensure compatibility with the OSM Service Connection when Configuring Internet Explorer and Configuring Java that are to be done when you **Add user IDs** on page 10 and after you **Install Internet Explorer 11.0** on page 25.

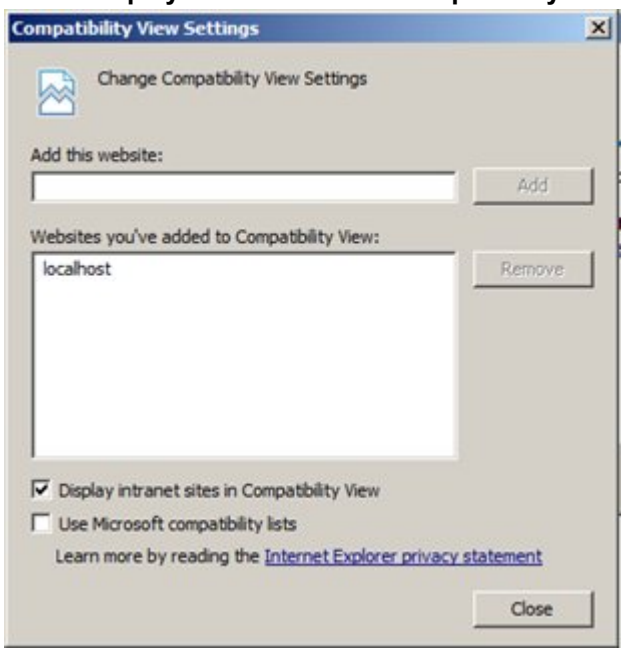
Configure Internet Explorer

Procedure

1. Launch IE 11.0.
2. Click the **Set up** dialog.
3. Select the **Don’t use recommended settings** radio button.
4. Clear the **Send Do Not Track requests to tell sites you prefer not to be tracked** check box.
5. Click the **OK** button.

6. Click the IE **Help** menu.
7. Click **About Internet Explorer**.
8. Clear **Install new versions automatically**.
9. Click the Internet Explorer **Tools** menu.
10. Click **Internet Options**.
11. On the General tab, set the Home page to **`about:blank`**.
12. Click the **Security** tab.
13. Confirm that **Enable Protected Mode** is clear.
14. Select the **Local intranet** zone.
15. Click **Sites**.

16. Click **Advanced**.
17. Leave the defaults websites in the zone:
    - hcp://system
    - http://localhost
    - https://localhost
18. Add the following websites to the zone:
    - http://192.168.*.*
    - https://192.168.*.*
    - https://*.private.lan.com
    - http://*.private.lan.com
19. Click **Close** > **OK** > **OK** to dismiss the Internet Options dialog.
20. Click the Internet Explorer **Tools** menu.
21. Select **Turn off Pop-up Blocker**.
22. Select **Compatibility View Settings**.
23. Add `localhost` under **Add this website**.
24. Click **Add** to add it to **Websites you've added to Compatibility View**.
25. Select **Display intranet sites in Compatibility View**.



26. Click **OK** to close the Compatibility View Settings window.
27. Edit the Local Group Policy settings as follows:
    a. Start an Administrator command prompt.
    b. Start the Local Group Policy Editor by entering `gpedit`.

c. Click **Computer Configuration** > **Administrative Templates** > **Windows Components** > **Internet Explorer** > **Compatibility View**.

d. Select **Use Policy List of Internet Explorer 7 sites**.

e. Select **Enabled**.

f. Under **Options**, click **Show**.

g. In the **Show Contents** dialog, add `localhost` to the **List of sites**, and click **OK**.

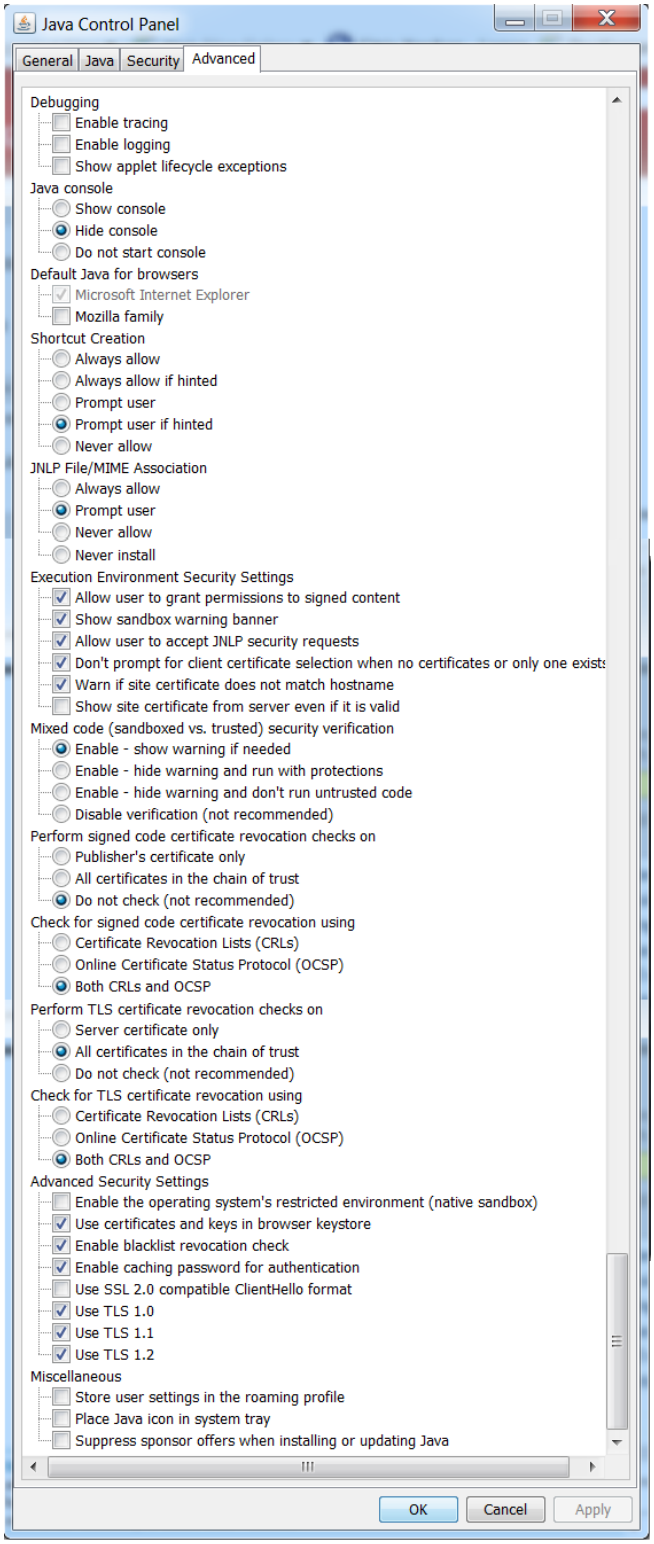
Configure Java

Prerequisites
You can install Java from the NonStop System Console DVD or from the NonStop Server.

Procedure

1. Open the General tab in the Java Control Panel dialog.
2. Click **Settings** under Temporary Internet Files.
3. In the Temporary Files Settings dialog, click **Delete Files**.
4. In the Delete Files and Applications dialog, select all three check boxes, and then click **OK**.
5. Click **OK** in the Temporary Files Settings dialog to return to the Java Control Panel.
6. On the General tab, click **Network Settings**.
7. Confirm that **Use browser settings** is selected.
8. Do one of the following:
   - If no changes were made to the settings, click **Cancel**.
   - Click **OK**, if you had to change the settings.
9. In the Java Control Panel dialog, click the **Update** tab.
10. Confirm that **Check for Updates Automatically** is clear to ensure that only versions supported by OSM are installed.
11. Do one of the following:
    - If no changes were made to the settings, click **Cancel**.
    - Click **OK**, if you had to change the settings.
12. In the Java Control Panel dialog, click the **Security** tab.
13. Confirm that **Enable Java content in the browser** is clear.
14. Do one of the following:
    - If no changes were made to the settings, click **Cancel**.
    - Click **OK**, if you had to change the settings.
15. In the Java Control Panel dialog, click the **Advanced** tab.

The settings should be as shown in the following image.



16. Do one of the following:

- If no changes were made to the settings, click **Cancel**.
- Click **OK**, if you had to change the settings.

To check what versions of Java are currently installed in the Java Control Panel, click **Java** > **View**. If your system console does not have the version required by a particular version of the OSM Service Connection, it will prompt you to install it when logging on. It is not necessary to delete older versions.

Installing Remote Desktop

Microsoft Remote Desktop is included with the Windows operating systems, and is the recommended solution for remote connection (dial-in) services for your NonStop system consoles. When enabled, Remote Desktop allows you to access your NonStop System Consoles from a lights-out operations configuration. Remote Desktop also enables your service provider to dial in to your system console for remote diagnostics. Enable Remote Desktop only if your corporate security policy allows it. Remote Desktop must be enabled to use the NonStop Maintenance LAN DHCP DNS Configuration Wizard.

Use Remote Desktop for Remote Connection Services

Depending on your system console operating system, see one of the following:

- **Configuring Remote Desktop on Windows Server 2008** on page 31
- **Configure Remote Desktop Services on Windows Server 2012 R2 and Windows Server 2016 using the Group Policy Editor** on page 34

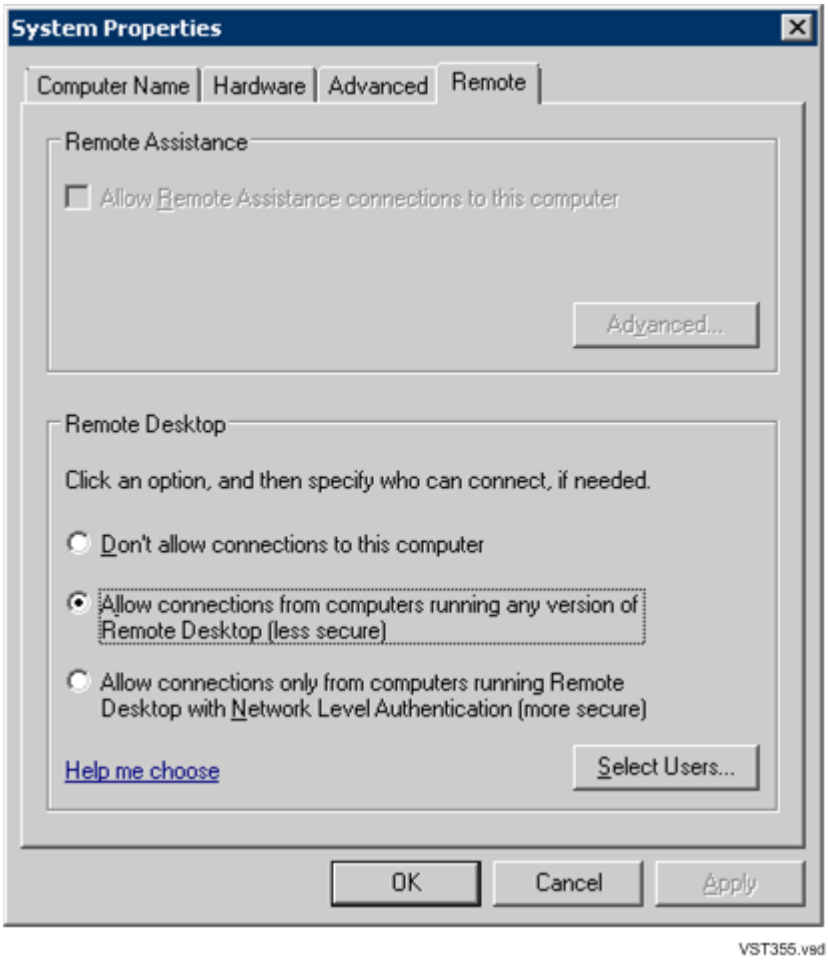
Configuring Remote Desktop on Windows Server 2008

- **Configure Remote Desktop for Remote Connection Services (Windows Server 2008)** on page 31
- **Configure Remote Desktop Sessions for Timeout (Windows Server 2008)** on page 32
- **NetMeeting for Services (Windows Server 2008)** on page 33

Configure Remote Desktop for Remote Connection Services (Windows Server 2008)

Procedure

1. Right-click **Computer**.
2. Click **Properties**.
3. Click **Remote Settings** on the left navigation pane.
4. In the Remote Desktop section, select **Allow connections from computers running any version of Remote Desktop (less secure)**.



5. Click **OK**.

NOTE: Configuring remote connection (dial-in) services requires the use of the second of the two network interface cards (NICs) available on the NonStop system console. When you assign an IP address to the second NIC on a system console running Windows Server 2008 that is being used as a DHCP server for the dedicated service LAN, whether for remote notification (dial-out) and/or remote connection services, you must remove the DHCP server binding for that IP address from the DHCP configuration on that NonStop System Console. See **Appendix A Configuring the Second NIC for Operations LAN Connectivity**.

To access Remote Desktop, click **Start > All Programs > Accessories > Communications>Remote Desktop Connection**:

If you are starting Remote Desktop for the first time, the Windows Security Alert dialog box might appear. Click **Unblock** in the Windows Security Alert dialog box.

For information about using Remote Desktop, see the Remote Desktop online help.

Configure Remote Desktop Sessions for Timeout (Windows Server 2008)

Configure NonStop System Console Remote Desktop sessions to terminate sessions after idle timeout of 15 minutes by using this procedure.

Procedure

1. Click **Start > Administrative Tools > Remote Desktop Services > Remote Desktop Session host Configuration**.

   The Terminal Services Configuration window displays.

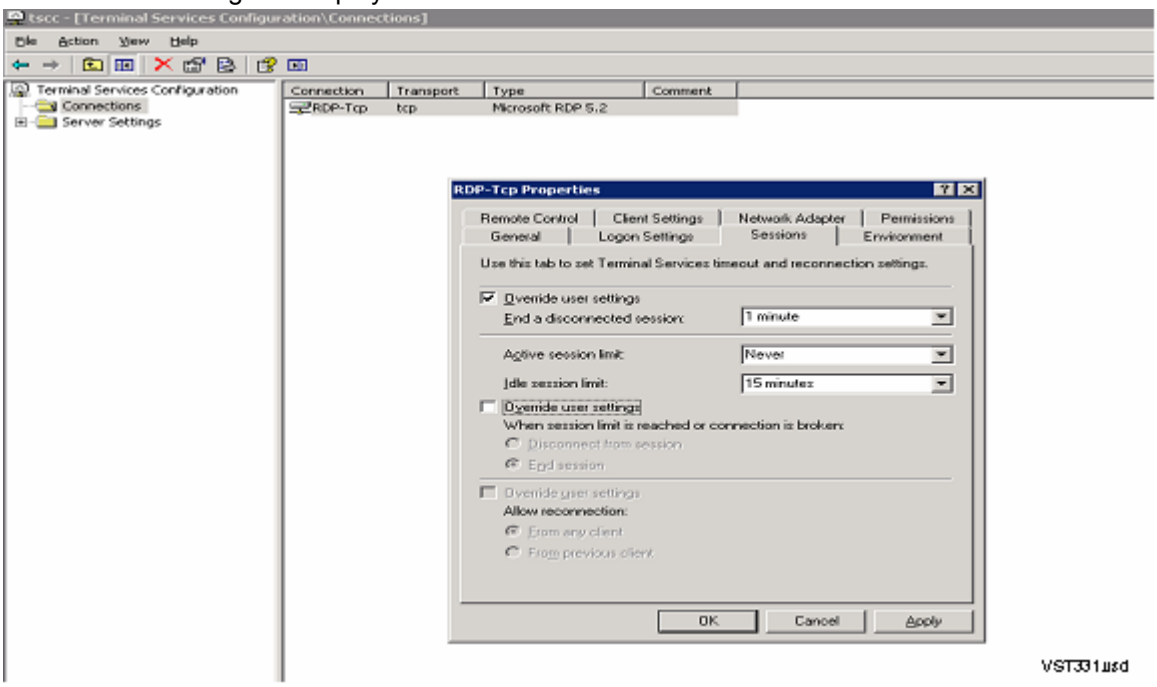
2. In the Connections window, click **RDP-Tcp**.

   The RDP-Tcp window displays.

3. Click **Properties**.

   The RDP-Tcp Properties window displays.

4. Click the **Sessions** tab.
   The Sessions dialog box displays.



   a. Select **Override user settings**.

   b. From the **Active session limit** list, select **NEVER**.

   c. From the **End a disconnected session** list, select **1 minute**, and then click **OK**.

   d. From the **Idle session limit** list, select **15 minutes**.

5. Click **Apply**.

6. Click **Okay**.

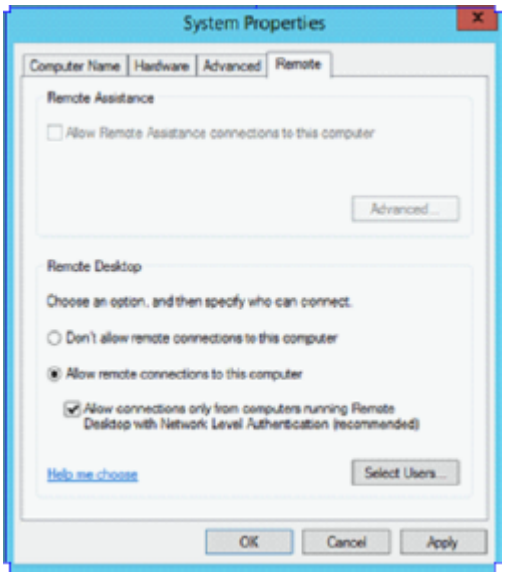
NetMeeting for Services (Windows Server 2008)

As of Windows Vista and later operating systems, NetMeeting is no longer included with Microsoft Windows, and Microsoft recommends using newer applications such as Windows Meeting Space, Remote Desktop Connection, Remote Assistance, Windows Live Messenger and Microsoft Office Live Meeting in place of NetMeeting.

Configure Remote Desktop Services on Windows Server 2012 R2 and Windows Server 2016 using the Group Policy Editor

Procedure

1. Set System Properties to allow connections only to NLA (Network Level Authentication) computers.



2. Set Remote Desktop Timeouts and Change User Restrictions:

   a. From a command prompt (Windows key + R), enter `gpedit.msc`, which is the Local Group Policy Editor.

   b. Click **Computer Configuration** > **Administrative Templates** > **Windows Components** > **Remote Desktop Services** > **Remote Desktop Session Host** > **Connections**.

3. Set **Allow users to connect remotely by using Remote Desktop Services** to **Enabled**.
4. Set **Limit number of connections** to **Disabled**.
5. Set **Restrict Remote Desktop Services users to a single Remote Desktop Services session** to **Disabled**.

   a. Set **Restrict Remote Desktop Services users to a single Remote Desktop Services session** to **Disabled**.

   b. Go up one level, and then double-click **Session Time Limits**.

6. Enable **Set time limit for disconnected sessions**, set to 1 minute, and then click **Apply** > **OK**.
7. Enable **Set time limit for active but idle Remote Desktop Services sessions**, set to 15 minutes, and then click **Apply** > **OK**.
8. Close the Local Group Policy Editor.

Installing Adobe Acrobat Reader DC

Support for Adobe Acrobat 11.x and Adobe Reader 11.x ended on October 15, 2017. Adobe Acrobat Reader DC is now the go-forward Adobe Reader for the NonStop system console.

For information on managing updates on Adobe Acrobat Reader DC, see the Adobe website at: **https://helpx.adobe.com/acrobat/kb/automatic-updates---acrobat-reader.html**

Hewlett Packard Enterprise recommends that you uninstall all existing versions of Adobe Acrobat Reader first before installing Adobe Acrobat Reader DC.

Procedure

1. Open the NonStop System Console DVD.
2. Open the **AdobeAcrobat** folder to display its contents.
3. Open the **Windows** folder.
4. To start the installation, double‑click the **\AcroRdrDC1801120035_en_US.exe** file.

   The Adobe Reader DC Installer appears and shows progress bars for the installation. A dialogue box appears asking for the installation directory.
5. To proceed, click the **Install** button.

   The setup completes.
6. To exit the Adobe Reader DC Setup, click the **Finish** button.

Copying non-SUT firmware for L18.02 and J06.22 from DVD (T0918 L02 AAG)

The DVD contains non-SUT firmware for system components at the level shipped by HPE manufacturing with L18.02 and J06.22.

Prerequisites

- You must have non-SUT firmware installed in the system before replacing hardware. Having non-SUT firmware installed ensures that the replacement components have the firmware versions required for NonStop.
- You must copy non-SUT firmware from the DVD to the NonStop System Console. The master installer does not copy non-SUT firmware files to the NonStop System Console. For the list of non-SUT firmware components, and instructions for installing each one, see *NonStop Firmware Matrices*.

Procedure

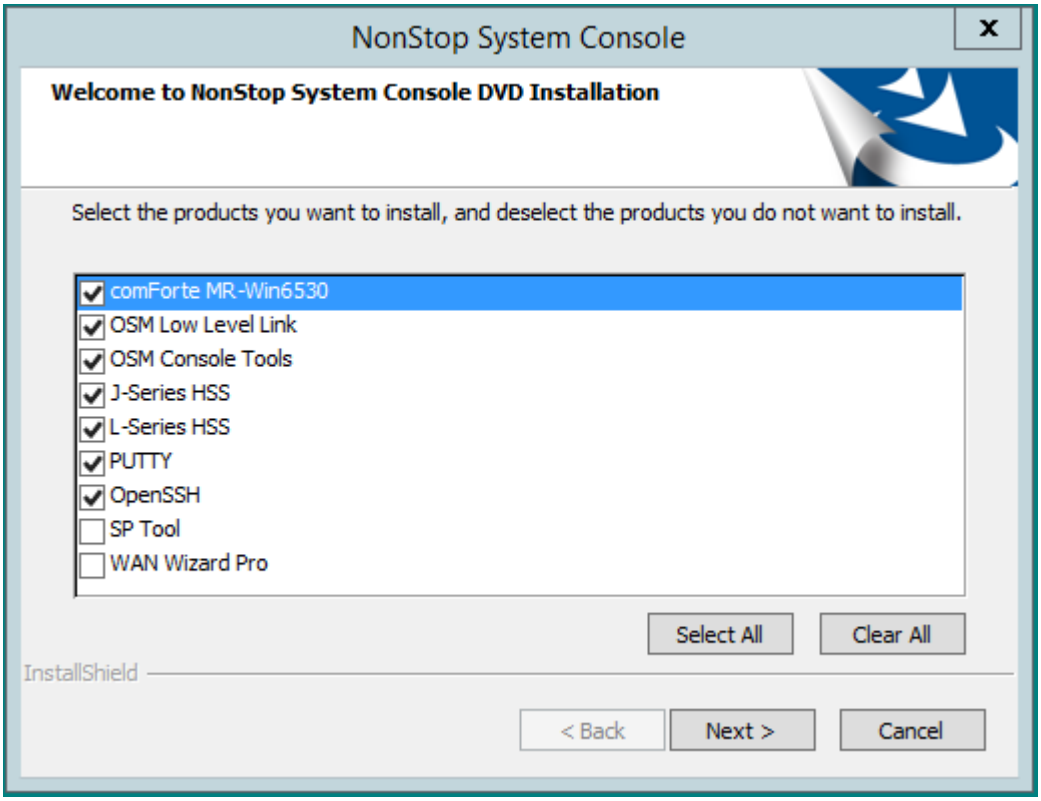
1. Copy the complete **Non-SUT Firmware** directory, at the top level of the NonStop System Console DVD, to the **C:** drive of the NonStop System Console.
2. If the **C:\Non-SUT Firmware** directory exists on the NonStop System Console, copy the **L18.02 FW** or **J06.22 FW** directory, as applicable, from the **Non-SUT Firmware** directory of the DVD to **C:\Non-SUT Firmware**.

Running NonStop System Management Tools Master Installer

Procedure

1. Open the NonStop System Console DVD and the `MASTER` folder to display its contents.
2. Double-click **setup.exe**.

   The License Agreement dialog box appears.
3. Read the agreement.
4. Select **I accept**, and then click **Next**.
   The Welcome dialog box appears.



5. Click **Next**.
6. Select the applications you want to install, and clear applications that you do not want.

   Uncheck J-Series HSS if this NonStop System Console is not used to manage applicable systems running J-Series software.
7. Click **Next**.

- Before you install the OSM client-based components, see **System console requirements for OSM** on page 39.
- The NonStop System Console DVD includes the WAN Wizard Pro client version 5.00 (T0501AAE). This client version is compatible with the H06.03 and later SUTs on H-Series. Before you install the WAN Wizard Pro client, see **WAN Wizard Pro Client/server compatibility** on page 50.

8. Continue with the installation:

   - If you selected **comForte MR-Win6530**, see **Installing and migrating to the comforte MR-Win6530 Terminal Emulator (T0819 AAY)** on page 63 for installation instructions.
   - If you selected **OSM Console Tools**, see **Installing OSM Console Tools (T0634 ACD)** on page 46 for installation instructions.
   - If you selected **OSM Low-Level Link**, see **Installing OSM Low-Level Link (T0633 ACB)** on page 66 for installation instructions.
   - If you selected **J-Series HSS** or **L-Series HSS**, see **Installing Halted State Services firmware** on page 51 for installation instructions.
   - If you selected **PuTTY**, see **Installing PuTTY (T0697 AAI)** on page 55 for installation instructions.
   - If you selected **OpenSSH**, see **Installing OpenSSH (T0697 AAI)** on page 56 for installation instructions.
   - If you selected **SP Tool**, see **Installing SP Tool Version 2.8** on page 49 for installation instructions.
   - If you selected **WAN Wizard Pro**, see **Installing WAN Wizard Pro Client Version 5.00** on page 50 for installation instructions.

   The OSM Service Connection and OSM System Inventory Tool require a supported version of Java Runtime Environment. For more information, see **Java Runtime Environment considerations** on page 41.

   After you have installed the selected applications, the NonStop System Console Setup dialog box informs you that installation is complete.

9. To exit, click **Finish**.

   To use the new version of OSM client-based components, it is recommended that you restart your system console. If you selected **Restart** during the OSM installation, the system console restarts after all selected installations have completed.

HPE NonStop Open System Management

System console requirements for OSM

For a dedicated service LAN managing NonStop systems running J-Series software and any NonStop NS-Series systems with CLIMs or both, you must have two NonStop System Consoles running one of the following as shipped from manufacturing:

- Windows Server 2008
- Windows Server 2012
- Windows Server 2016

For a dedicated service LAN managing NonStop systems running L-Series software, you must have two NonStop System Consoles running one of the following:

- Windows Server 2008
- Windows Server 2012
- Windows Server 2016

Reimaging and OS upgrades are not supported on NonStop system consoles. You may use only consoles supplied by Hewlett Packard Enterprise as NonStop system consoles.

Windows Server 2003 NonStop System Consoles are not supported for use with systems running L-Series software or those systems running J-Series but having Gen8 or later CLIMs or Gen9 blades. Extra OS requirements for specific software products, such as Internet Explorer versions, are described in this manual. Hewlett Packard Enterprise no longer tests NonStop System Console tools on operating systems before Windows Server 2008.

NonStop System Consoles must have a minimum of 1 GB of memory. However, at least 2 GB is required when managing the NonStop BladeSystem, and if HPE SIM is installed on the NonStop System Console, at least 4 GB is required.

OSM server-based components

The HPE NonStop Open System Management (OSM) Service Connection Suite, T0682, is delivered on the SUT and installed on all NonStop systems; one version for G-Series, one that covers both H- and J-Series, and another version for L-Series. OSM is backwards-compatible; you can always upgrade to the latest version of T0682 without migrating your RVU.

For more information on creating and using SSL certificates for OSM, see the *OSM Configuration Guide.*

For additional consideration when using OSM Service Connection T0682 H02 ADL (or later), see the following:

- **Installing Internet Explorer 9.0** on page 23
- **Installing Internet Explorer 11.0** on page 24
- **Java Runtime Environment considerations** on page 41

Internet Explorer 10 is supported only in compatibility mode (see *OSM Configuration Guide).*

OSM client-based components

This section applies to HPE NonStop Open System Management (OSM) versions prior to T0682 H02 AEE and T0682 L02 BAJ. With T0682 H02 AEE, T0682 L02 BAJ, or later, the OSM Service Connection client application must be downloaded to the NonStop Console from the NonStop server.

Prerequisites

- Before using OSM applications, you must have OSM and any requisite SPRs installed on your server and OSM server processes configured and running. For more information, see the *OSM Configuration Guide.*
- You must have Internet Explorer installed to use the OSM Service Connection and OSM Event Viewer applications. For more information, see one of the following:
  - **Installing Internet Explorer 9.0** on page 23
  - **Installing Internet Explorer 11.0** on page 24

Client-based components

The OSM client-based components are the following:

- T0634, OSM Console Tools. For installation information, see **Installing OSM Console Tools (T0634 ACD)** on page 46.
- T0633, OSM Low-Level Link. For installation information, see **Installing OSM Low-Level Link (T0633 ACB)** on page 66.

  For T0633 AAT and later, the OSM Low-Level Link is made to work with MR-Win6530 instead of OutsideView.

The OSM client-based components are delivered on the NonStop System Console DVD and installed on your system console. They can be installed individually, or together through the NonStop System Management Tools Master Installer. For more information on installing the client-based components together, see **Running NonStop System Management Tools Master Installer** on page 37.

The OSM client-based components for NonStop Servers are available through Scout also. You can access Scout through the HPE NonStop eServices Portal at **https://h22204.www2.hpe.com/NEP/Logon/Index**.

To be used in H/J-Series consoles, the CLIM Management Tool, a component of OSM Console Tools, requires the following products:

- OSM Service Connection version T0682 H02 ACV or later.
- SSH SPR T0801^ABA or later.

Installing the OSM Service Connection desktop application

Beginning with T0682 H02 AEE and T0682 L02 BAJ, the OSM Service Connection client is a desktop application. The installer is downloaded from the NonStop Server. Downloading the installer requires either the OpenSSH SFTP command-line utility or the PuTTY PSFTP application.

Procedure

1. Open the Internet Explorer browser.
2. Enter the following address in the browser address bar:
   https://<system address>:9990

   Where <system address> is the IP address or DNS name of the NonStop system running one of the above OSM versions.

   The browser displays a page of detailed instructions for using SFTP to download the installer. Wait for the installer to download to the NSC.
3. Locate and run the installer.

The OSM Service Connection application and the corresponding Java 8, Update 161 Runtime Environment are installed on the NSC.

Java Runtime Environment considerations

- For earlier (applet-based) versions of OSM, the OSM Service Connection and OSM System Inventory Tool require specific supported versions of Java Runtime Environment (JRE). If your system console does not have the required version installed, it will be installed automatically when running the OSM Console Tools installer. Otherwise, you will be prompted to install it when logging on to the OSM Service Connection.
- For the later (application-based) versions of OSM, a version of Java is packaged with the application, and will be installed when the OSM Service Connection application installer is run. For more information, see **Installing Java Runtime Environment through OSM** on page 42.
- For OSM Service Connection T0682 versions, the Java Next Generation Plug-in is enabled by default for the installed versions of Java. There is no need or option to turn it off.
- For OSM Service Connection T0682 versions that require Java 7, the following requirements or considerations apply:

  - Java 7 requires and directs you to enable **Java next generation plug-in** on page 44. For more information, see the OSM Service Connection online help.
  - OSM versions using Java 7 also displays security pop-ups asking for response before connecting to the Service Connection. For more information, see the OSM Service Connection online help.
  - The *OSM Configuration Guide* contains a troubleshooting tip for configuring Java 7 to avoid potentially long delays in logging on to the OSM Service Connection on a private network.

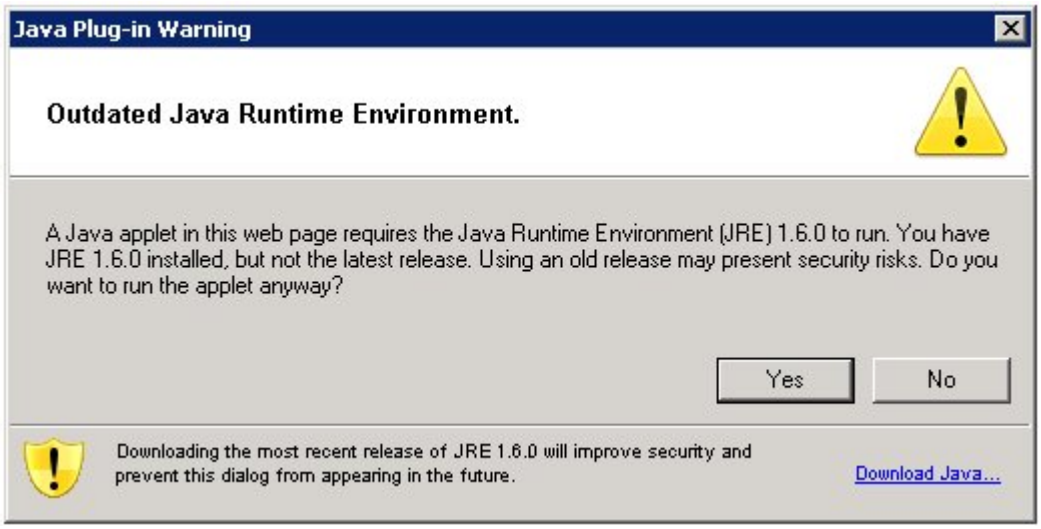
- Some additional Java configuration might need to be done to ensure OSM compatibility with Internet Explorer when you **Add user IDs** on page 10 and after you **Install Internet Explorer 11.0** on page 25. For more information, see **Configuring Internet Explorer and Java** on page 26.
- After the JRE is installed, Java Update might pop up periodically at the system tray of the console to prompt you to install a later version. If using the applet-based version of OSM, do not accept the updates. Updating to a different version of the Java Runtime Environment might cause OSM applications to not work properly. You must also clear automatic Java update checks. For more information, see **Clearing automatic Java update checking** on page 44.

Considerations for OSM versions using Java 6

The following considerations do not apply to the OSM Service Connection application. Hewlett Packard Enterprise recommends using the latest version of OSM for all NonStop systems that you will manage from the same system console. However, you can use different versions, with the following guidelines:

- After Java 7 has been installed on the console, when you try to establish an OSM Service Connection session with a system running a version of OSM that uses Java 6, you will have to adjust the **Java next generation plug-in** on page 44 setting, as directed by the version of OSM you are using.

  Also, upon logging in, OSM displays the following warning. Click the **Yes** button to connect to a system running a version of OSM that uses Java 6.



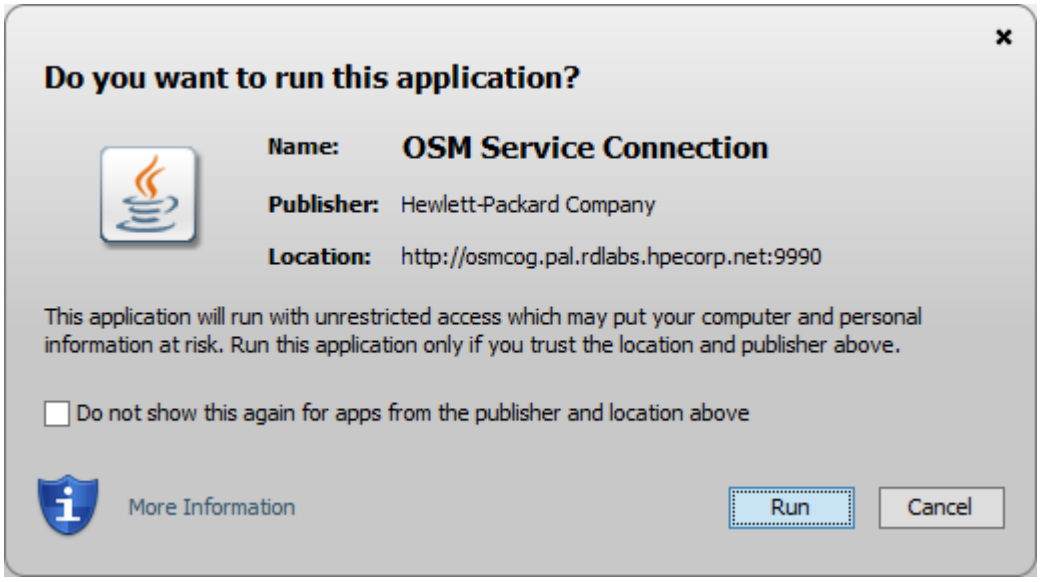
- For OSM server T0682 H02 AAZ and later, you are prompted to install JRE versions that are incompatible with OSM server versions older than T0682 H02 AAY (for NS-Series) and T0682 G07 AAV (for S-Series). If you install T0682 H02 AAZ or later on any of the NonStop servers being managed by this system console, all other servers also managed by this console must be running one of those versions or later.

Installing Java Runtime Environment through OSM

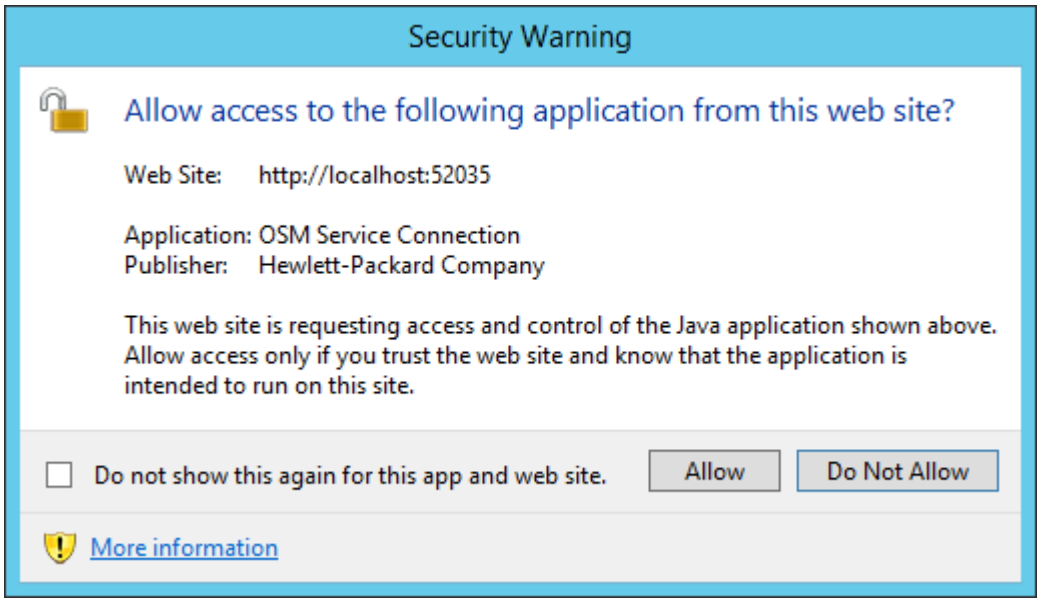
Procedure

Load Java from the OSM Service Connection.

The images shown are from an applet-based console.

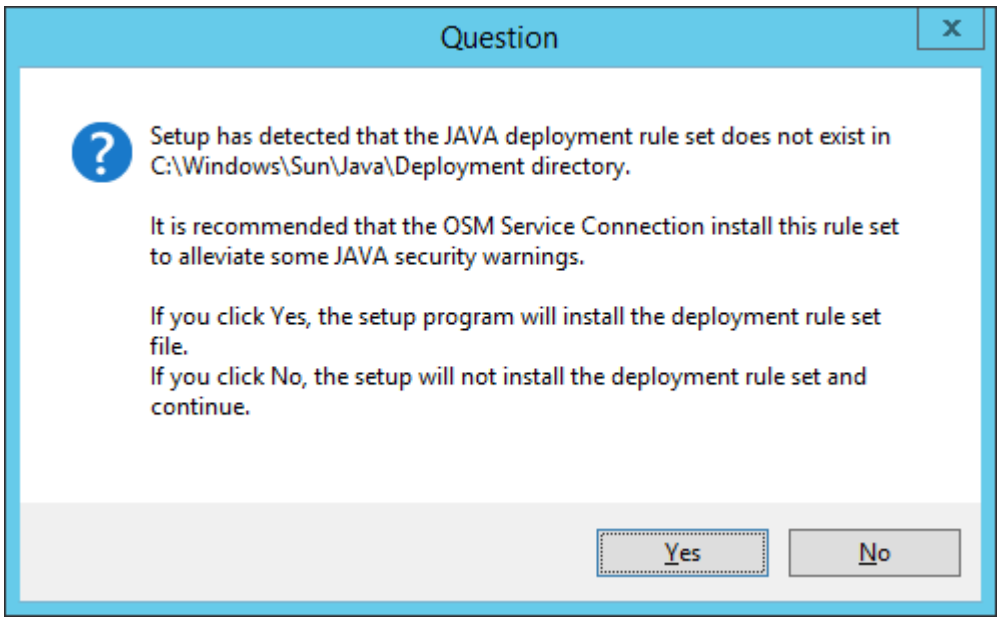


If you fail to load Java from the NonStop Server, the following security message is displayed because the system is missing the Deployment Rule Set. The Deployment Rule Set can only be acquired from NonStop. However, the Deployment Rule Set is not required by the OSM SC application.



If you have a user with a new console from manufacturing, the system may not have the Deployment Rule Set installed.

The following pop-up is displayed and asks you to load the rule set.



Java next generation plug-in

- When using OSM versions that require Java 7 or Java 6, the Java next generation plug-in might have to be enabled or disabled. When run, the OSM displays instructions for enabling or disabling the plug-in.
- OSM SPRs that use Java 7 usually require the next generation plug-in to be enabled to ensure proper operation of OSM by adjusting required memory settings automatically. The exception is when using OSM T0682 H02 ADL with Internet Explorer 10 (supported in compatibility mode only), in which case the next generation plug-in must be disabled.
- Versions of OSM that use Java 6 require the next generation plug-in to be disabled.
- For OSM Service Connection T0682 versions that require Java 8, the Java next generation plug-in is enabled by default for Java 8. There is no need or option to turn it off.

Clearing automatic Java update checking

Procedure

1. Open the Java Control Panel using the method appropriate for your console:
   - From the Start menu, click **Control Panel** > **Java**.
   - From the Start menu, click **Control Panel** > **Programs** > **Java (32-bit)**.
2. In Java Control Panel, if the **Update** tab is available, click the tab, and then clear the **Check for Updates Automatically** box.

   If the **Update** tab is not visible, close the Java Control Panel and edit the Java Update Registry. For more information, see **Editing Java Update Registry** on page 45.

If a Java Update warning dialog appears after clearing the **Check for Updates Automatically** box, click the **Never Check** or **Do Not Check** button (as applicable). The warning dialog will disappear.

3. Click the **Apply** button, and then the **OK** button.

Editing Java Update Registry

Prerequisites

This step must be done **only** as called for in step 2 of the procedure for **Clearing automatic Java update checking** on page 44.

Procedure

1. If the **Update** tab is not visible, enter the following command to edit the registry:

   `HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\JavaSoft\Java Update\Policy`

   Keep the value that you set and create, which is a registry dword named `EnableJavaUpdate` with a value of `1`.

2. Close the Java Control panel and repeat the procedure for **Clearing automatic Java update checking** on page 44.

Installing OSM Console Tools (T0634 ACD)

Starting with T0634 ABJ, OSM Console Tools contains additional tools used exclusively for NonStop systems running L-Series software (to replace the OSM Low-Level Link, which is not supported on L-Series) as well as enhanced tools that are used for H- and J-Series as well. The OSM Console Tools now include the following tools used exclusively for NonStop systems running L-Series software.

System Startup Tool

The tool is used to load the NonStop operating system into the processors to start the system; also provides processor actions such as Halt, Reset, Load, Dump Processor to MEU. For more information on how to use the tool, see the online help within the tool.

System Configuration Tool

The tool is used to modify system configuration settings (such as System name, Expand node number, InfiniBand network settings), configure a processor blade or CLIM, change a Maintenance Entity Unit, and manage MEU user IDs. For more information on how to use the tool, see the online help within the tool.

HSS and HCA Firmware Management Tool

The tool is used for managing and updating HSS firmware as well as InfiniBand HCA firmware in an x86 blade. For more information on how to use the tool, see **HSS and HCA for systems running L-series software (T0902 L03 AAF)** on page 52 and also the online help within the tool.

Once installed, these tools can be launched from the Windows Start menu: **Start** > **All Programs** > **HP OSM** > **L-Series Tool** > (name of the tool).

OSM Quick Start Tool

The tool can be used to guide you to the appropriate OSM product to configure, manage, or service your NonStop server. Since the right tool for a given task depends on the NonStop software platform or hardware, the Quick Start Tool prompts you for your software platform and the type of task you want to perform to direct you to the appropriate tool for your scenario, providing a link to launch the tool where possible.

CLIM Management Tool

The tool replaces the Down System CLIM Firmware Update Tool, providing that same ability firmware for all CLIMs and CLIM components on a NonStop system during planned system down, but also adds the ability to update CLIM software, either while the system is down or on individual CLIMs while the system is running.

NonStop Maintenance LAN DHCP DNS Configuration Wizard

The tool is used to configure DHCP and DNS services for your dedicated service LAN. It replaced the CLIM Boot Service Configuration Wizard in OSM Console Tools version T0634 ABB and later. The NonStop Maintenance LAN DHCP DNS Configuration Wizard does not require two NonStop System Consoles for it to work. The wizard can be used in a single console scenario. However, the wizard must only be used to configure DHCP and DNS services from the primary NonStop system console.

OSM Certificate Tool (for Onboard Administrators)

The tool is used only for the Integrity NonStop i BladeSystem, in which OSM must communicate with an Onboard Administrator (OA) for those systems. The OSM Certificate Tool creates certificates so that OSM can take advantage of an Onboard Administrator mechanism called Single Sign-On (SSO). With a valid certificate, OSM can initiate an OA web interface, logon to the OA without having to provide a username and password, and make SOAP calls.

OSM System Inventory Tool

The tool is used to create an inventory file listing the hardware, firmware, or Numeric Sensor data for one or more NonStop systems running OSM. This file can be saved in **CSV**, or comma-delimited format for use in Microsoft Excel or Apache OpenOffice.

Apache OpenOffice

The tool provides a method to view spreadsheets, documents, and presentations on the system console. For example, files created by OSM in **CSV** (or comma-delimited) format, such as hardware inventories created by the OSM System Inventory Tool, and Access Control List reports or saved Multi-Resource Views created in the OSM Service Connection. OpenOffice is not required software. If you prefer, you can remove it.

The tools are all packaged as part of the OSM Console Tools product such that the OSM Console Tools installer automatically launches the individual installers for each of them. However, the tools can be installed without running the Master Installer.

Procedure

1. Do one of the following:

   - To install the tools from the NonStop System Management Tools Master Installer, click **OSM Console Tools** from the Master Installer list.
   - To install the tools without running the NonStop System Management Tools Master Installer, double-click **OSMConsoleTools.exe** in the **OSM Console Tools** folder on the NonStop System Console DVD.

2. Accept the OSM Console Tools license agreement.
3. Click the **Next** button.

   The OSM Console Tools Readme File window opens and allows you to read the file.
4. Read the Readme information, and then click the **Next** button.

   The HPE OSM Console Tools Setup displays a welcome message.
5. Click the **Next** button.

   Setup begins copying files for all the OSM Console Tool programs to your hard drive.

   After the files have been copied, the HPE OSM Console Tools Installation Complete dialog box appears.

   During the installation, you will be prompted to install OpenOffice and given a host of windows for install options.
6. Choose the OpenOffice options that best fit your requirements.

   OpenOffice is included as a convenience to view various files that can be produced using OSM tools.
7. Do one of the following:

   - To install OpenOffice, click the **Next** button.

     If you installed OpenOffice, you will be prompted upon completion to finish the installation.
   - To skip OpenOffice installation, click the **Cancel** button.

8. If you installed OpenOffice, click the **Finish** button.

Setup configures the files on your hard drive.

After configuration is complete, the Install Shield Completed dialog box appears.

9. To complete the installation of the OSM Console Tools, click the **Finish** button.

Configuring the NonStop Maintenance LAN DHCP DNS Configuration Wizard

If you are using the NonStop Maintenance LAN DHCP DNS Configuration Wizard for the first time on your dedicated service LAN, or following system console or CLIM changes, you may have to perform one or more preliminary actions to ensure that the wizard can accurately assess the state of those services on your LAN. You should install the NonStop Maintenance LAN DHCP DNS Configuration Wizard version T0634 ABE (or later) and refer to the online help topic **Guide to Using the NonStop Maintenance LAN DHCP DNS Configuration Wizard** to help you select the appropriate course of action to match the needs of your current LAN environment.

For more information on using the NonStop Maintenance LAN DHCP DNS Configuration Wizard, see the online help available from within the wizard.

Installing SP Tool Version 2.8

Procedure

1. If you selected **SP Tool** on the NonStop System Management Tools Master Installer list, the SP Tool Setup dialog box appears.

   NOTE: If you want to install SP Tool without running the NonStop System Management Tools Master Installer, double-click **Setup.exe** in the `SP Tool` folder in the NonStop System Console DVD.

   The SP Tool is now also packaged with the OSM Low-Level Link and can be launched directly from within the OSM Low-Level Link. For more information, see OSM Low-Level Link online help.

2. Click **Next**.

   The Install Information for the SP Tool dialog box appears.

3. Read the information.

4. Click **Next**.

   The Choose Destination Location dialog box appears.

5. To accept the default destination location, `C:\SP Tool`, click **Next**.

   The SP Tool Setup dialog box indicates the setup process and informs you that SP Tool installation is complete.

6. Click **Finish**.

   The setup program adds SP Tool to the **Windows Start** > **All Programs** menu.

You can now access the SP Tool from **Start** > **All Programs** > **HP SP Tool** > **SP Tool**. You can also launch the SP Tool from within the OSM Low-Level Link.

Installing WAN Wizard Pro Client Version 5.00

This chapter describes how to install WAN Wizard Pro client version 5.00 (T0501AAE) on your system console. For more information, see **Verify WAN Wizard Pro Client** on page 20.

WAN Wizard Pro Client/server compatibility

WAN Wizard Pro client version 5.00 (T0501AAE) is compatible with the WAN Wizard Pro server product versions released at G06.21 and later G-Series RVUs, H06.03 and later H-series RVUs, and the J06.03 RVU.

For detailed information on WAN Wizard Pro client/server compatibility, see Support Note S04064.

Installing WAN Wizard Pro Client

Procedure

1. If you selected **WAN Wizard Pro** on the NonStop System Management Tools Master Installer list, the WAN Wizard Pro Setup dialog box appears.

   NOTE: If you want to install WAN Wizard Pro client without running the NonStop System Management Tools Master Installer, double-click **Setup.exe** in the `WAN Wizard Pro` folder on the NonStop System Console DVD.

2. Click **Next**.

   The Install Information for the WAN Wizard Pro dialog box appears.

3. Read the information.

4. To continue, click **Next**.

   The Choose Destination Location dialog box appears.

5. To accept the default destination location, `C:\WAN Wizard Pro`, click **Next**.

   The WAN Wizard Pro Setup dialog box indicates the setup process and informs you that WAN Wizard Pro installation is complete.

6. Click **Finish**.

   The setup program adds WAN Wizard Pro to the Windows Start > All Programs menu.

You can now access WAN Wizard Pro from **Start** > **All Programs** > **HP WAN Wizard Pro** > **WAN Wizard Pro**.

When you start WAN Wizard Pro client, an error message appears if the server files are either not installed or are not the most recent version. Click **Help** on the error message for server file installation information.

NOTE: Do not start the guided configuration tools before system load. Otherwise, an error message might appear, indicating that the server does not exist or that files are missing.

Installing Halted State Services firmware

Install Halted State Services (HSS) upgrades, as appropriate:

- **HSS for systems running J-series software (T8004 B01 BAF)** on page 51
- **HSS and HCA for systems running L-series software (T0902 L03 AAF)** on page 52

NOTE: The previous version of HSS can be uninstalled before installing a new HSS version or if you encounter errors while installing HSS with the new update DVD. To uninstall the previous version, see step 1 of **Installing Halted State Services firmware** on page 51.

HSS for systems running J-series software (T8004 B01 BAF)

The HSS firmware is for all NonStop systems running J-Series software with the exception of NS2000 series. If you are managing only systems for which this console-based HSS firmware does not apply, uncheck **J-Series HSS** in the NonStop System Management Tools Master Installer list.

The HSS Version option under the Display menu in the OSM Low-Level Link shows the HSS version already on the console to use for possible firmware updates. While applicable systems do not use the new HSS version until you perform the HSS updates described in **HSS update procedure for J-series** on page 52, you must always update both primary and backup NonStop system consoles when installing new software products.

Perform the installation procedure on the primary and backup NonStop system consoles.

Procedure

1. Uninstall the previous version of HSS before installing a new HSS version or if you encounter errors while installing HSS with the new update DVD.

   Uninstalling HSS does not remove the contents of any `c:\HSS\T8004\ VPROC-id` subdirectory. All downloaded versions of HSS are retained.

   a. To uninstall the previous version of HSS:

      I. Click **Start > Control Panel > Programs > Uninstall a program**.

         The Programs and Features dialog box appears.

      II. In the list of programs under “Uninstall or change program,” select **HSS**.

         If you are uninstalling the AAI version of HSS, you might encounter two error messages, including a fatal error message. These messages are not fatal or serious. Click OK for both messages and proceed with uninstalling the AAI version of HSS.

      III. Click **Uninstall** from the menu bar.

      IV. To remove HSS from your computer, click **Yes**.

      V. Close the Programs and Features dialog box.

   If you selected **HSS** on the NonStop System Management Tools Master Installer list, the HSS InstallShield Wizard displays a Welcome message.

If you want to install HSS without running the NonStop System Management Tools Master Installer, double-click **hss.exe** in the `hss` folder on the NonStop System Console DVD. The `HSS InstallShield` Wizard opens.

2. In the Welcome to HSS Setup Wizard dialog box, click **Next**.
3. In the Ready to Install the Program dialog box, click **Install**.

   A series of messages informs you that the files are being installed.
4. In the InstallShield Wizard Completed dialog box, click **Finish**.

   The HSS files are installed on the NonStop system console into:

   `C:\HSS\T8004\`*`VPROC-id`*`\`

   Where *VPROC-id* is the software product release id T8004 *version*.

HSS update procedure for J-series

CAUTION: Upgrading HSS firmware on the system can have repercussions on the system firmware. Before upgrading HSS firmware on the system, check the valid system firmware and HSS combinations for your system type in the *NonStop Firmware Matrices* document to ensure that you are not creating an incompatibility between system and HSS firmware.

After downloading a newer HSS version from the DVD, use the OSM Low-Level to update the HSS firmware currently running on your applicable J-Series system. When you perform either the **Update HSS** or the **Copy HSS Files** action in the Low-Level Link, the HSS firmware downloaded in steps 1 through 4 above is automatically copied and renamed as needed for your configuration. OSM determines whether BOOTP services for your LAN are enabled on the system consoles or on CLIMs and moves the resulting system serial number-specific HSS files to the appropriate NonStop System Consoles or CLIMs. If you selected **Update HSS**, OSM prompts you to do a hard reset of all affected processors.

For more information see the OSM Low-Level Link online help.

CAUTION: Resetting the blades will take down the system in which the CPU blades are being reset. If your system is currently running, Hewlett Packard Enterprise strongly advises that you shut down the system prior to resetting the blades.

When hosting HSS files and the required services on your system consoles (as opposed to CLIMs), make sure that the appropriate ports for DHCP, DNS, and TFTP or WDS services are open on the console. For more information, see **Required services on the NonStop system console** on page 21.

If you are not sure where those vital services are located on your LAN, see "Locating and Troubleshooting DHCP, TFTP, and DNS Services on the NonStop Dedicated Service LAN," located in the NonStop Service Procedures collection of NTL.

HSS and HCA for systems running L-series software (T0902 L03 AAF)

For information about installing or upgrading HSS in an HPE Virtualized NonStop system (supported on L17.02+ RVUs), see the *Virtualized NonStop Deployment and Configuration Guide*.

NOTE: This Halted State Services (HSS) and InfiniBand HCA firmware is for NonStop systems running L-Series software. If you are not managing any such systems from the console, uncheck **L-Series HSS** in the NonStop System Management Tools Master Installer list.

The HSS Version option under the Display menu in the OSM Low-Level Link shows the HSS version already on the console to use for possible firmware updates. While applicable systems do not use the new HSS version until you perform the HSS updates described in **HSS update procedure for L-series** on page 53, you should always update both primary and backup NonStop system consoles when installing new software products.

Perform this installation procedure on the primary and backup NonStop system consoles.

The previous version of HSS can be uninstalled before installing a new HSS version or if you encounter errors while installing HSS with the new update DVD.

Procedure

1. To uninstall the previous version of HSS:
   a. Click **Start** > **Control Panel** > **Programs** > **Uninstall a program**.

      The Programs and Features dialog box appears.
   b. In the list of programs under **Uninstall or change program**, select **HSS HSS T0902 xxx, where xxx is the HSS version, example HSS T0902 AAD**.
   c. Click **Uninstall** from the menu bar.
   d. To remove HSS from your computer, click **Yes**.
   e. Close the Programs and Features dialog box.
2. If you selected **L-Series HSS** on the NonStop System Management Tools Master Installer list, the HSS InstallShield Wizard displays a Welcome message.

   NOTE: If you want to install HSS without running the NonStop System Management Tools Master Installer, double-click **hssx.exe** in the `HSS_HCA_L` folder on the NonStop System Console DVD. The `HSS InstallShield` Wizard opens.
3. In the Welcome to HSS Setup Wizard dialog box, click **Next**.
4. In the Ready to Install the Program dialog box, click **Install**.

   A series of messages informs you that the files are being installed.
5. In the InstallShield Wizard Completed dialog box, click **Finish**.

   The HSS files are installed on the NonStop system console into: `C:\HSS\T0902\`*`VPROC-id`*

   Where *VPROC-id* is the software product release ID T0902 *version*

HSS update procedure for L-series

⚠ **CAUTION:** Before upgrading HSS firmware on the system, check the valid system firmware and HSS combinations for your system type in the *NonStop Firmware Matrices* document to ensure that you are not creating an incompatibility between system and HSS firmware.

After downloading a newer HSS version from the DVD, use the HSS and HCA Firmware Management Tool to update the HSS and/or HCA firmware as needed. For more information, see the online help within that tool.

When hosting HSS files and the required services on your system consoles (as opposed to CLIMs), make sure that the appropriate ports for DHCP, DNS, and WDS services are open on the console. For more information, see **Required services on the NonStop system console** on page 21.

If you are not sure where those services are located on your LAN, see *Locating and Troubleshooting DHCP, TFTP, and DNS Services on the NonStop Dedicated Service LAN*, located in NTL.

Installing PuTTY (T0697 AAI)

NOTE: PuTTY is required for all systems that use CLIMs. The current PuTTY version (in Console CLIM Utilities T0697 H01 AAF and later) is 0.67.

For J06.03 and later RVUs and H06.14 and later RVUs, use PuTTY, an implementation of Telnet and SSH for Win32 and UNIX platforms, to provide the secure file transfer protocol (SFTP).

To install PuTTY on your system console, follow the instructions in this chapter.

System requirements

At least 3.5 MB of free disk space is required for PuTTY.

Installing PuTTY

Procedure

1. If you selected PuTTY on the NonStop System Management Tools Master Installer list, the PuTTY Setup Wizard appears.

   NOTE: If you want to install PuTTY without running the NonStop System Management Tools Master Installer, double-click **PUTTY.EXE** in the `PuTTY` folder on the NonStop System Console DVD.

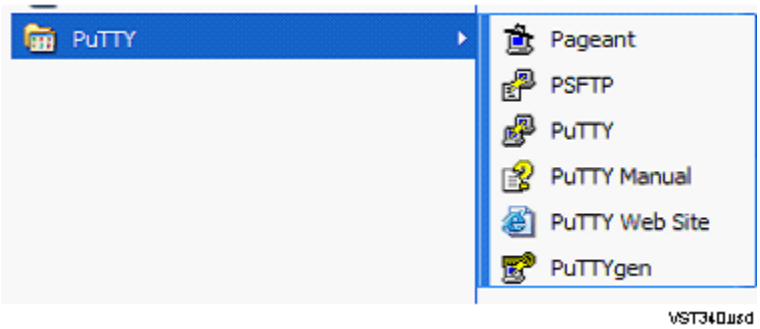
   The Welcome to PuTTY Setup Wizard opens.

2. In the Welcome to the PuTTY Setup Wizard dialog box, click **Next**.
3. In the Select Destination Location dialog box, click **Next** to use the default values.
4. In the Select Start Menu Folder dialog box, click **Next** to use the default values.
5. In the Select Additional Tasks dialog box, click **Next** to use the default values.
6. In the Ready to Install dialog box, click **Install**.
7. In the Completing the PuTTY Setup Wizard dialog box, click **Finish**.

   A Start-Menu item is created.

Launching PuTTY

Depending on your Windows OS, launch the PuTTY tool from the **Start** menu.



NOTE: Depending on your Windows Server version, note that PuTTY screen displays may be different.

Installing OpenSSH (T0697 AAI)

The OpenSSH version available is (T0697 AAI) is 7.6p1.

OpenSSH is required to provide an SFTP server for the Cluster I/O Module (CLIM) software update, so that copying and transferring of files on the CLIM files from the system console is secure.

To install OpenSSH on your system console, follow the instructions in this chapter.

System requirements

At least 27.5 MB of free disk space is required for OpenSSH.

Installing OpenSSH

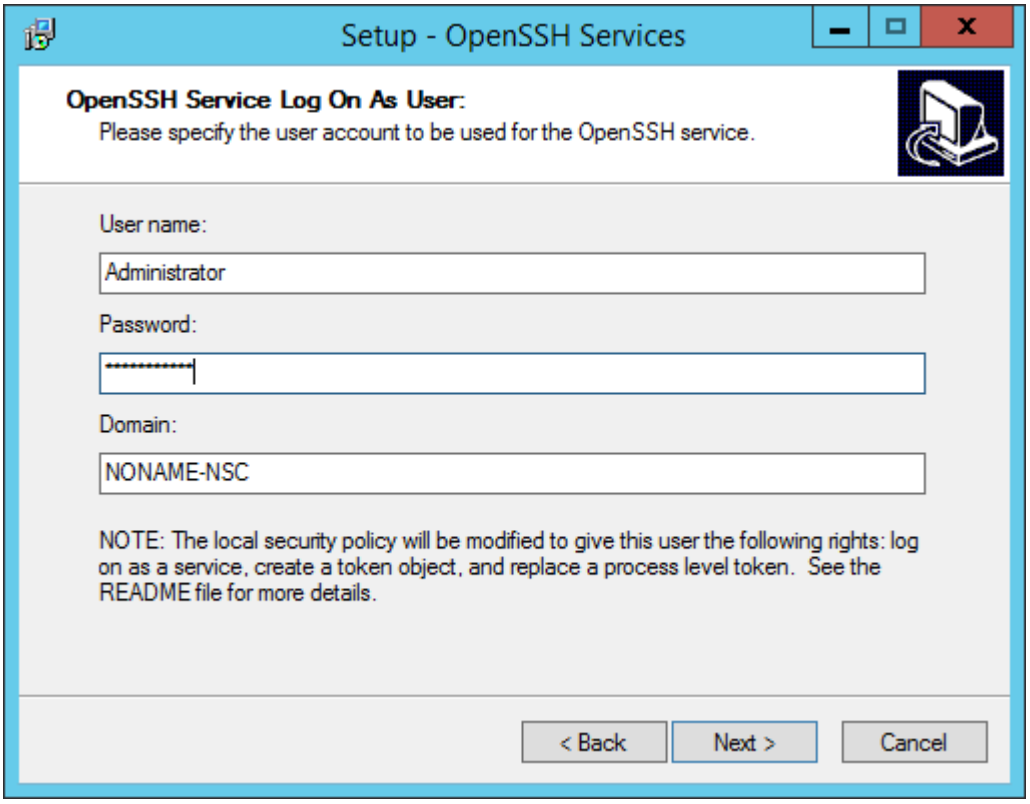
Procedure

1. If you selected OpenSSH on the NonStop System Management Tools Master Installer list, the OpenSSH Services Setup Wizard appears.

   NOTE: If you want to install OpenSSH without running the NonStop System Management Tools Master Installer, double-click **OPENSSH.EXE** in the `OpenSSH` folder on the NonStop System Console DVD.

   The Welcome to OpenSSH Setup Wizard opens.

2. In the Welcome to OpenSSH Services Setup Wizard dialog box, click **Next**.
3. In the Select Destination Location dialog box, click **Next** to select the default `C:\Program Files (x86)\OpenSSH` directory.
4. In the OpenSSH Service Log On as User dialog box, enter **`Administrator`** for the User Name, the appropriate Password and Domain of the user account, and click **Next**.



5. In the Ready to Install dialog box, click **Install**.

   A message window appears informing you that installation is in progress.

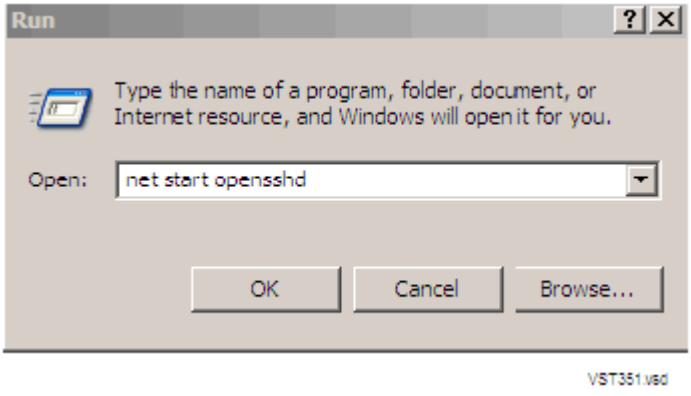
6. In the Completing the OpenSSH Services Setup Wizard dialog box, click **Finish**.

A Start-Menu item is not created. To start or stop OpenSSH, use the following procedure.

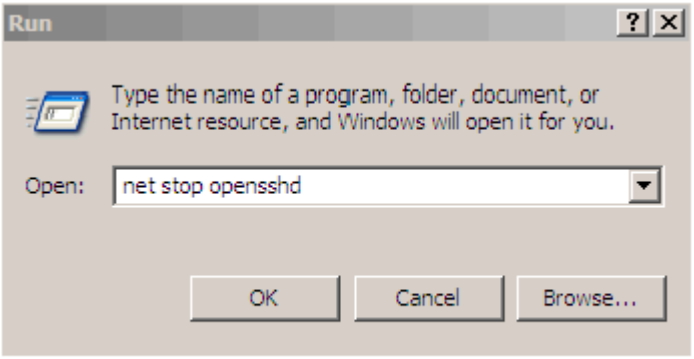
Starting and stopping OpenSSH

Procedure

- To start OpenSSH, click **Start** > **Run**, and then enter the `net start opensshd` command.



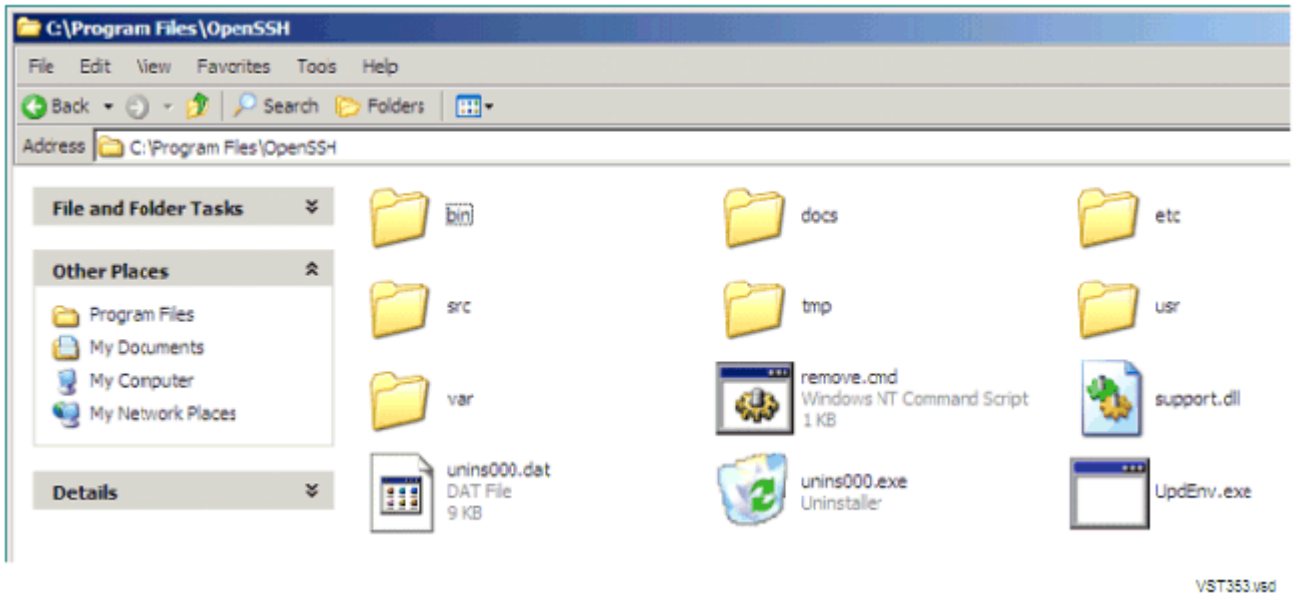
- To stop OpenSSH, click **Start** > **Run**, and then enter the `net stop opensshd` command.



Accessing OpenSSH files

Procedure

To access the OpenSSH program files, go to the `C:\Program Files (x86)\OpenSSH` directory.



Adding additional SSH/SFTP users to OpenSSH

Procedure

- For a local user, enter the following command:

  `sshuser -s` *`user-name`* `-u` *`user-name`* `-f` *`passwd-file`*

  Where:

- `user-name` is the NonStop System Console username to configure
- `passwd-file` is the location of the password file in the **etc** directory under the OpenSSH installed directory. For example, `C:\Program Files\OpenSSH\etc\password`.

- For a domain user, enter the following command:

  `sshuser -s domain-name\user-name -u user-name -d domain-name -f passwd-file`

  Where:

  - `domain-name` is the name of the domain
  - `user-name` is the NonStop System Console username to configure
  - `passwd-file` is the location of the password file in the **etc** directory under the OpenSSH installed directory. For example, `C:\Program Files\OpenSSH\etc\password`.

For more information, see the "Prepare for Down System CLIM Management" topic in the relevant *OSM Service Connection User Guide*.

OpenSSH version 7.6p1

This new version of OpenSSH has new restrictions on allowed SSH hostkey algorithms from the server. This change interacts with changes in default hostkey creation for NonStop SSH on L17.02 and J06.21.

The previously allowed `ssh-dss` hostkey algorithm is no longer allowed by OpenSSH version 7.6p1.

Old versions of the NonStop SSH server configured 1024-bit `ssh-dss` by default. Old versions of OpenSSH that already required explicit mention of `ssh-dss` did not support the + sign. If you knew if the server had a DSA hostkey, you had to enter the `-oHostKeyAlgorithms=ssh-dss` command. If you did not know if the server had a DSA hot key, you had to enter the `-oHostKeyAlgorithms=ssh-rsa, ssh-dss` command.

Newer versions of OpenSSH on the NonStop server configure 2048-bit RSA instead.

Certain SSH and SFTP connections that worked with the OpenSSH command-line client might no longer work with the new OpenSSH client.

The issues can be overcome by configuration or command-line changes on the NSC OpenSSH client, and configuration changes or both for some server SPRs for NonStop SSH.

Example and solution:

If you enter the `sftp USER@HOST` command, for example,

`sftp super.super@abcde00.in.tuvxyz.abxcorp.net`,

You will get the following error:

`Unable to negotiate with 12.123.45.67: no matching host key type found. Their offer: ssh-dss`.

The command will not work until you add the `-oHostKeyAlgorithms=+ssh-dss` option. For example, `sftp -oHostKeyAlgorithms=+ssh-dss super.super@192.168.36.10`.

The following configuration change and a comment on the NSC at 12.345.6.200 was made for all SSH servers this NonStop console might connect to (rather than for particular users on particular servers).

In file C:\Program Files (x86)\OpenSSH\etc\ssh_config:

```
HostKeyAlgorithms
+ssh-dss
"
**********************************************
On the NonStop
server:
"
```

The HOSTKEY default change from DSA 1024 to RSA 2048 is in both these versions of NonStop SSH:

T0801L02^ACC for L17.02 and T0801H01^ACD for J06.21

IMPORTANT: If you encounter the following error while using `sftp` or `ssh` from a command line, the arcfour ciphers are deprecated and have to be removed from the ssh_config file.

```
/etc/ssh_config line 50: Bad SSH2 cipher spec 'aes128-ctr,aes256-
ctr,arcfour256,arcfour,aes128-cbc,aes256-cbc'.
```

```
Connection closed
```

Replace the following line:

```
Ciphers aes128-ctr,aes256-ctr,arcfour256,arcfour,aes128-cbc,aes256-cbc
```

with the following line:

```
Ciphers aes128-ctr,aes256-ctr,aes128-cbc,aes256-cbc
```

OpenSSH troubleshooting tips

If you are unable to connect to the NonStop system console with SSH, the OpenSSH Service might not be running because the Administrator logon password has changed.

Procedure

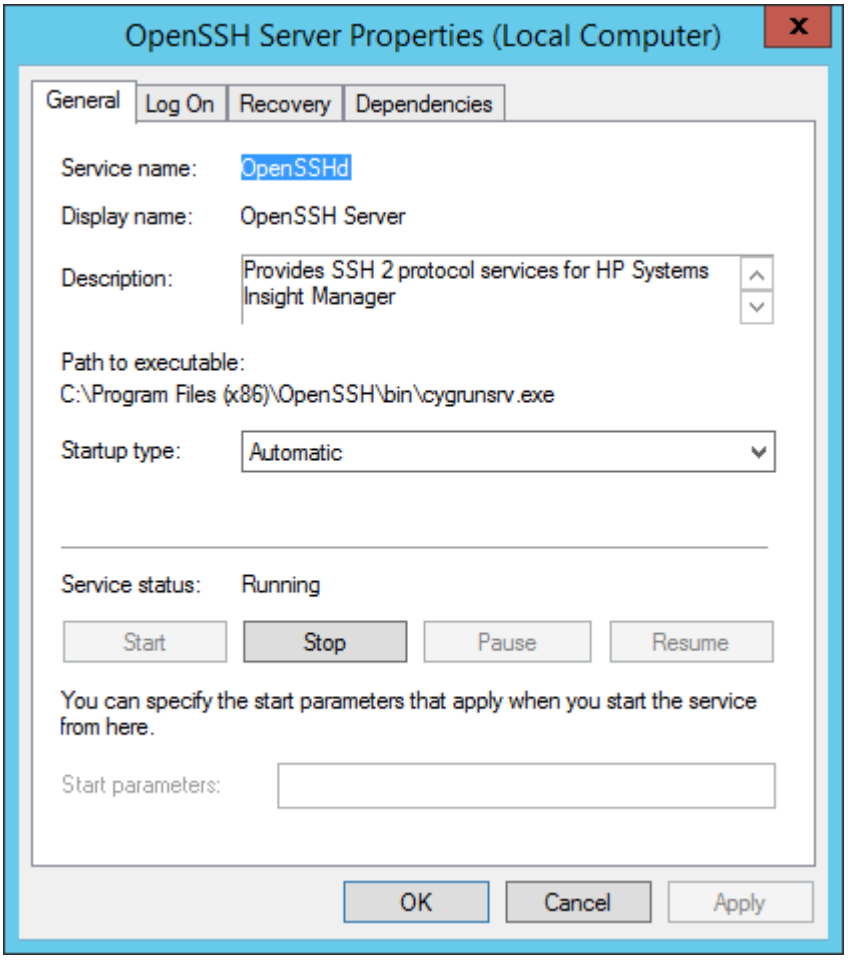
1. Click **Control Panel** > **Administrative Tools** > **Services**.
2. Locate the **OpenSSH Server** entry.

   If the service not running, start it by doing the following:

   a. Right-click the entry.

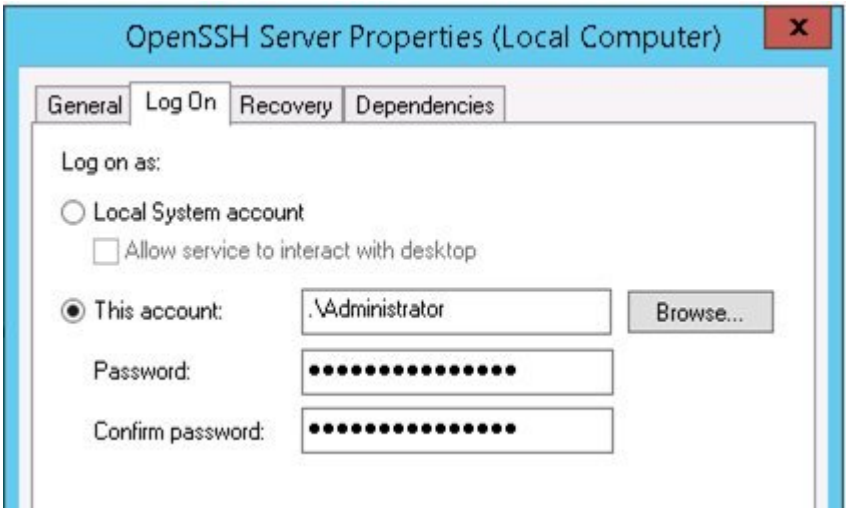
   b. Click **Start**.

      The service changes to the Start state.



In the Event viewer, **Windows logs** > **Application** shows the SSHD logs. The source is 'sshd'. If the event description log says that the event ID from source cannot be found, maximize your message window, and then scroll to the bottom to view the event details.

3. If the service status does not change to “Running,” right-click **OpenSSH Server**, and then click **Properties**.
4. In the “OpenSSH Server Properties (Local Computer)” dialog box, click the **Log On** tab.
5. Select the **This account** radio button, and then enter the correct Administrator password in both **Password** and **Confirm Password** fields.
6. Click the **OK** button.
7. Start the service once again, if required.



If you renamed a system console, re-enter the OpenSSH password.

Installing and migrating to the comforte MR-Win6530 Terminal Emulator (T0819 AAY)

The MR-Win6530 is the terminal emulator launched by OSM Low-Level Link (LLL) versions T0633AAT and later for startup TACL and event stream windows (older LLL versions launch OutsideView).

Prerequisites

- You must install MR-Win6530 before installing the OSM Low-Level Link T0633AAT (or later).
- You must install OSM Low-Level Link T0633AAT (or later) before starting MR-Win6530.
- You must start MR-Win6530 once before using OSM Low-Level Link T0633AAT (or later).

Install or update the MR-Win6530 Terminal Emulator (T0819 AAY)

Procedure

1. Open the comforte **MR-Win6530** folder on the NonStop System Console DVD.
2. Double-click **MR-Win6530_<Version>.exe**.
   Files are extracted, and a system requirement check is performed. The Welcome to the Setup Wizard window appears.

3. Accept any requests for installing redistributable packages.
4. Click the**Next** button.
   The license agreement appears.
5. Review the license agreement.
6. Click the **Yes** button.

The Choose Destination Location window appears.

7. Click the **Next** button.

   The Choose Program Folder window appears.

8. Click the **Next** button.

   The Setup Status window appears. Files are transferred. The Install Shield Wizard Complete window appears with the option to review the Readme file.

9. Click the **Finish** button.

- You must install OSM Low-Level Link T0633AAT (or later) before starting MR-Win6530. Once the Low-Level Link is installed, launch MR-Win6530 from**Start** > **All Programs** > **MR-Win6530** > **MR-Win6530**. After a successful launch, exit the MR-Win6530 application. You must perform this step once before using the OSM Low-Level Link.
- If MR-Win6530 is already installed on your system, a Maintenance program window appears and gives you the option to modify, repair, or remove the current installation.

Use the MR-Win6530 Terminal Emulator

In addition to launching MR-Win6530 from the Windows Start menu for terminal emulator uses, MR-Win6530 sessions can be launched from the following applications for startup TACL and event stream windows:

- OSM Low-Level Link version T0633AAT and later, replacing OutsideView that was used in earlier versions.
- OSM System Startup Tool (for L-Series only).

For more information on using MR-Win6530, see the online help available from within the application or the **Win6530 User Guide**, which is installed with the application and is typically found in the `Program Files (x86)` folder.

To take advantage of Secure Shell (SSH) support for OSM Service Connection-related sessions, see the SSH Reference Manual or the T0801 softdoc.

NOTE: On the CLCI interface (startup tacl), EDIT XVS does not work with MR-Win6530. You must use TEDIT instead.

Adding SSH Profiles for MR-Win6530

This section provides guidelines for adding MR-Win6530 profiles for encrypted SSH (Secure Shell) sessions to the NonStop dedicated service LAN (also called Maintenance LAN) IP addresses, if those SSH profiles are not already present on the NonStop System Console.

Use `SSH` as part of the saved profile name, for clarity. The MR-Win6530 sessions launched from OSM Low-Level Link File menu option “Start Terminal Emulator” are not encrypted. However, soon after system load you can connect with the Maintenance LAN SSH profiles you have created. To do so, select **Open Profile** from the **File** menu in the MR-Win6530 Startup TACL window launched by the OSM Low-Level Link Start System action, locate your named SSH profile, and open a new SSH tabbed session.

At any later time, you may then launch MR-Win6530 directly on the NonStop System Console to start encrypted SSH sessions for TACL-based system operations. MR-Win6530 sessions started from the default Startup TACL CLCI profile, from SC-P or SC-B telnet profiles, or from Start Terminal Emulator in the OSM Low-Level Link are not encrypted by default.

After a secure connection is established, encrypted MR-Win6530 sessions show a lock icon on the status bar at the bottom of the window. Unencrypted sessions have a red X on top of the lock icon.

To add SSH profiles:

Procedure

1. From the File menu in MR-Win6530, select **New Profile** to bring up a new terminal session to be configured.
2. From the Options menu, select **Communication** to bring up an Options dialog.
3. For Interface, select "SSH (Secure Shell)" in the pull-down menu, then click **Configure** to bring up an "SSH (Secure Shell) Parameters" dialog.
4. For the Host field, enter the appropriate IP address such as 192.168.36.10. Leave other items with the default values. Click **OK** at the bottom of the dialog, to return to the Options dialog.
5. In the left-hand pane, select **Profile**, then enter appropriate text in the Title item, such as MyNSKServer_SSH_SC-P for IP address 19.168.36.10. Click **Apply**, then click **OK**.
6. With the newly created session tab still selected in MR-Win6530, select **Save Profile As** from the File menu to save the new profile as a disk file for future use. You may click **Connect** to start the connection to the NSK server. The OSM Low-Level Link screen displays the current setup information.
7. Click **Next**.

Additional information: SSH2 server software for the dedicated service LAN starts automatically during system load, configured in SCF as $ZZKRN.#SSH-ZTCP0 and $ZZKRN.#SSH-ZTCP1. By default, the dedicated service LAN IP addresses are 192.168.36.10 and 192.168.36.11. If more than one NonStop server is present on the dedicated service LAN, these IP addresses may have been modified for some of the NonStop servers.

For more information on SSH (Secure Shell), see the *SSH Reference Manual* or the T0801 softdoc.

Installing OSM Low-Level Link (T0633 ACB)

The OSM Low-Level Link online help cannot be opened on consoles running Windows Server 2012, or Windows Server 2016. As a workaround, with version ABW (and later) you can access a PDF of the online help from the Windows Start menu by selecting: **All Programs > HP OSM > OSM Low-Level Link Application Help**.

NOTE: The OSM Low-Level Link is not supported for NonStop systems running L-Series software. For information on the right tool to use for equivalent functionality on L-Series, see **Installing OSM Console Tools (T0634 ACD)** on page 46.

Installation considerations:

- For T0633AAT and later, the OSM Low-Level Link is made to work with MR-Win6530 instead of OutsideView.
  - Before installing the Low-Level Link, you must install MR-Win6530 (the Low-Level Link installer looks for the presence of MR-Win6530 and returns an error if not found).
  - Before starting MR-Win6530, you must install OSM Low-Level Link T0633AAT (or later).
  - Before using the OSM Low-Level Link, you must launch MR-Win6530 from the Start menu at least once.
- If you revert to the previous T0633ABM version of OSM Low-Level Link, you must restart the system console to complete this change.

To install OSM Low-Level Link on your system console, follow the instructions in this chapter.

Procedure

1. After the NonStop System Console License agreement and the Readme file window open, click **I accept the terms of the license agreement**.

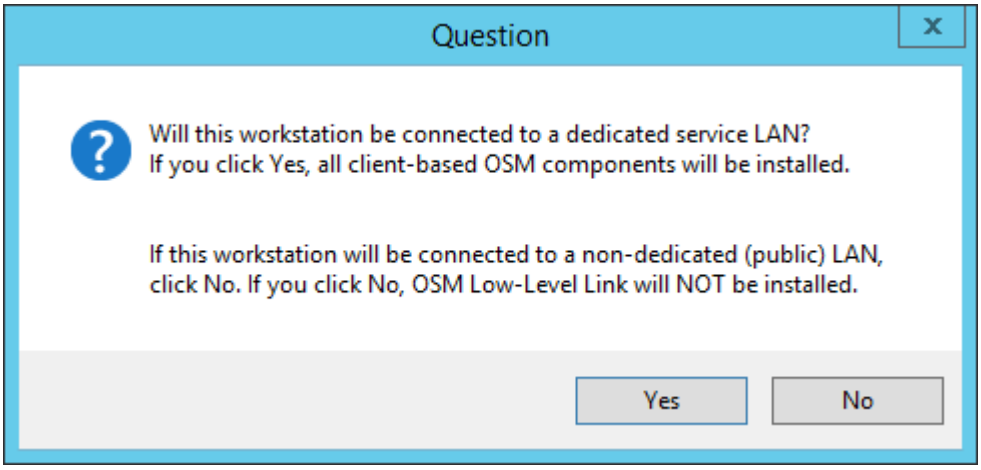
   If you selected **OSM Low-Level Link** on the NonStop System Management Tools Master Installer list, the OSM Low-Level Link Readme File dialog box appears.

   NOTE: If you want to install OSM Low-Level Link without running the NonStop System Management Tools Master Installer, double-click **OSMLowLevelLink.exe** in the `OSM Low-Level Link` folder in the NonStop System Console DVD.

   If the OSM Low-Level Link is running, quit the application before beginning the installation.

2. To continue, click **Next**.

   You are asked whether the system console is connected to the dedicated LAN or non-dedicated (public) LAN:



3. Select a LAN option:

   - Click **No** if the system console is connected to a non-dedicated (public) LAN.

     Setup informs you that the OSM Low-Level Link is not installed at this time.

     NOTE: You cannot use the OSM Low-Level Link on a non-dedicated (public) LAN.

     Go to Step 5.

   - Click **Yes** if the system console is connected to the dedicated LAN.

     NOTE: If you did not close the OSM Low-Level Link before beginning the installation, a message appears asking if you want to close it now. To close the existing OSM Low-Level Link and continue installing the latest version of OSM Low-Level Link, click **Yes**.

4. In the welcome dialog, click **Next**.
5. To accept the target file location directory (`C:\Program Files (x86)\HP\OSM`), click **Next**.

   The installer begins copying files to your hard drive. After the files have been copied, the OSM Low-Level Link Application Installation Complete dialog box appears.
6. Click **Finish**.

   If you want to continue with installation of other applications on the NonStop System Management Tools Master Installer list, restart the system console after all applications have installed. Otherwise, restart the system console now.

   After you have completed installation of the selected OSM client-based components, the setup program adds OSM client-based components to the Windows Start > All Programs menu. You can access the OSM client-based components from the **Start> All Programs > HP OSM** submenu.

   NOTE: The Start menu shortcuts for the OSM Low-Level Link are valid only if you selected the dedicated LAN option during OSM installation.

Installing NonStop Software Essentials Windows Client

Starting with the NonStop Software Essentials 5.1.1 client (T0895 AAL), NonStop Software Essentials is no longer an HPE SIM plug-in and does not require HPE SIM to be installed. NonStop Software Essentials 5.1.1 and previous HPE SIM plug-in versions of NonStop Software Essentials can coexist on the same console.

Prerequisites
You have a 64-bit Windows-based console. NonStop Software Essentials 5.1.1 and later are supported on 64-bit Windows-based consoles only, which includes NonStop system consoles running Windows Server 2008, 2012, and 2016, but not consoles running Windows Server 2003.

Procedure

1. Navigate to **NonStop_Essentials\Windows**.
2. Select and double-click **Setup.exe**.
3. Perform the instructions in the install wizard, accepting all default options.

For more information on installing, configuring, and getting started with NonStop Software Essentials, see the *NonStop Software Essentials Installation and Quick Start Guide*.

Backing up and restoring a NonStop System Console

Because the Microsoft Windows operating systems on currently supported NonStop system consoles do not support an Automated System Recovery (ASR) disk or Emergency Repair Disk (ERD), consider taking the proactive step of creating a backup of the system configuration and data using the Microsoft Backup utility.

If the console configuration settings or data is lost due to hard disk malfunction, accidental deletion, and so on, the settings and data can be restored from the archived backup file to the same or another system console.

As part of a sound backup strategy, consider creating a backup archive not only after initial system/LAN configuration, but also after subsequent configuration changes are made. Backing up the console must also be part of your regular backup strategy. Microsoft Windows has a scheduler that can be set to perform backups at user-selected times.

Backing up and restoring on Windows Servers

The procedure that follows is for Windows Server 2008, but is essentially the same for Windows Server 2012 and Windows Server 2016 with some minor naming differences.

For links to Microsoft information, look for the Windows Server 2012 or Windows Server 2016-equivalent information on the Microsoft website at **https://docs.microsoft.com/en-us/windows-server-essentials/manage/manage-backup-and-restore-in-windows-server-essentials**.

IMPORTANT: You must maintain your own best practices on server security to keep your NSCs current with respect to Microsoft security updates. For information on security best practices, see the *NonStop System Console Security Policy and Best Practices Technical White Paper* at **https://support.hpe.com/hpsc/doc/public/display?docId=emr_na-a00017545en_us**.

Step 1 — Save network configuration information

If the console is being used for HPE Systems Insight Manager (SIM), Insight Remote Support 7.x, and/or NonStop Essentials software on the console, it is important to save your network configuration information.

Prerequisites

- Files must be backed up for HPE SIM. For information on what files to back up for HPE SIM, see “Backing up and restoring HPE SIM data files in a Windows environment” at: **http://h20566.www2.hpe.com/hpsc/doc/public/display?sp4ts.oid=4201311&docID=emr_na-c00740865&docLocale=en_US**.
- Files must be backed up for Cluster Essentials. For information on what files to back up for Cluster Essentials, see the procedure for “Exporting Cluster Configuration” in the *NonStop Cluster Essentials Installation and Quick Start Guide*.

Procedure

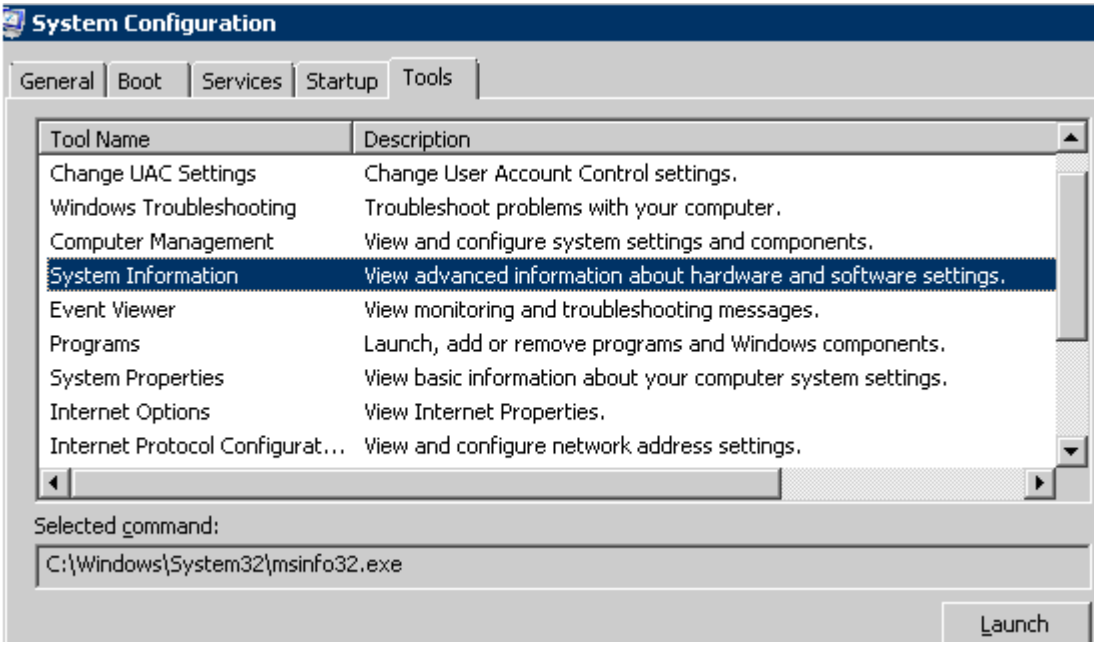
1. To save the current system configuration information on the console:

a. Click **Start** > **Administrative Tools** > **System Configuration**.

b. Click the **Tools** tab.

c. Click **System Information**, and then click **Launch**.

The System Information window displays.



d. Click **File**, and then **Export**.

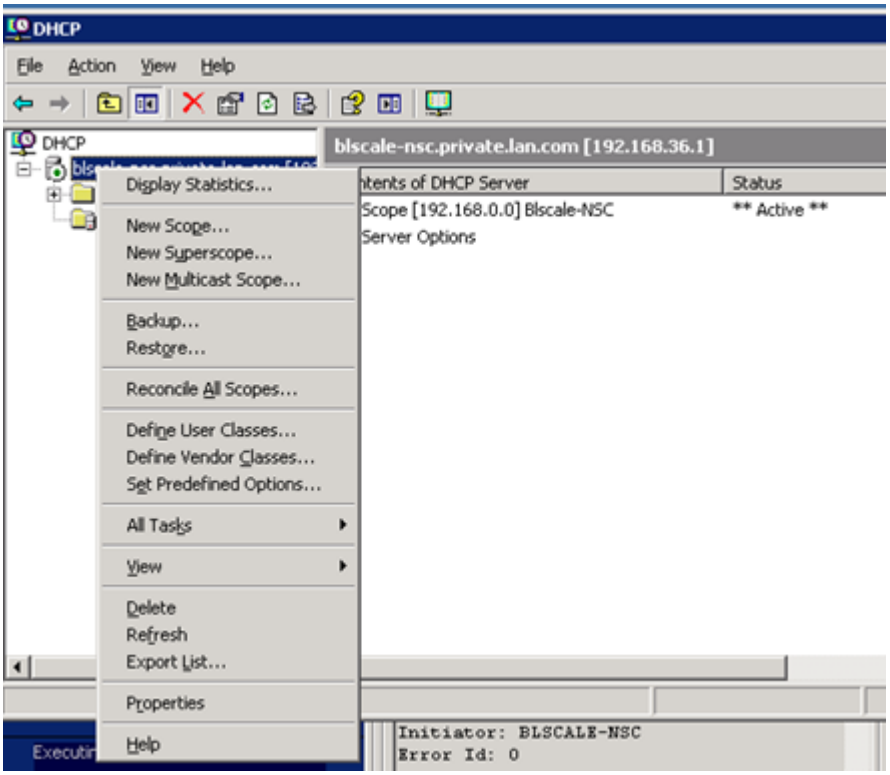
e. Select the location where you want to save a copy of the system information.

Make sure that you copy the saved file to a location that is not on the console. This location must be somewhere you can access the saved file in case the console ever becomes nonoperational.

f. Close the **Help and Support Center** dialog box.

2. To back up the DHCP database, click **Start** > **Administrative Tools** > **DHCP**.

3. In the tree pane, select the applicable DHCP server.



4. From the Action menu, select **Backup**.
5. In the “Browse for Folder” dialog box, select the folder that contains the backup DHCP database—or create a folder—, and click **OK**.
6. Copy the folder that contains the backup DHCP database to a location that is not on the console.

Step 2 — Create a backup file

To back up the Windows Server 2008 system console configuration settings and data to a file, see the instructions in the *Windows Server Backup Step-by-Step Guide for Windows Server 2008 R2* at:

http://technet.microsoft.com/en-us/library/ee849849.aspx

IMPORTANT: This will be a very large file. Consult Microsoft documentation for how to create a shared folder and copy directly to another system console on the LAN. The bare metal backups require saving to a location that is not on the local Windows Server disk.

Step 3 — Restore settings and data from the archived file

For this step, perform the procedure described for **either** Scenario A or Scenario B:

- **Scenario A: Restore data to a console of the exact same hardware model on Server 2008** on page 72
- **Scenario B: Restore data to a console with a newer hardware model on Server 2008** on page 72

NOTE: In both scenarios, the console on which you are restoring the data must have Windows Server 2008 already installed.

Scenario A: Restore data to a console of the exact same hardware model on Server 2008

To restore Windows Server 2008 R2, a full system restore is recommended. Perform a Bare Metal Restore (BMR) to freshly formatted boot volumes and system volumes on the same server from which the original backup was taken. For instructions, see the *Windows Server Backup Step-by-Step Guide for Windows Server 2008 R2* located at:

http://technet.microsoft.com/en-us/library/ee849849.aspx

Scenario B: Restore data to a console with a newer hardware model on Server 2008

For instructions refer to the documentation and instructions provided by Microsoft at:

http://support.microsoft.com/default.aspx?scid=kb;EN-US;249694

Step 4 — Restore network settings

For instructions refer to the documentation and instructions provided by Microsoft at:

https://social.technet.microsoft.com/Search/en-US?query=Network%20Settings&refinement=84&ac=4

NOTE: If the NonStop system console was being used to host DHCP and DNS services, you can use the Import (or Export) Configuration File option in the NonStop Maintenance LAN DHCP DNS Configuration Wizard to replicate the configuration from the other NonStop System Console (used properly, the wizard creates and maintains a consistent configuration on both primary and backup NonStop System Console).

Websites

General websites

Hewlett Packard Enterprise Information Library

www.hpe.com/info/EIL

Insight Remote Support

www.hpe.com/info/insightremotesupport/docs

Subscription Service/Support Alerts

www.hpe.com/support/e-updates

Software Depot

www.hpe.com/support/softwaredepot

NonStop Technical Library

http://hpe.com/info/nonstop-docs

Manuals for J-series

http://www.hpe.com/info/nonstop-jdocs

For additional general support websites, see **Support and other resources** on page 74.

Support and other resources

Accessing Hewlett Packard Enterprise Support

- For live assistance, go to the Contact Hewlett Packard Enterprise Worldwide website:

  http://www.hpe.com/assistance

- To access documentation and support services, go to the Hewlett Packard Enterprise Support Center website:

  http://www.hpe.com/support/hpesc

Information to collect

- Technical support registration number (if applicable)
- Product name, model or version, and serial number
- Operating system name and version
- Firmware version
- Error messages
- Product-specific reports and logs
- Add-on products or components
- Third-party products or components

Accessing updates

- Some software products provide a mechanism for accessing software updates through the product interface. Review your product documentation to identify the recommended software update method.
- To download product updates:

  Hewlett Packard Enterprise Support Center

  www.hpe.com/support/hpesc

  Hewlett Packard Enterprise Support Center: Software downloads

  www.hpe.com/support/downloads

  Software Depot

  www.hpe.com/support/softwaredepot

- To subscribe to eNewsletters and alerts:

  www.hpe.com/support/e-updates

- To view and update your entitlements, and to link your contracts and warranties with your profile, go to the Hewlett Packard Enterprise Support Center **More Information on Access to Support Materials** page:

www.hpe.com/support/AccessToSupportMaterials

IMPORTANT: Access to some updates might require product entitlement when accessed through the Hewlett Packard Enterprise Support Center. You must have an HPE Passport set up with relevant entitlements.

Customer self repair

Hewlett Packard Enterprise customer self repair (CSR) programs allow you to repair your product. If a CSR part needs to be replaced, it will be shipped directly to you so that you can install it at your convenience. Some parts do not qualify for CSR. Your Hewlett Packard Enterprise authorized service provider will determine whether a repair can be accomplished by CSR.

For more information about CSR, contact your local service provider or go to the CSR website:

http://www.hpe.com/support/selfrepair

Remote support

Remote support is available with supported devices as part of your warranty or contractual support agreement. It provides intelligent event diagnosis, and automatic, secure submission of hardware event notifications to Hewlett Packard Enterprise, which will initiate a fast and accurate resolution based on your product's service level. Hewlett Packard Enterprise strongly recommends that you register your device for remote support.

If your product includes additional remote support details, use search to locate that information.

Remote support and Proactive Care information

HPE Get Connected

www.hpe.com/services/getconnected

HPE Proactive Care services

www.hpe.com/services/proactivecare

HPE Proactive Care service: Supported products list

www.hpe.com/services/proactivecaresupportedproducts

HPE Proactive Care advanced service: Supported products list

www.hpe.com/services/proactivecareadvancedsupportedproducts

Proactive Care customer information

Proactive Care central

www.hpe.com/services/proactivecarecentral

Proactive Care service activation

www.hpe.com/services/proactivecarecentralgetstarted

Warranty information

To view the warranty for your product or to view the *Safety and Compliance Information for Server, Storage, Power, Networking, and Rack Products* reference document, go to the Enterprise Safety and Compliance website:

www.hpe.com/support/Safety-Compliance-EnterpriseProducts

Additional warranty information

HPE ProLiant and x86 Servers and Options

www.hpe.com/support/ProLiantServers-Warranties

HPE Enterprise Servers

www.hpe.com/support/EnterpriseServers-Warranties

HPE Storage Products

www.hpe.com/support/Storage-Warranties

HPE Networking Products

www.hpe.com/support/Networking-Warranties

Regulatory information

To view the regulatory information for your product, view the *Safety and Compliance Information for Server, Storage, Power, Networking, and Rack Products*, available at the Hewlett Packard Enterprise Support Center:

www.hpe.com/support/Safety-Compliance-EnterpriseProducts

Additional regulatory information

Hewlett Packard Enterprise is committed to providing our customers with information about the chemical substances in our products as needed to comply with legal requirements such as REACH (Regulation EC No 1907/2006 of the European Parliament and the Council). A chemical information report for this product can be found at:

www.hpe.com/info/reach

For Hewlett Packard Enterprise product environmental and safety information and compliance data, including RoHS and REACH, see:

www.hpe.com/info/ecodata

For Hewlett Packard Enterprise environmental information, including company programs, product recycling, and energy efficiency, see:

www.hpe.com/info/environment

Documentation feedback

Hewlett Packard Enterprise is committed to providing documentation that meets your needs. To help us improve the documentation, send any errors, suggestions, or comments to Documentation Feedback (**docsfeedback@hpe.com**). When submitting your feedback, include the document title, part number, edition, and publication date located on the front cover of the document. For online help content, include the product name, product version, help edition, and publication date located on the legal notices page.

Configuring the second NIC for operations LAN connectivity

In addition to the Network Interface Card (NIC) card used for connecting to the dedicated service LAN, NonStop system consoles come with a second NIC. This second NIC can be used to connect to a secure operations LAN for remote support services, as needed. Such services include:

- Remote notification (dial-out) services, using supported versions of Insight Remote Support 7.x.

  For more information, see the *Insight Remote Support for NonStop* in the HPE Integrity NonStop Service Information collection of NTL at: **https://support.hpe.com/hpsc/doc/public/display?docId=emr_na-c04623664**.

- Remote connection (dial-in) services, using Remote Desktop.

  For more information, see **Installing Remote Desktop** on page 31.

When you assign an IP address to the second NIC on a system console that is running Windows Server 2008 and being used as a DHCP server for the dedicated service LAN, the address is automatically added to the list of available DHCP bindings. For Windows Server 2012 or Windows Server 2016, it can be added. To ensure that the DHCP server on a NonStop System Console operates only for the dedicated service LAN, you must remove the DHCP server binding for the IP address from the DHCP configuration on that NonStop System Console. To remove the DHCP server binding for the second NIC on a NonStop system console running Windows Server 2008, Windows Server 2012, or Windows Server 2016, see **Removing DHCP server binding for the second NIC on Windows Server 2008, Windows Server 2012, or Windows Server 2016** on page 77.

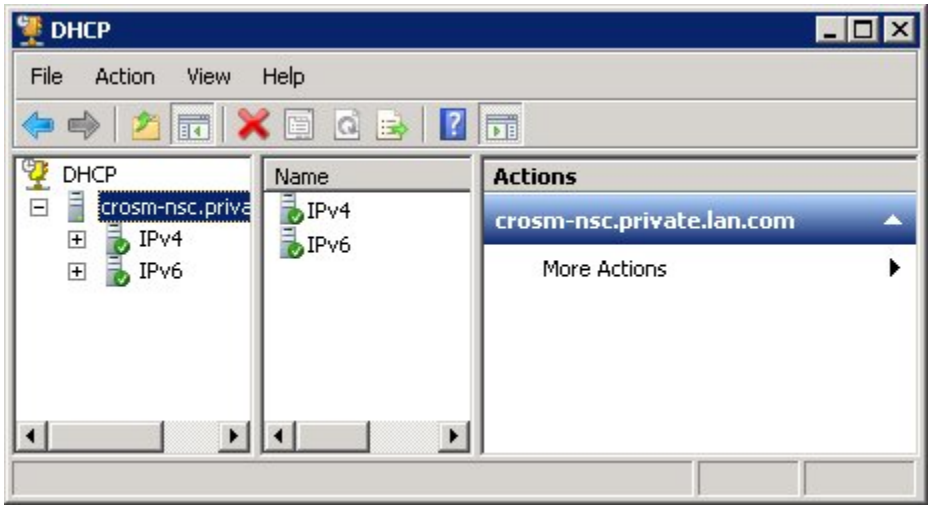
Removing DHCP server binding for the second NIC on Windows Server 2008, Windows Server 2012, or Windows Server 2016

Prerequisites

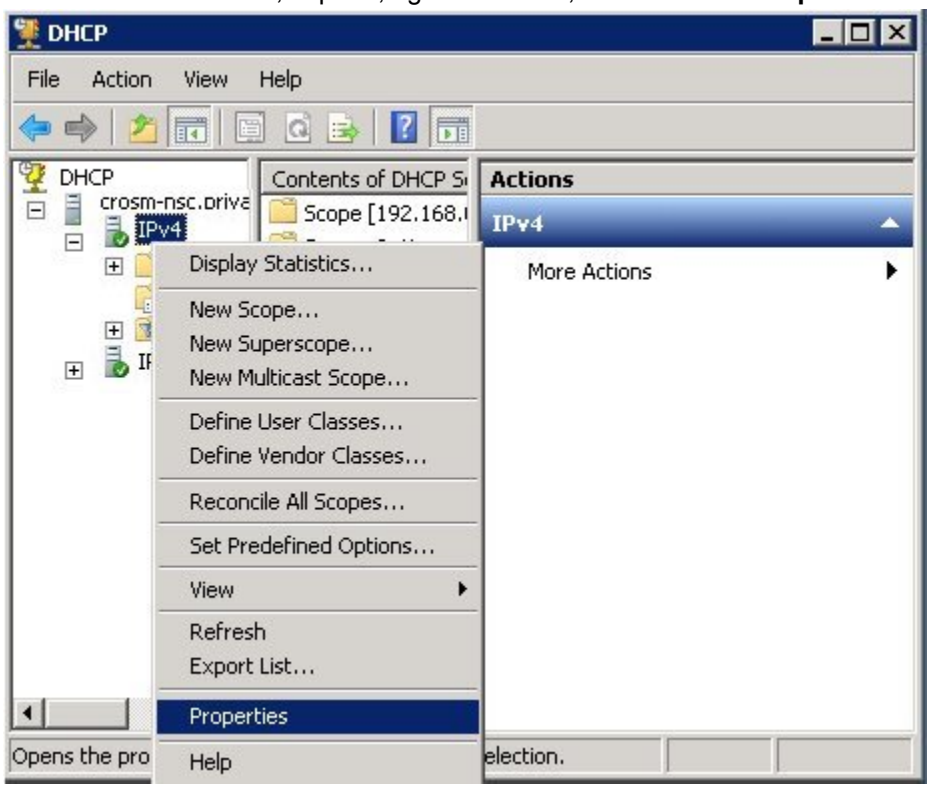
- You must remove all public LAN bindings before connecting to any public LAN unless no DHCP clients exist on the public network.
- You must be a member of the Administrators group or have the appropriate permissions.
- You will not see this connection for the second NIC if you have not configured the connection with an IP address when you added the NonStop System Console to your dedicated service LAN. However, after you configure the NIC for remote support services – either for remote notification (dial-out) using Insight Remote Support Advanced or remote connection (dial-in) using Remote Desktop – you must remove the DHCP server binding for the second NIC.

Procedure

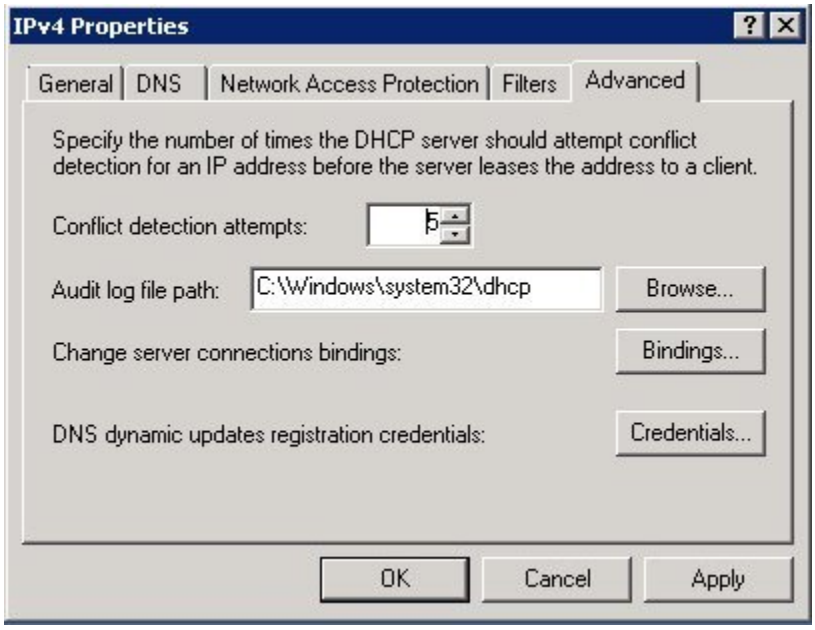
1. From the Start menu, click **Administrative Tools** > **DHCP**.
2. In the left column, expand the name of the DHCP server you are altering.



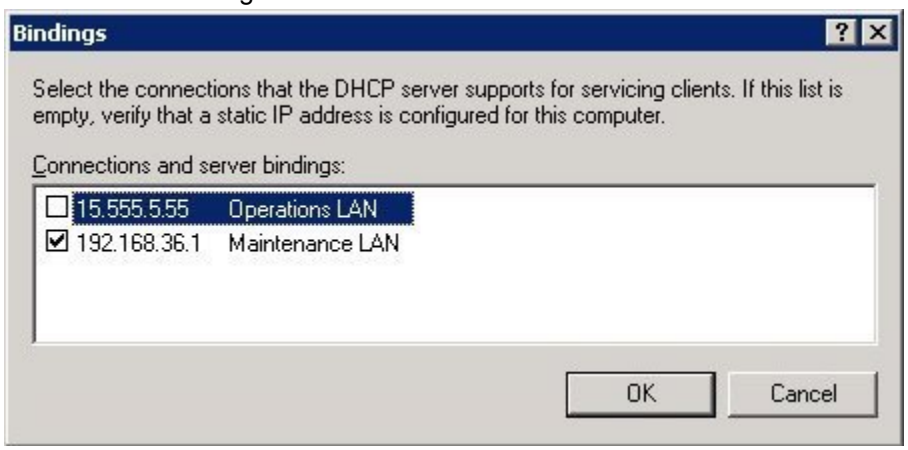
3. Under the server name, expand, right-click **IPv4**, and then click **Properties**.



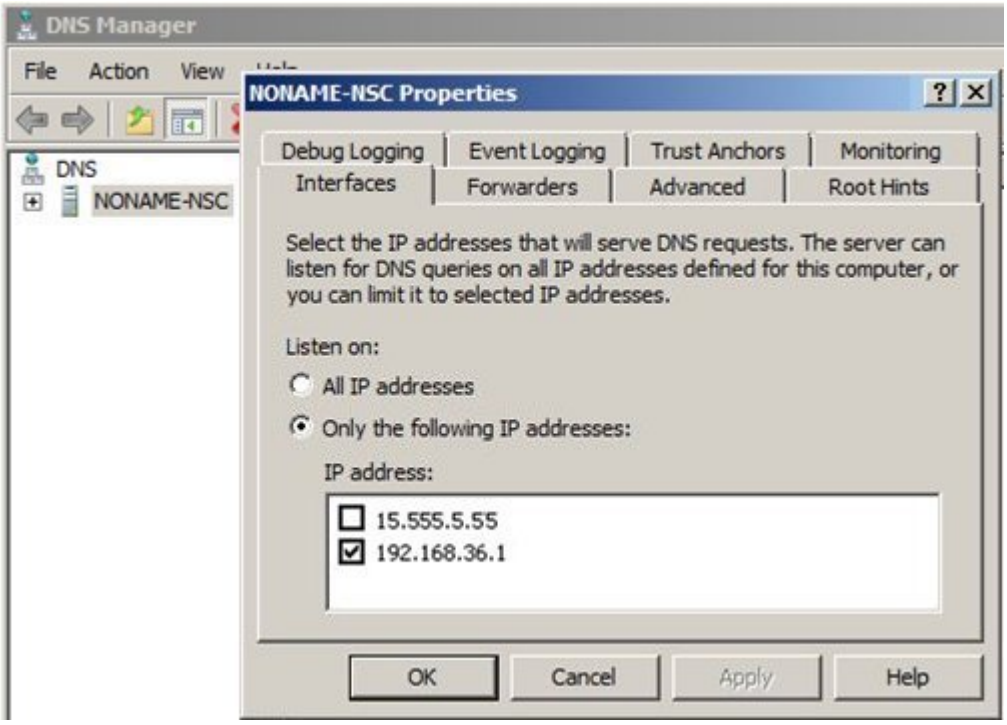
4. In the IPv4 Properties dialog, click the **Advanced** tab, and then click **Bindings**.



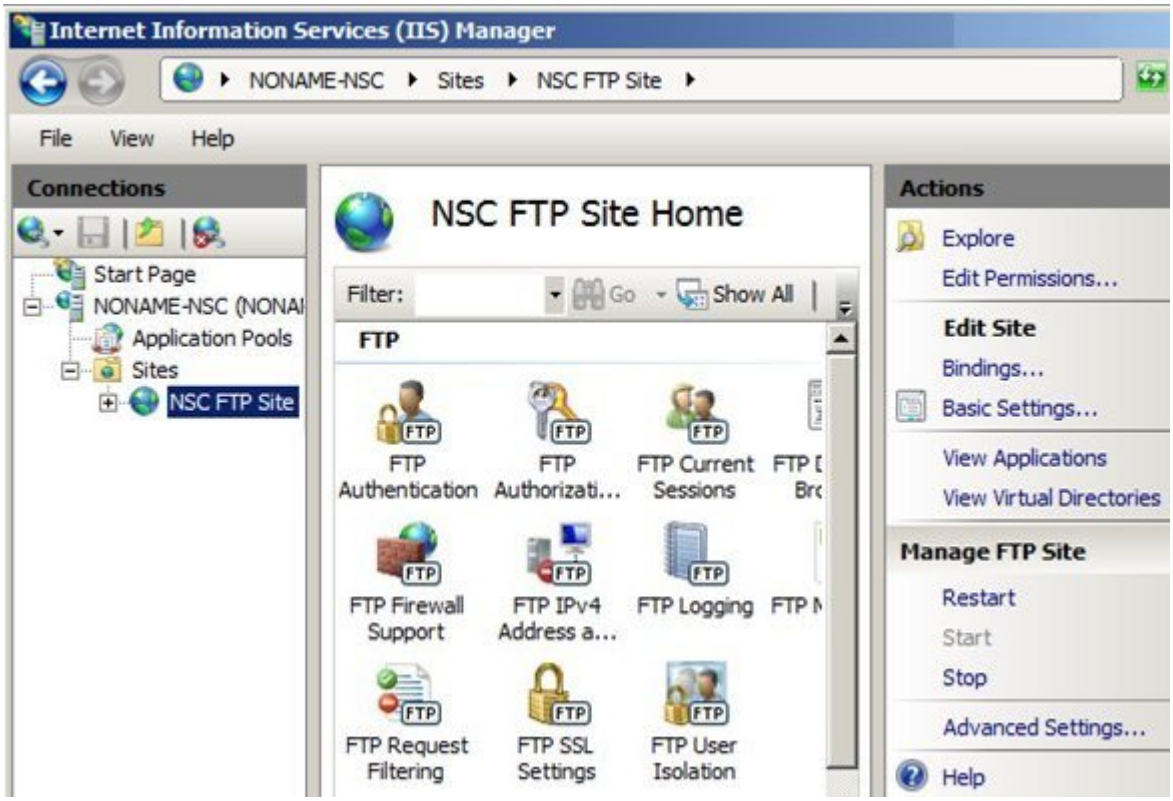
5. If there is a check mark in the box next to the IP address for the second NIC (also identified as the Operations LAN connection in the following example), clear the box, and then click **OK** to remove the DHCP server binding for the IP address.



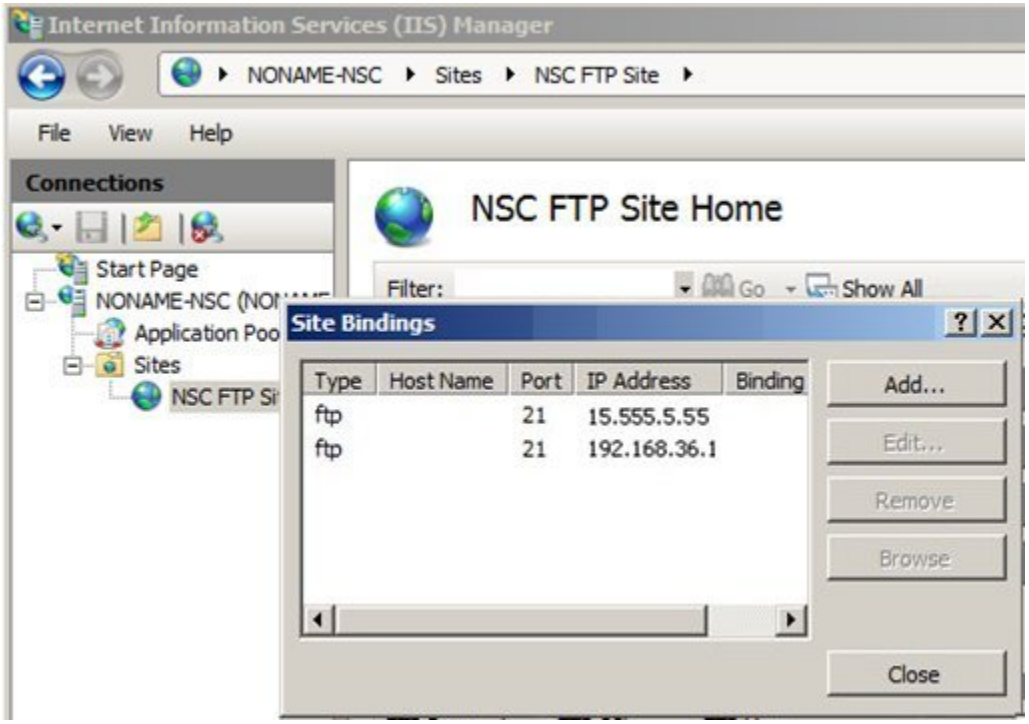
6. To verify the DNS server binding, click **Start** > **Administrative Tools** > **DNS**.
7. Right-click the DNS server name, and then click **Properties**.
8. In the Properties dialog, click the **Interfaces** tab, and then make sure the IP address for the Maintenance LAN (or dedicated service LAN) is the only one selected.



9. To select the FTP binding, click **Start** > **Administrative Tools** > **Internet Information Services (IIS)**.
10. Select **NSC FTP Site**, and then in the right column under Edit Site, click **Bindings**.



11. Confirm that only the IP address for the Maintenance LAN (or dedicated service LAN) is displayed.
12. Select, and then remove the entry for the Operations LAN if listed in the Site Bindings dialog.


Internet Information Services (IIS) Manager
NONAME-NSC ▸ Sites ▸ NSC FTP Site ▸
File View Help
Connections
Start Page
NONAME-NSC (NO
Application Poo
Sites
NSC FTP Si
NSC FTP Site Home
Filter:
Go
Show All
Site Bindings
Type Host Name Port IP Address Binding
ftp 21 15.555.5.55
ftp 21 192.168.36.1
Add...
Edit...
Remove
Browse
Close