



iManager U2000 Unified Network Management System

V100R002C01

High Availability System (Veritas) Software Installation Guide (Windows)

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About This Document

Related Version

The following table lists the product version related to this document.

Product Name	Version
iManager U2000	V100R002C01

Intended Audience

This document describes how to install the U2000 and obtain the reference information required during the installation.

This document is intended for:

- Technical support engineers
- Maintenance engineers
- Installation and commissioning engineers

Symbol Conventions

The symbols that may be found in this document are defined as follows.

Symbol	Description
 DANGER	Indicates a hazard with a high level of risk, which if not avoided, will result in death or serious injury.
 WARNING	Indicates a hazard with a medium or low level of risk, which if not avoided, could result in minor or moderate injury.
 CAUTION	Indicates a potentially hazardous situation, which if not avoided, could result in equipment damage, data loss, performance degradation, or unexpected results.

Symbol	Description
 TIP	Indicates a tip that may help you solve a problem or save time.
 NOTE	Provides additional information to emphasize or supplement important points of the main text.

Command Conventions

The command conventions that may be found in this document are defined as follows.

Convention	Description
Boldface	The keywords of a command line are in boldface .
<i>Italic</i>	Command arguments are in <i>italics</i> .
[]	Items (keywords or arguments) in brackets [] are optional.
{ x y ... }	Optional items are grouped in braces and separated by vertical bars. One item is selected.
[x y ...]	Optional items are grouped in brackets and separated by vertical bars. One item is selected or no item is selected.
{ x y ... }*	Optional items are grouped in braces and separated by vertical bars. A minimum of one item or a maximum of all items can be selected.
[x y ...]*	Optional items are grouped in brackets and separated by vertical bars. Several items or no item can be selected.

GUI Conventions

The GUI conventions that may be found in this document are defined as follows.

Convention	Description
Boldface	Buttons, menus, parameters, tabs, window, and dialog titles are in boldface . For example, click OK .
>	Multi-level menus are in boldface and separated by the ">" signs. For example, choose File > Create > Folder .

Change History

Updates between document issues are cumulative. Therefore, the latest document issue contains all updates made in previous issues.

Changes in Issue 05 (2010-11-19)

The fifth commercial release has the following updates:

Fixed some bugs.

Changes in Issue 04 (2010-09-24)

The fourth commercial release has the following updates:

Fixed some bugs.

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The third commercial release has the following updates:

Fixed some bugs.

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The second commercial release has the following updates:

Fixed some bugs.

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1 Installation Overview

This topic explains the terms involved with installing the U2000 Veritas hot standby high availability system into a Windows operating system (OS).



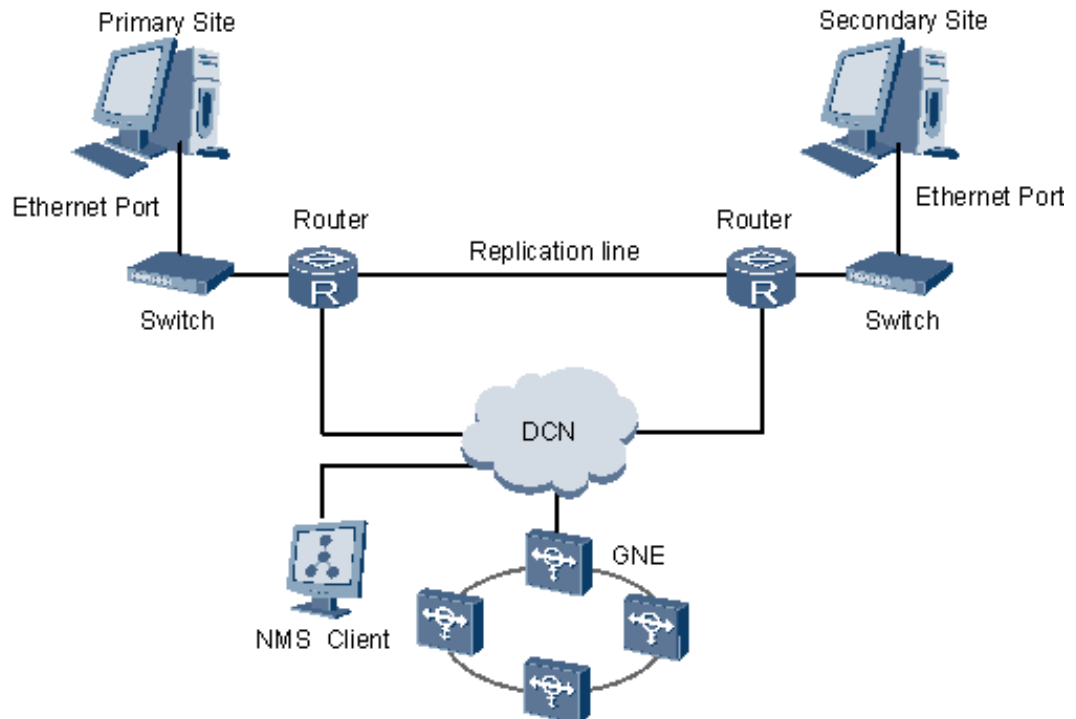
CAUTION

Servers are pre-installed with software from Huawei and can be commissioned immediately. For more information, see the *iManager U2000 Commissioning Guide*. If servers are purchased from other suppliers, install software according to the U2000 deployment.

Definitions for terms as used in this document before introducing the Windows High Availability System (Veritas Hot Standby) scheme:

- Server: A server can refer to the hardware and/or software. In the client/server structure, a server refers to the server program. The term refers to hardware when used in reference to a computer where a server program runs.
- Client: Refers to the client application of the software in a client/server structure. The client application can run on a computer along with the server application or on a separate computer. The term refers to hardware when used in reference to the computer where a client application runs.
- Workstation and host: A workstation functions the same as a host. Generally, a workstation or host refers to the computer where services run in a Windows OS.
- Primary (Secondary) site: Used for the high availability system, the primary (secondary) site refers to the physical primary (secondary) site. Whether a site is a primary site or a secondary site is specified when it is installed, and the role does not change when the system switching occurs. In most of the time, a primary site is in the active state, whereas a secondary site is in the standby state for protecting the primary site.
- Active (Standby) site: It is used for the high availability system. The active (standby) site refers to the site in the active (standby) state. The site in the standby state protects the site in the active state.
- Active (Standby) state: It is used for the high availability system. The active (standby) state refers to the working (protection) state. For example, if all the relevant applications on a site run normally, this site is in the active state.
- Centralized system: Refers to the core processes of the U2000 and database service that are deployed on a server.

Figure 1-1 Network diagram of a high availability system (Veritas hot standby)



- Component: Refers to a functional unit of software that you can select to install. A component can consist of multiple deployment packages.
 - Deployment package: Refers to a software unit that is deployed on a computer.
- Deployment packages are classified into the following types:
- System single-instance: These types of deployment packages can be installed on only one server and each component can be deployed with only one instance.
 - Single-server single-instance: These types of deployment packages can be installed on multiple servers and each component can be deployed with only one instance on each server.
 - Single-server multi-instance: These types of deployment packages can be installed on multiple servers and each component can be deployed with multiple instances on each server.

2 Installation Process

This topic describes the process of installing a high availability system (Veritas hot standby).

Figure 2-1 shows the typical scenario and process of installing a high availability system (Veritas hot standby).

Figure 2-1 Process of installing a high availability system (Veritas hot standby)

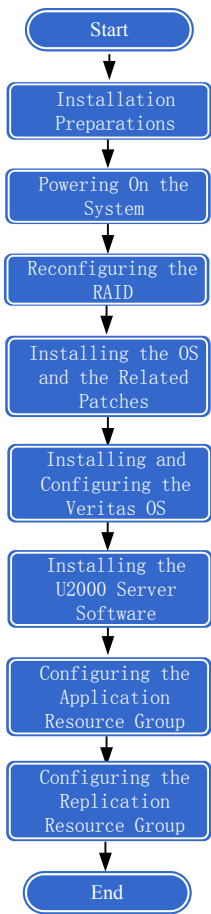


Table 2-1 shows the chapters for reference and the time required for each installation stage.

Table 2-1 Description of the process of installing a high availability system (Veritas hot standby)

Stage	Description	Reference Chapter	Duration (Min)
1	Prepare for installation.	3 Installation Preparations	30
3	Power on the system.	4 Powering On a Server	20
4	Reconfigure the RAID.	5 Reconfiguring the RAID	30
5	Install an OS and patches.	6 Installing an OS and Patches	120
6	Install and configure a Veritas OS.	7 Installing and Configuring a Veritas OS	60
7	Install U2000 server software.	8.3 Starting the U2000 Installation Program	About 120 minutes. The specific duration is determined by the number of components to be installed and the configuration of the server.
8	Configure the application resource group.	9 Configuring the Application Resource Group	30
9	Configure the replication resource group.	10 Configuring the Replication Resource Group	30

3 Installation Preparations

About This Chapter

This topic describes how to prepare for installation. Before you install a high availability system (Veritas hot standby), ensure that the preparations for the software, hardware, and environment are ready.

[3.1 Configuration Requirements](#)

This topic describes the configuration requirements on the hardware and software of the server before installing the U2000.

[3.2 Networking Structure](#)

This topic describes the networking structure of the high availability system (Veritas hot standby). Before installing the high availability system (Veritas hot standby), you need to familiarize yourself with the networking structure of the high availability system (Veritas hot standby).

[3.3 Installation Environment Requirements](#)

This topic describes the environment conditions, such as the telecommunications room environment, cable condition, and networking condition of the telecommunications room, that you must get familiar with before you install a U2000.

[3.4 Collecting Installation Information](#)

This topic describes how to collect installation information. Before installing the high availability system (Veritas hot standby), collect required information, including the host name, IP address, route, time zone and time, user password, installation path, component quantity, and instance quantity.

[3.5 Checking Required Software](#)

This topic describes the software required to be checked. Ensure that the required software is on-hand and meets the installation requirements before installing the U2000.

[3.6 Checking Hardware Connections](#)

This topic describes how to check that hardware is installed and connected properly.

[3.7 Applying for a U2000 License](#)

This topic describes how to apply for a U2000 license.

[3.8 Applying for a Veritas License](#)

This topic describes how to apply for a formal Veritas license. The Veritas license used during U2000 installation is a demo license. After the U2000 server is delivered to the installation site, you must replace the demo license with a formal one in time.

3.1 Configuration Requirements

This topic describes the configuration requirements on the hardware and software of the server before installing the U2000.

Hardware Configuration

The following table shows the configuration requirements on the hardware of the U2000 server.

Table 3-1 Configuration requirements on the hardware for the U2000 server

Server Name	Server Description
HP DL380G6	2 x Xeon quadri-core E5504 2.0 GHz or above, 8 GB(4 x 2 GB), 5 x 146 GB(2.5SAS 10K)(RAID10+Hotspare), No FDD, DVD, 4 x Integrated 1000M Multifunc NIC, Integrated P410i(256M) Raidcard
HP DL580G5	4 x Xeon quadri-core 7430 2.13 GHz or above, 16 GB, 4 x 146 GB SFF SAS, No FDD, DVD, 2 x Integrated 1000M NIC, Integrated P400i ArrayCard

Software Configuration

The following table shows the configuration requirements on the software of the U2000 server.

Table 3-2 Configuration requirements on the software for the U2000 server

Configuration Item	Typical Configuration
OS	Windows Server 2003 R2 Enterprise with SP2 CAUTION Only a single OS can be installed, and the OS can be installed only on disk C.
Database	MS SQL Server 2000 Standard with SP4 + SQL2000-KB916287-v8.00.2187
Veritas software	Veritas 5.1 for Windows
NMS software	U2000 software NOTE The U2000 software can be installed on the OS with the simplified Chinese version or English version.

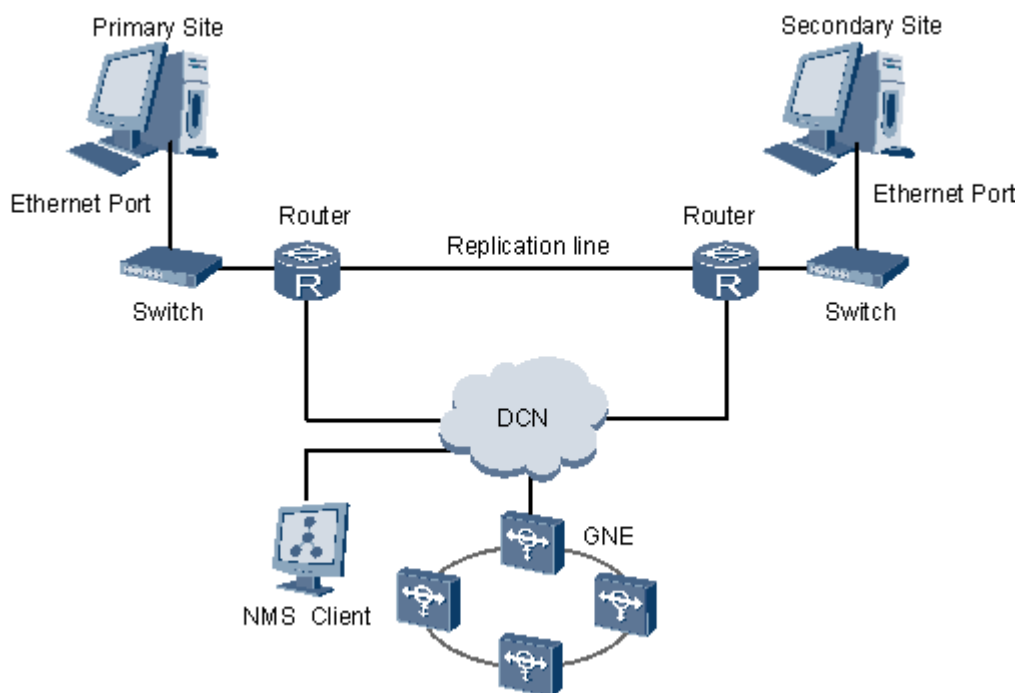
3.2 Networking Structure

This topic describes the networking structure of the high availability system (Veritas hot standby). Before installing the high availability system (Veritas hot standby), you need to

familiarize yourself with the networking structure of the high availability system (Veritas hot standby).

The following figure shows the networking structure of the high availability system (Veritas hot standby).

Figure 3-1 Networking structure of the high availability system (Veritas hot standby)



Networking Description of the high availability system (Veritas hot standby)

- The high availability system (Veritas hot standby) consists of the primary site and the secondary site. Each site is composed of one workstation.
- The primary and secondary sites communicate through the DCN.
- The NMS client and the network management system maintenance suite client communicate with the server through the data communication network (DCN).
- NEs and the upper-layer NMS (OSS) communicate with the server through the DCN.

3.3 Installation Environment Requirements

This topic describes the environment conditions, such as the telecommunications room environment, cable condition, and networking condition of the telecommunications room, that you must get familiar with before you install a U2000.

Before installing a U2000, check the environment according to the following table.

Table 3-3 Installation environment requirements

Check Item	Requirement
Temperature	The required temperature range is from 15°C to 30°C in long-term working conditions and from 0°C to 45°C in short-term working conditions.
Humidity	The required humidity range is from 40% to 65% in long-term working conditions and from 20% to 90% in short-term working conditions.
Dust	The density of the dust whose diameter is larger than 5 µm is less than or equal to 3×104/m3.
Floor	The floor is anti-static movable and must be grounded.
Space	The telecommunication room must have good ventilation and enough space for operation and maintenance.
Power supply	The power supply should be an independent external power supply system that can offer stable electricity. The uninterrupted power supply (UPS) is recommended.
Cable	The network where the server is located is normal and can be accessed successfully.
Network	The routers connecting each server are configured. For the installation of routers, see the installation manual delivered with routers or contact router suppliers. The networks of routers in every telecommunication room are connected, including routers and the DCNs.

3.4 Collecting Installation Information

This topic describes how to collect installation information. Before installing the high availability system (Veritas hot standby), collect required information, including the host name, IP address, route, time zone and time, user password, installation path, component quantity, and instance quantity.

Complete planning for the information listed in the following tables according to the *iManager U2000 Planning Guide*. Collect and record the installation information in the tables.

 TIP

Print the following tables and fill in the blanks with the site-specific planning information.

Examples provided in the tables are the default values of servers that come pre-installed with software from Huawei.

Table 3-4 Host name list

Site	Item	Example	Plan
Primary Site	Host name	Primaster	
Secondary Site	Host name	Secmaster	



CAUTION

To ensure that the NMS can run properly, host name planning must comply with the following rules and restrictions:

- The host name of the U2000 server must be unique on the network.
- The host name must be a string consisting of no more than 24 characters that can only be letters (A to Z), digits (0 to 9) and hyphen (-).
- The first character must be a letter and the last character cannot be a hyphen.
- The host name must be case-sensitive.
- The host name cannot contain any space.
- The host name cannot contain only one character.
- The host name cannot contain --.
- The host name cannot be any of the following keywords in the high availability system.

action	false	keylist	static	after	firm	local	stop	requires
remotecluster								
system	group	resource	global	Start	str	temp	set	heartbeat
ArgListValues								
System	Group	boolean	hard	Name	soft	before	online	condition
MonitorOnly								
remote	start	cluster	event	VCS	shm	type	Path	offline
HostMonitor								Signaled
Probed	state	Cluster	IState	int	Type	State	VCS	shm
ConfidenceLevel								NameRule

Table 3-5 IP address planning of the single-networking-interface scheme

Site	Equipment Description	IP Planning	Sample IP Address/Subnet Mask
Primary site	System IP address	It is set during the OS installation. It is used for client and NE communication (optional and recommended) for heartbeat detection and data replication.	129.9.1.1/255.255.255.0
	Virtual IP address	It is used for client and NE communication (optional and not recommended; the virtual IP address is easy to be occupied, or the communication will fail if the virtual IP address is not enabled due to VCS abnormality). It is used to check NICs.	129.9.1.2/255.255.255.0

Site	Equipment Description	IP Planning	Sample IP Address/Subnet Mask
Secondary site	System IP address	It is set during the OS installation. It is used for client and NE communication (optional and recommended) for heartbeat detection and data replication.	129.9.1.3/255.255.255.0
	Virtual IP address	It is used for client and NE communication (optional and not recommended; the virtual IP address is easy to be occupied, or the communication will fail if the virtual IP address is not enabled due to VCS abnormality). It is used to check NICs.	129.9.1.4/255.255.255.0

Table 3-6 Time zone and time list

Item	Example	Plan
Time zone		
Time	14:00	

Table 3-7 List of users and passwords

User	Example	Plan
Super user administrator of the OS	admin123	
DB Super User sa	changeme	
DB User NMSuser	NMSuser	
U2000 user admin	admin123	
network management system maintenance suite user admin	admin	
VCS Client User admin	password	

Table 3-8 Server disk partition list (4*146GB disk)

Partition	Size (GB)	Description
Disk C	40	It is used to install the OS and database software.
Disk D	100	It is used to install the U2000 software.
Disk S	50	It is used to store the database data. NOTE Disk S is not a physical disk assigned during the installation of the OS, but a file volume created during the installation of the Veritas software.

Table 3-9 Installation path list

Software	Installation Path
Windows OS	C:\
SQL Server database software	C:\MSSQL2000
SQL Server database data files	S:\data
U2000 software	D:\U2000

 NOTE

The installation directory, including the installation package path and the U2000 installation path, can contain only the letter, number, and underscore (_). It cannot contain the space or brackets; otherwise, the installation fails.

Table 3-10 Quantity list of configured components and instances

Example	Plan
● One instance for SDH NE management ● One instance for PTN NE management ● One instance for router NE management ● ...	

3.5 Checking Required Software

This topic describes the software required to be checked. Ensure that the required software is on-hand and meets the installation requirements before installing the U2000.

Installation engineers can install the U2000 in either of the following ways:

- Using software packages: Required software packages must be on-hand.
- Using DVDs: Required DVDs must be on-hand.

Using DVDs

Ensure that the following DVDs are on-hand before installing the U2000 by using DVDs.

Table 3-11 DVD list

Software	DVD Name
Windows OS software	Windows OS installation DVD: Windows Server 2003 R2 Enterprise with SP2 NOTE There are five Windows OS DVDs available, among which DVDs A, B, and C are used to install Windows Server 2003 R2 Enterprise with SP1, and DVDs D and E are used to install Windows Server 2003 R2 Enterprise with SP2. Only DVDs D and E must be used. OS patch installation DVD: Windows OS patch: U2000 <code>version</code> _server_ospatch_win32_x86_dvd1
Database software	Installation DVD: SQL Server standard edition (installing the database in the Windows Server 2003 OS): U2000 <code>version</code> _server_dbstd_win32_x86_dvd2
Veritas software	Installation DVD: Veritas Storage Foundation and High Availability Solutions 5.1 for Windows
U2000 server software	Installation DVD: U2000 software: U2000 <code>version</code> _server_nms_win32_x86_dvd3

Using Software Packages

Ensure that the Windows OS installation DVD and software packages are on-hand before installing the U2000.

Perform the following operations:

 TIP

Read the **Read Me** file before downloading the software packages. The **Read Me** file is stored in the same path as software packages.

1. Access <http://support.huawei.com> and choose **Software Center > Version Software > Network OSS&Service > iManager U2000 > iManager U2000 > iManager U2000 V100R002**.
2. Select the version to be installed.
3. Download required software packages listed in **Table 3-12**. It is recommended that you use the download tool (for example, Flashget). If you use Windows Internet Explorer, some software packages may be renamed automatically after being downloaded to the local computer. In this case, you must manually change the software package names to the same as those on the <http://support.huawei.com>.

4. Use the MD5 to verify correctness of the software packages. For details, see [A.4.12 How to Check Downloaded Software Packages by Using MD5 Software](#).

 NOTE

- The Windows OS can be installed only by using DVDs. Therefore, if you install the U2000 by using software packages, ensure that the Windows OS installation DVD is available.
- In an installation DVD or installation package, *Version* indicates the detailed version number of the U2000. For example, V100R002C01SPCxxx.

Table 3-12 Software package list

Software	Medium Name	Description
Windows OS software	Windows OS installation DVD: Windows Server 2003 R2 Enterprise with SP2 OS patch installation software package: Windows OS patch: U2000 <code>version</code> _server_ospatch_en_win32_x86.zip	It is used to install the Windows OS. It must be available.
Database software	Installation software package: SQL Server standard edition (installing the database in the Windows Server 2003 OS): U2000 <code>version</code> _server_dbstd_en_win32_x86.zip NOTE The database software package U2000 <code>version</code> _server_dbper_en_win32_x86.zip must be on-hand for installation engineers to install the U2000 on Windows XP.	It must be available. It is used to install the database.
Veritas software	Installation software package:sf_ha_32bit.dvd1.5.1.0.0.win.zip	It must be available. It is used to install the Veritas.
U2000 server software	Basic components: U2000 <code>version</code> _server_nmsbase_win32_x86.zip	It must be available. It is used to install the U2000.
	Core components: U2000 <code>version</code> _server_nmscore_win32_x86.zip	It must be available. It is used to install the U2000.
	Transport domain component (optional). Prepare this component if managing transport or PTN equipment: U2000 <code>version</code> _server_nmstrans_win32_x86.zip	It is required only if the U2000 needs to manage Huawei transport equipment. Huawei transport equipment includes: ● MSTP equipment ● WDM equipment ● NA WDM equipment ● Submarine equipment ● RTN equipment ● PTN equipment

Software	Medium Name	Description
	IP domain components (optional). Prepare these components if managing routers, switches, or security equipment: U2000 <code>version_</code> server_nmsip_win32_x86.zip	It is required only if the U2000 needs to manage Huawei IP equipment. Huawei IP equipment includes: ● Routers ● Switches ● Metro service equipment ● Broadband access equipment ● VoIP gateways ● Firewalls ● Service inspection gateway ● SVN equipment
	Access domain components (optional). Prepare this component if managing access equipment: U2000 <code>version_</code> server_nmsaccess_win32_x86.zip	It is required only if the U2000 needs to manage Huawei access equipment. Huawei access equipment includes: ● FTTx equipment ● MSAN equipment ● DSLAM equipment

3.6 Checking Hardware Connections

This topic describes how to check that hardware is installed and connected properly.

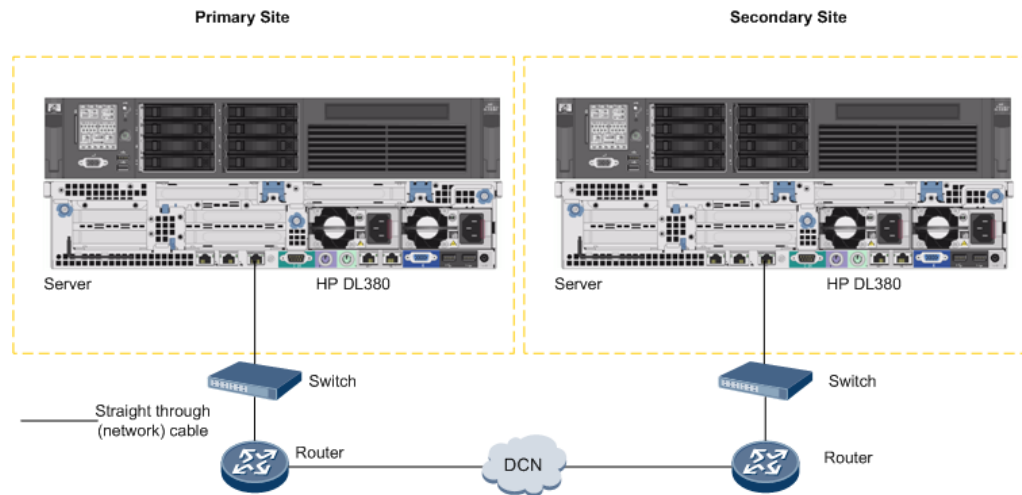
Prerequisite

The server hardware must have been installed and equipment cables must have been connected.

Procedure

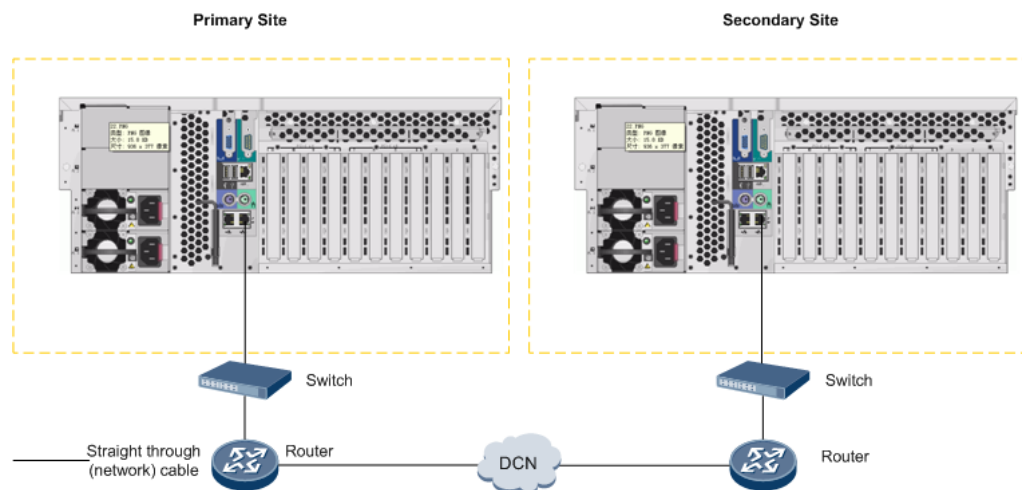
- 1 Ensure that the power cables and ground wires for all components are tightly connected and in good contact and that the polarities are properly placed.
- 2 Ensure that all cables are bundled and free of visible damage.
- 3 Check hardware connections and network cable connections according to the hardware connection diagram.
 - The following figures show the hardware connections of the DL380 server.

Figure 3-2 Hardware connection between the DL380 server



- The following figures show the hardware connections of the DL580 server.

Figure 3-3 Hardware connection between the DL580 server



4 Check the plugs and sockets.

1. Ensure that the latches of cable plugs are locked fast and the plugs of coaxial cables are secured tightly.
2. Ensure that the pins in each socket are complete and in good order. Curved pins may cause short circuits.

5 Ensure that all debris (cable straps, stubs, or moisture-absorbent packets) are picked up.

6 Remove unnecessary items from the telecommunications room. The workbench must be neat and the movable floor must be level and clean.

----End

3.7 Applying for a U2000 License

This topic describes how to apply for a U2000 license.

Context

- The license file is not delivered to customers along with a U2000 installation DVD. Contact Huawei engineers to apply for a license according to the contract number and the equipment serial number (ESN) of the U2000 server.
- An ESN is a string consisting of 40-digit numerals or letters obtained through encrypted calculation on the MAC addresses of the U2000 server network interface. The number of ESNs is the same as the number of network interfaces on the U2000 server.
The U2000 license is valid as long as it is bound to any of the server ESNs. To avoid applying for a new license due to replacing certain network interface cards (NICs), save all the ESNs to ensure proper use of the U2000 license.
- The license needs to be bound to the ESNs of both the primary site server and the secondary site server.

Procedure

- 1 Obtain the contract number.
- 2 Before installing a U2000, obtain the ESN tool from <http://support.huawei.com> to generate ESNs. The ESN tool is named U2000`version`_ESN_win32_x86.zip.

Decompress the ESN tool package, and then double-click the **esn.exe** file to view ESNs.

A message similar to the following will be displayed:

```
ESN0:EBB74B99612CEDC82AD0A59886EC5018CE44DDD4
ESN1:BDA706C825FE0543DC028209778AA66396545412
ESN2:E1B00EEF6947DD95687AA5C608B72ACC532AB2BD
ESN3:F72F9EC08AEE78AA05A42EFD7BFD89F5E03139C4
.....
```

- 3 Send the contract number and the ESNs of the server to Huawei engineers or a Huawei local office.

NOTE

Huawei engineers access the <http://license.huawei.com> Web site according to the information you provide to apply for a license file. For details about how to apply for a license file, see the *iManager U2000 V100R002C01 License Instructions* archived at <http://support.huawei.com>.

- 4 Huawei engineers send the license file to you after obtaining it.

The license file delivered along with the U2000 is in .dat format.

----End

3.8 Applying for a Veritas License

This topic describes how to apply for a formal Veritas license. The Veritas license used during U2000 installation is a demo license. After the U2000 server is delivered to the installation site, you must replace the demo license with a formal one in time.

Context



CAUTION

The Veritas licenses for the primary and secondary sites are different and thus must be applied for separately.



NOTE

If the version of the current Veritas license is earlier than 5.0 but the license does not expire, apply for a Veritas license with the version of 5.1 free of charge according to the information about the current license.

Procedure

- 1 Collect the following information according to the Veritas license application form:

- Serial number of the license confirmation form
- Contract number
- Software item
- License item quantity



CAUTION

- The license confirmation form is delivered together with the DVD. The license confirmation form functions as a license file and should be kept properly on site.
- If there are multiple serial numbers and the software items are the same, you must fill in **Software Item Qty** with the total number of license confirmation forms.
- For the licenses whose BOMs start with 9904, no license confirmation form is available for on-site delivery. Therefore, Huawei engineers need to fill in **Serial No.** with a back slash (\) when applying for such a license.

- 2 Send the information to the related Huawei engineer or the local office of Huawei.
- 3 With the provided information, the related Huawei engineer accesses <http://support.huawei.com> and chooses **Software Center > Software License > Outsourcing License > License Application**. The page for applying for purchased software licenses is displayed.
- 4 Huawei engineer enters the license application information to apply for a Veritas license.
- 5 Huawei engineer sends you the Veritas license.

----End

4 Powering On a Server

This topic describes how to power on a server.

1. Press the power buttons of the peripherals connected to a server and the monitor to power on the peripherals and monitor.
2. Press the power button on the chassis of the server to power on the server. Take the HP DL580G5 server as an example. In the following figure, the power button is marked in a red frame.

Figure 4-1 Position of the power button of the DL580G5 server



5 Reconfiguring the RAID

This topic describes how to reconfigure the RAID.

Context

The default configuration on the delivered server is RAID1+0. The system displays only one disk, which does not meet the installation requirement for the Veritas hot standby system. You must delete original RAID configurations and reconfigure the RAID to ensure that the system displays at least two disks.

Procedure

- 1 Restart the OS. Press **F8** as prompted to access the RAID deployment window.

 NOTE

The system prompts you to press **F8** twice to access the configuration window. When the second prompt is displayed, press **F8** to access the RAID deployment window. The **Main Menu** window is displayed.

- 2 In the **Main Menu** window, select **Delete Logical Drive**, and then press **Enter**.
- 3 Select the disk to be deleted. Then, press **F8** as prompted to delete the selected disk.
- 4 Press **F3** to confirm the deletion.
- 5 Press **Enter** as prompted to continue. The system automatically returns to the **Main Menu** window.
- 6 In the **Main Menu** window, select **Create Logical Drive**, and then press **Enter**.
- 7 Select two disks according to the operation method displayed in the lower part of the window. Select RAID1+0 and press **Enter**.
- 8 Press **F8** to save configurations.
- 9 Press **Enter** as prompted to continue. The system automatically returns to the **Main Menu** window.
- 10 Repeat Step 6 to Step 9. Select two disks again and then RAID1+0. After the configuration is complete, the system displays at least two disks.

- 11 Press **Esc** to close the RAID deployment window, and then restart the OS. Insert the boot disk that is delivered with the system. Install the OS and patches again.

----End

6 Installing an OS and Patches

This topic describes how to install an OS and patches.

Prerequisite

The Redundant Arrays of Independent Disks (RAID) must have been configured.

Context

The delivered server has been installed with an OS and patches. The Veritas hot standby system requires at least two disks; therefore, you must reconfigure the RAID on the delivered server before installing the OS and patches.

Procedure

- 1 Install a Windows OS and patches according to the installation manual delivered with the system.

----End

Follow-up Procedure

After the OS and patches have been installed, check the installation. Details are as follows:

1. Check the OS version and patches.
 - (1) On the desktop, right-click the **My Computer** icon and choose **Properties** from the shortcut menu.
 - (2) On the **General** tab page, check whether the OS version and patches are **Windows Server 2003 R2 Enterprise with SP2**.

NOTE

If the OS version and patches are incorrect, install a Windows OS using the DVD that is delivered with the server. You must use the **WindowsServer2003-KB914961-SP2-x86-CHS.exe** file in the Windows patch packages or patch disk to install Windows OS patches. It takes about 10 minutes to complete installation. Then, restart the OS.

2. Check whether disk partitioning and partition sizes meet configuration requirements. For details, see [3.4 Collecting Installation Information](#).
3. Check the number of disks.

- (1) Choose **Start > Control Panel > Administrative Tools > Computer Management**.
- (2) Choose **Disk Management** from the navigation tree. Check whether the system has two or more disks. If not, reconfigure the RAID.

7 Installing and Configuring a Veritas OS

About This Chapter

This topic describes how to install and configure a Veritas OS.

[7.1 Installing Veritas Software](#)

This topic describes how to install Veritas software. The Veritas software needs to be installed on both the primary site and the secondary site.

[7.2 Configuring Disk Groups and Volumes](#)

This topic describes how to configure disk groups and volumes. The disk groups and volumes must be configured on both the primary site and the secondary site.

[7.3 Configuring a Cluster](#)

This topic describes how to configure a cluster. The cluster needs to be configured on both the primary site and the secondary site.

7.1 Installing Veritas Software

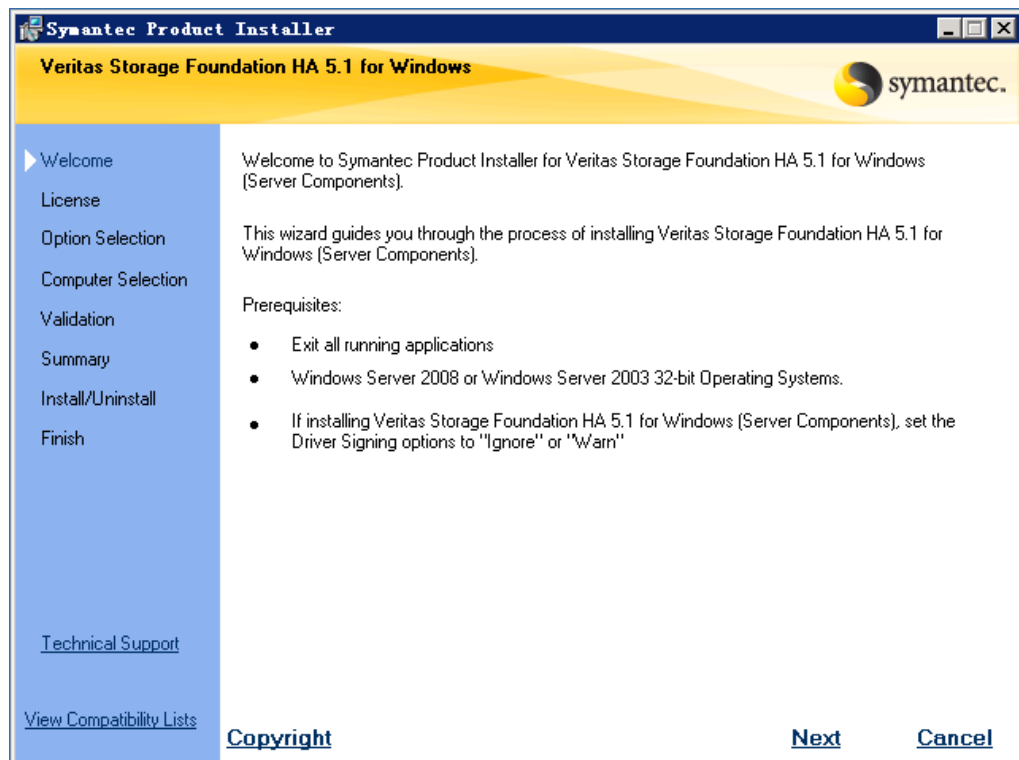
This topic describes how to install Veritas software. The Veritas software needs to be installed on both the primary site and the secondary site.

Procedure

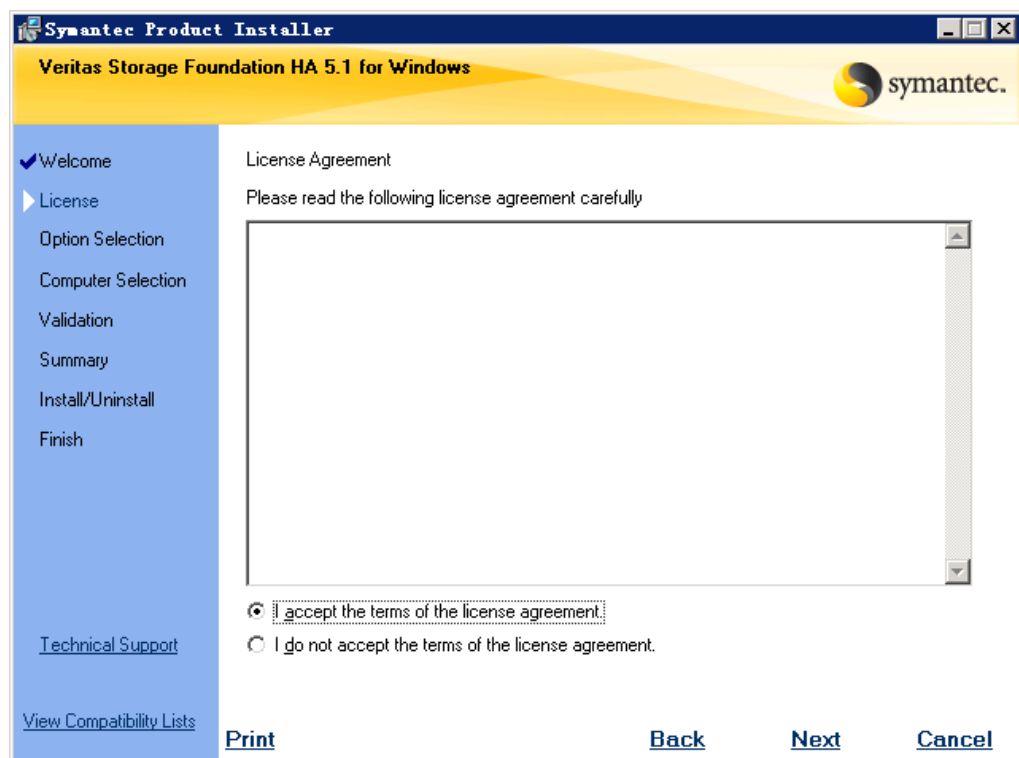
- 1 Decompress the **sf_ha_32bit.dvd1.5.1.0.0.win.zip** software package, and then double-click the **setup.exe** file.
- 2 In the dialog box for selecting a product, click **Storage Foundation HA 5.1 for windows**.



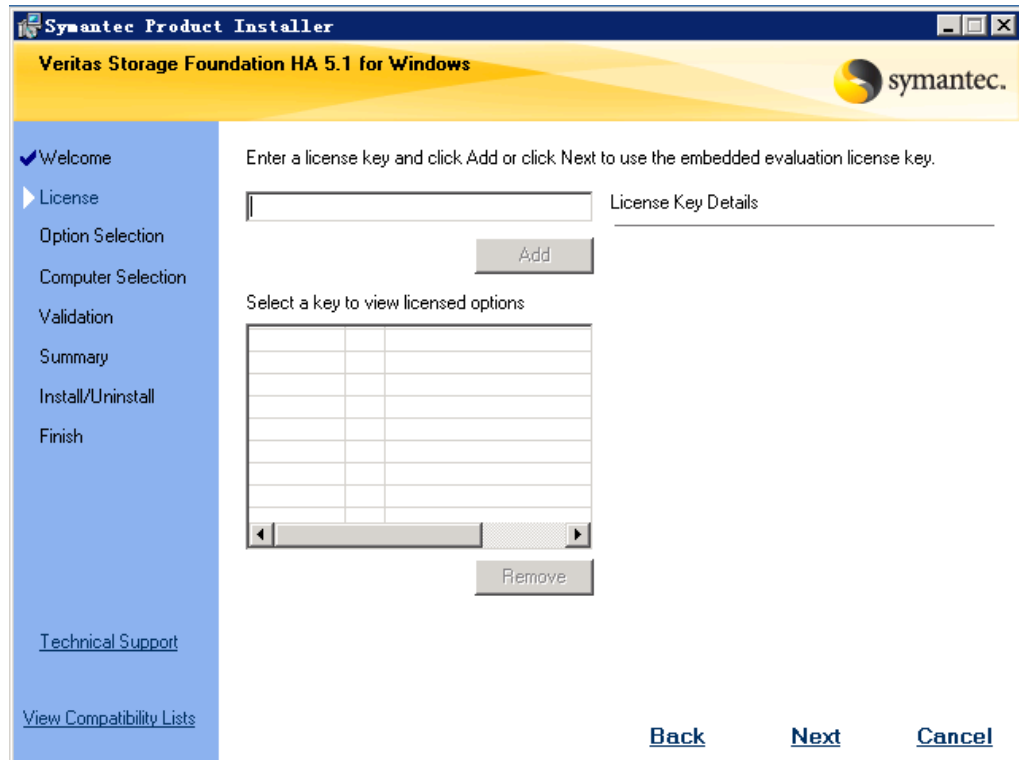
- 3 In the dialog box for selecting an installation type, click **Complete/Custom**.
- 4 In the dialog box listing installation prerequisites, click **Next**.



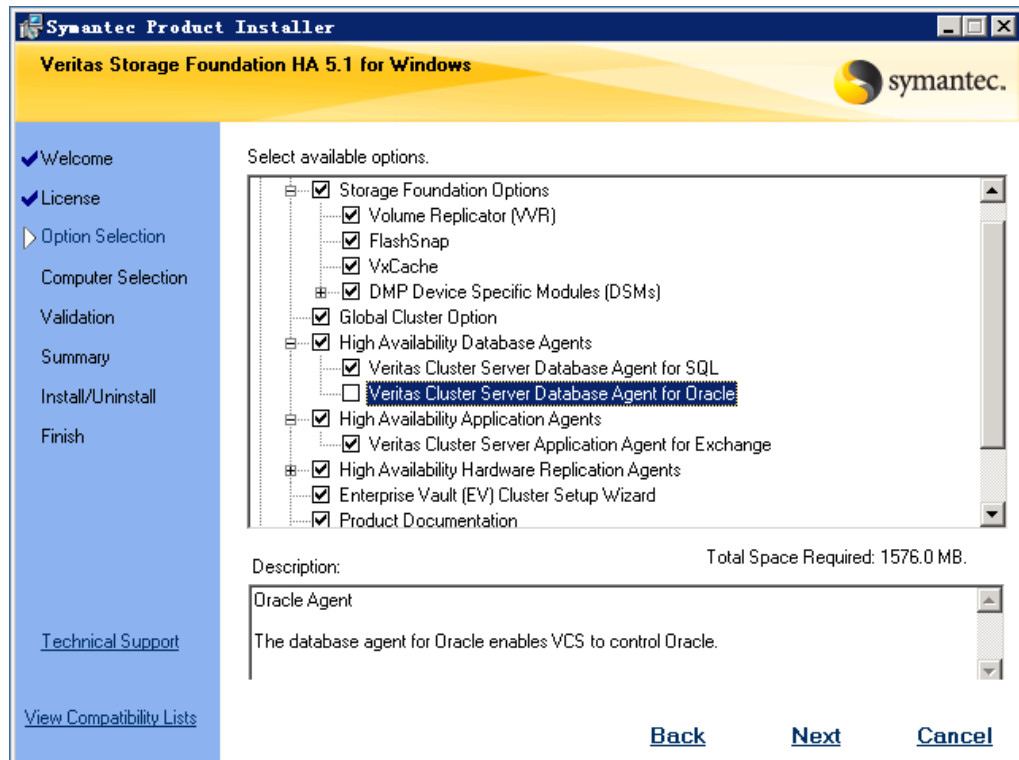
- 5 In the dialog box showing the license agreement, select **I accept the terms of the license agreement**, and then click **Next**.



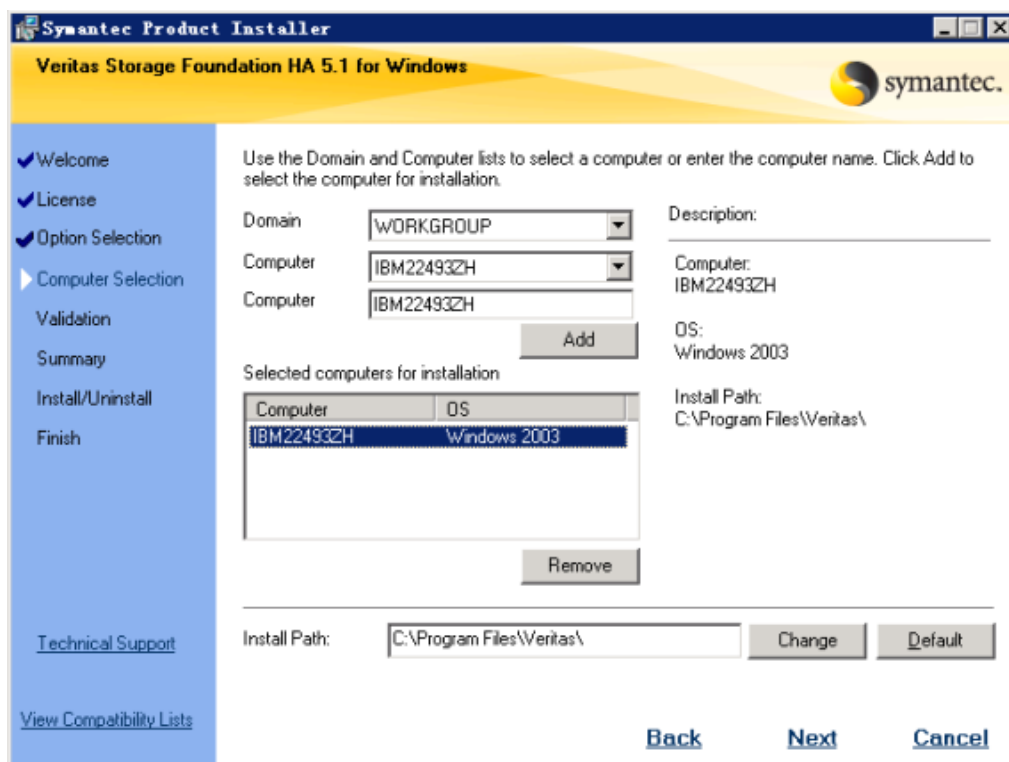
- 6 Enter the Veritas license, and then click **Add**. If the license file is unavailable, click **Next**.



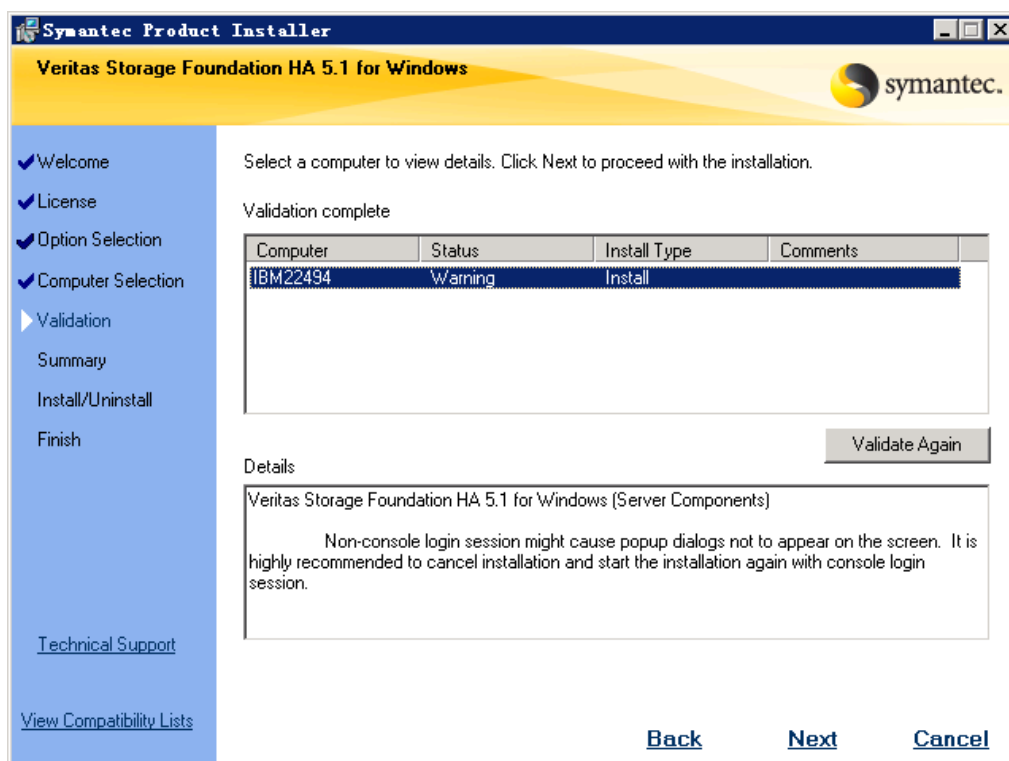
- 7 In the dialog box for selecting installation components, choose not to select **Veritas Cluster Server Database Agent for Oracle in High Availability Database Agents**. Then, click **Next**.



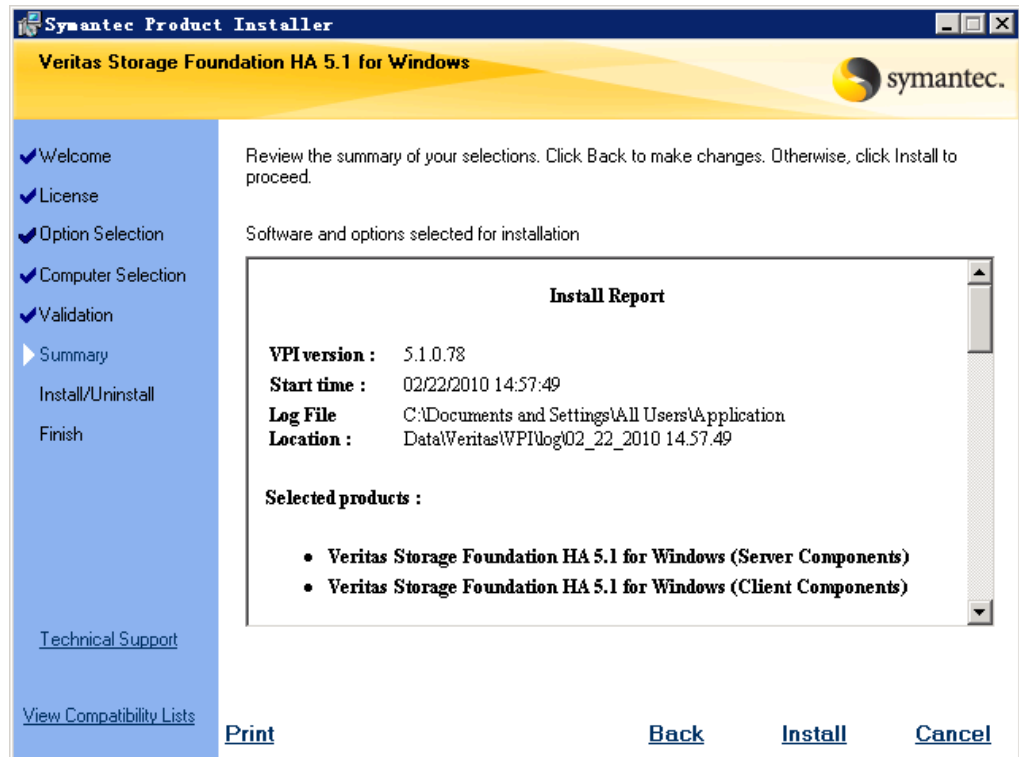
- 8 Select a workgroup and a computer name, and then click **Add**. Confirm the installation path. Then, click **Next**.



- 9 Check whether the current environment satisfies the requirement for installing Veritas software. If **status** is displayed as **accepted**, **Warning** or **Non console login**, click **Next**.

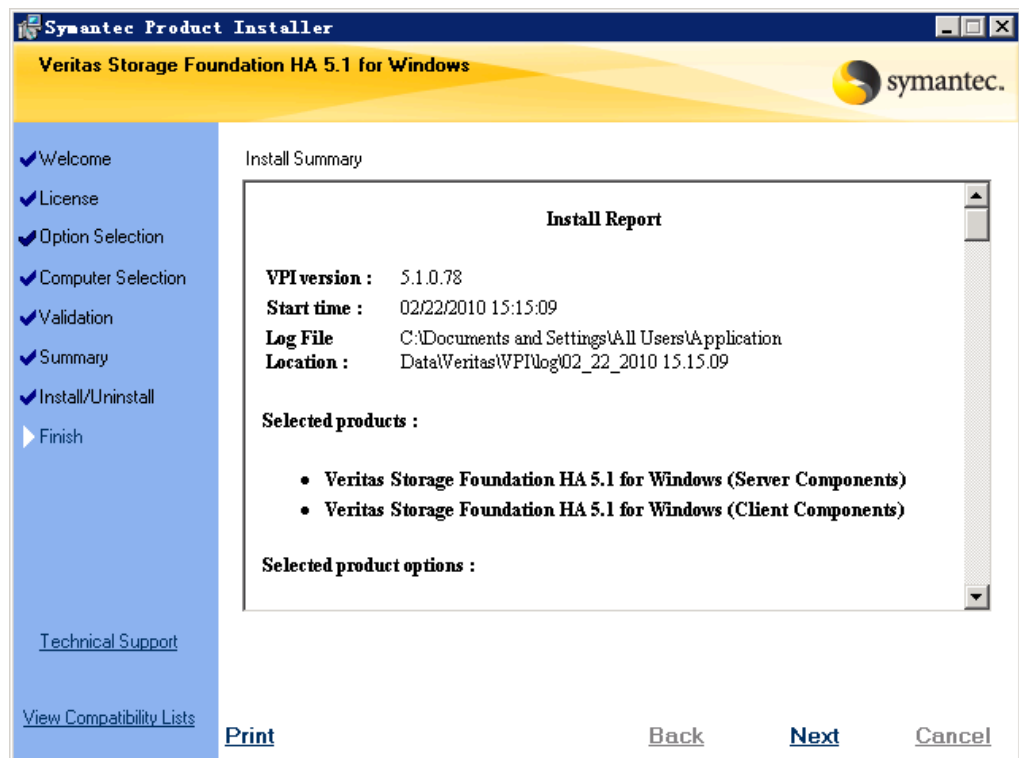


- 10 In the warning dialog box, click **Yes** and then **OK**.
- 11 Confirm the installation information, and then click **Install**.

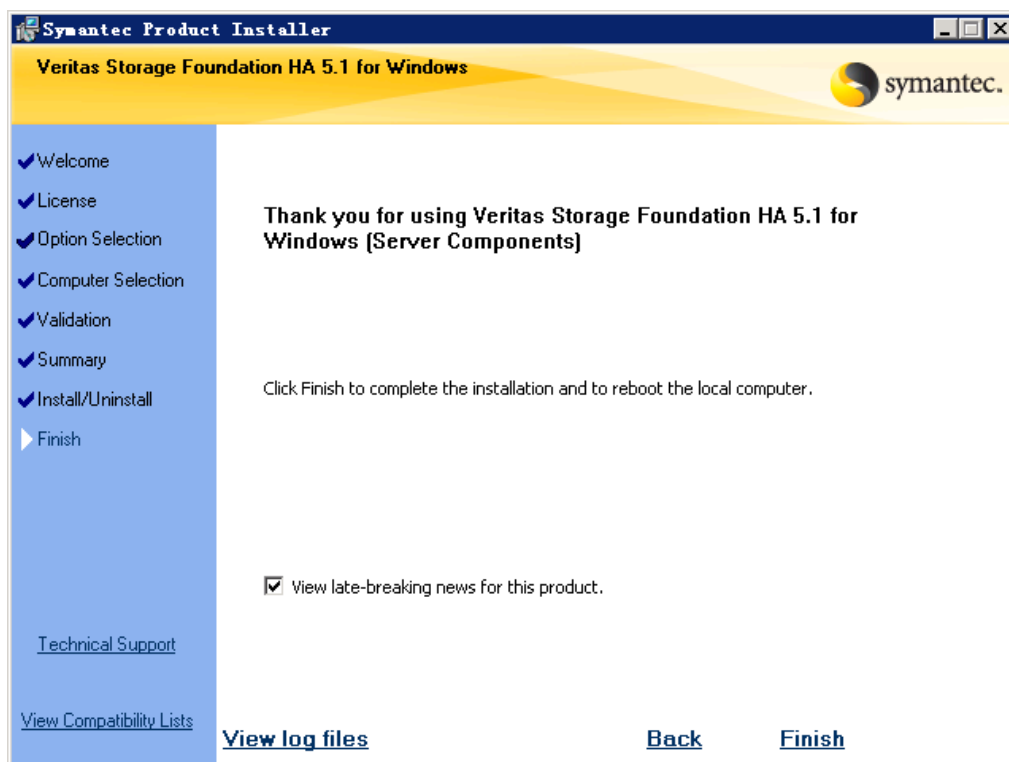


The system displays the installation progress.

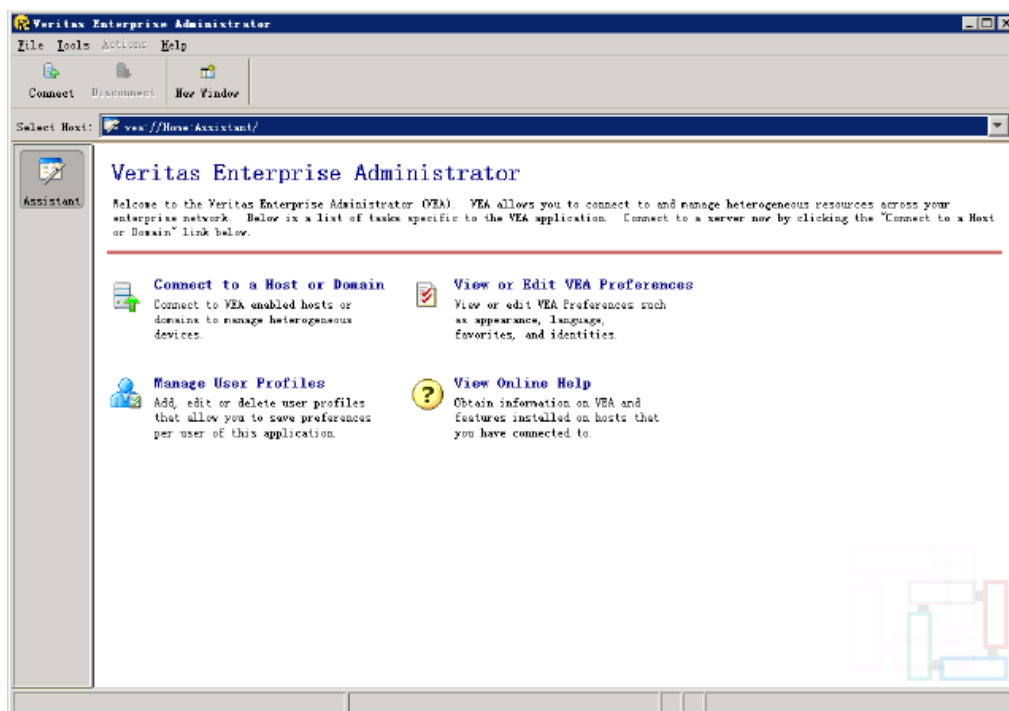
- 12 After the installation is complete, check the installation report. Then, click **Next**.



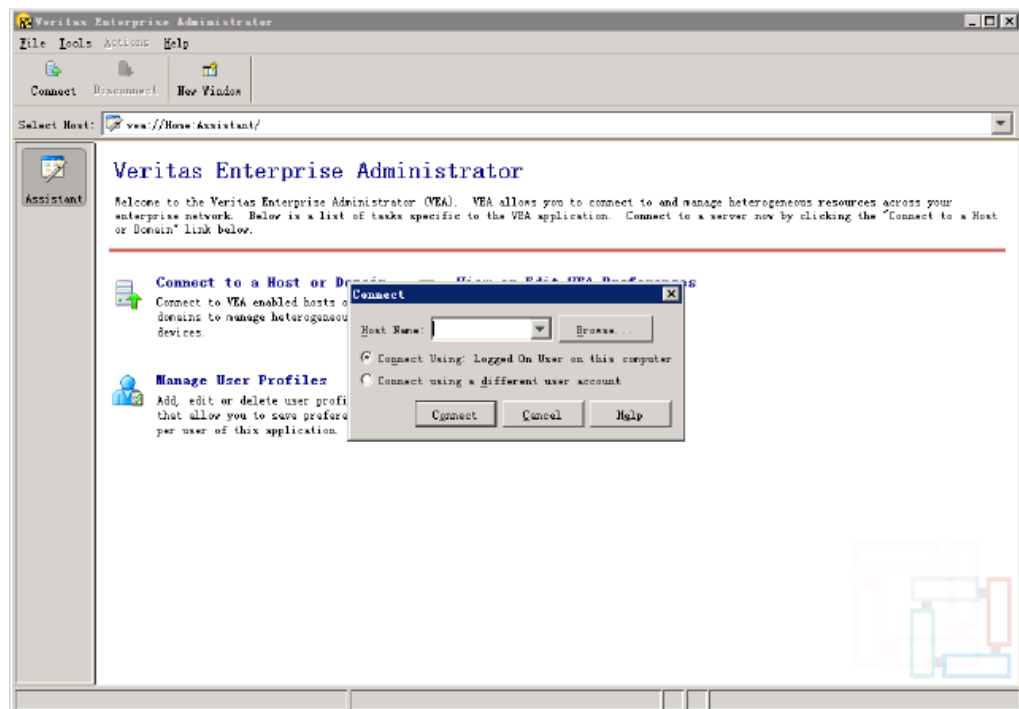
- 13 Click **Finish**.



- 14 In the dialog box prompting you to restart the OS, click **OK**.
- 15 After the OS is restarted, check whether you can log in to the VEA window. Choose **Start > Programs > Symantec > Veritas Storage Foundation > Veritas Enterprise Administrator** to start the VEA. Then, click **OK**.
- 16 In the main window of the VEA, click **Connect to a Host or Domain**.



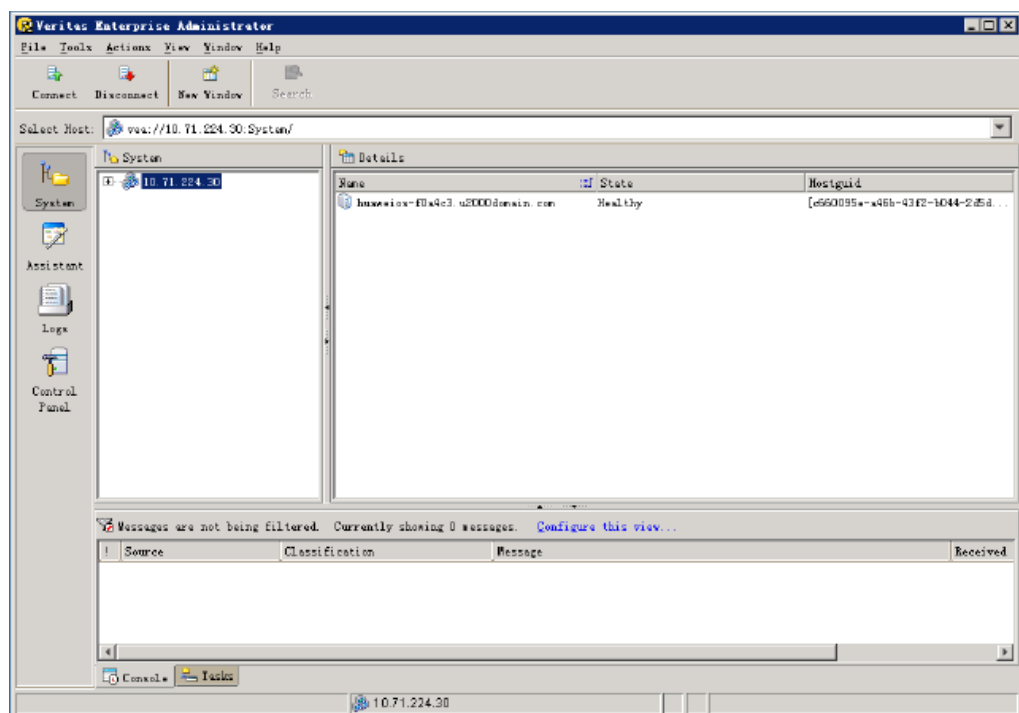
- 17 In the connection dialog box, enter the system IP address in the **Host Name** field. Select **Connect Using: Logged On User this computer**, and then click **Connect**.



NOTE

If a message is displayed asking you to enter a user name and password, enter desired values.

- 18 Click **OK**. The main window of the VEA is displayed, indicating that the installation is complete.



----End

7.2 Configuring Disk Groups and Volumes

This topic describes how to configure disk groups and volumes. The disk groups and volumes must be configured on both the primary site and the secondary site.

7.2.1 Writing Signatures for an External Disk

This topic describes how to write signatures for an external disk. If in Step 2, **Write Signature** is unavailable, it indicates that the current external disk has been signed. Then, skip operations in this topic and proceed with subsequent operations.

7.2.2 Creating a Dynamic (Cluster) Disk Group

This topic describes how to create a dynamic (cluster) disk group. The dynamic (cluster) disk group needs to be configured on both the primary site and the secondary site.

7.2.3 Creating a Veritas Volume

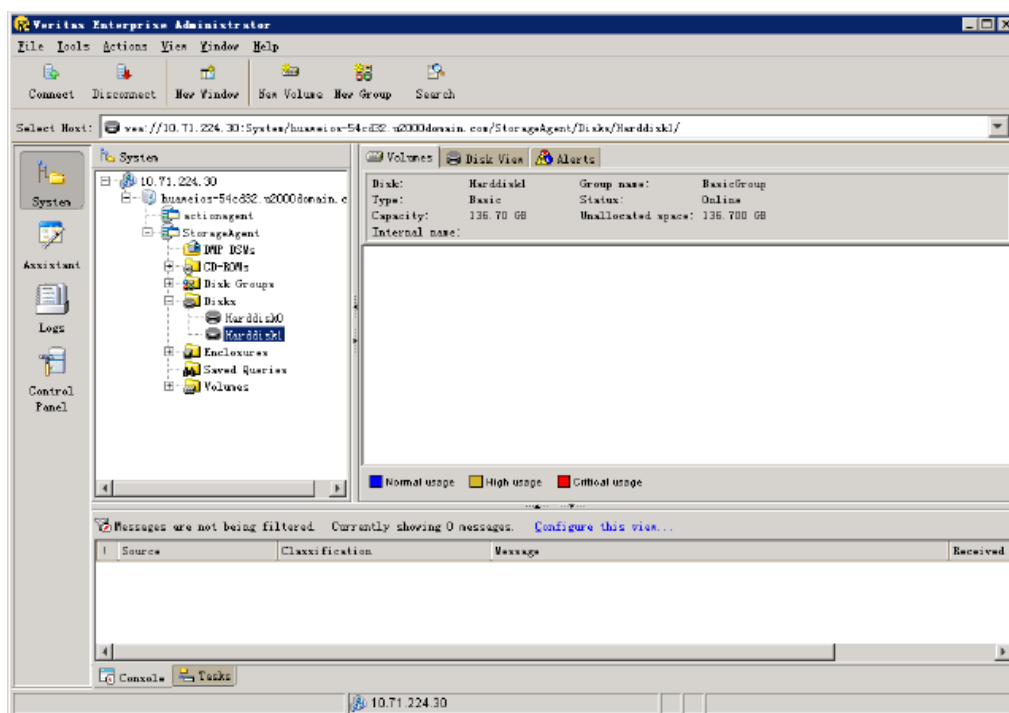
This topic describes how to create a Veritas volume. The Veritas volume needs to be created on both the primary site and the secondary site.

7.2.1 Writing Signatures for an External Disk

This topic describes how to write signatures for an external disk. If in Step 2, **Write Signature** is unavailable, it indicates that the current external disk has been signed. Then, skip operations in this topic and proceed with subsequent operations.

Procedure

- 1 Log in to the main window of the VEA. The external disks that are allocated to the host for the first time can be used only after you have written signatures for them.
- 2 Right-click an external disk to be signed and choose **Write Signature** from the shortcut menu.



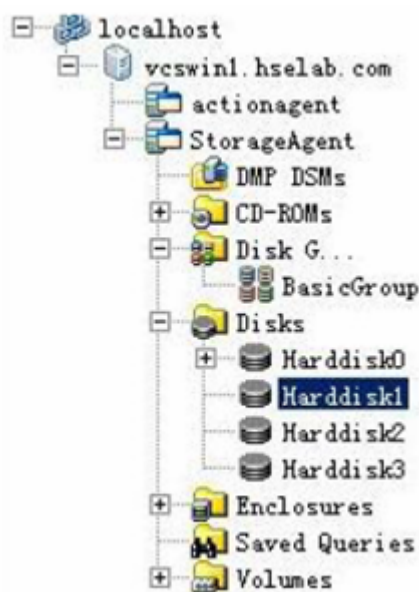
- 3 In the dialog box that is displayed, click **Add all**. Select all external disks to be signed, and then click **OK**. Set the signature type to **MBR** or **GPT** as required.



----End

Result

The following figure shows the signed disk.



7.2.2 Creating a Dynamic (Cluster) Disk Group

This topic describes how to create a dynamic (cluster) disk group. The dynamic (cluster) disk group needs to be configured on both the primary site and the secondary site.

Procedure

- 1 Start the local bus. Run the following command in the CLI:

```
C:\> Vxclus UseSystemBus ON
```

The following information is displayed:

V-77-57616-50026: WARNING: By enabling UseSystemBus you are going to create cluster diskgroup on the disks which are connected to System/Boot bus. Do you want to continue (Y/N)?

Enter **y**, and then press **Enter**.

The following information is displayed:

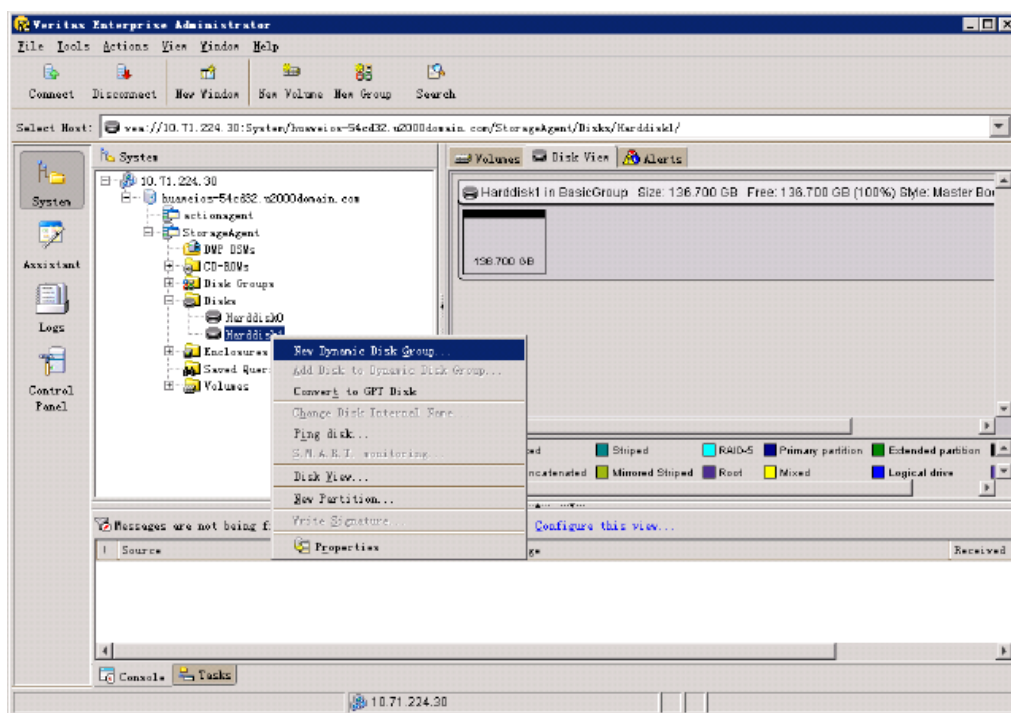
V-77-57616-4046: ***** Enabled UseSystemBus support.

- 2 Access the wizard for creating a new dynamic disk group. Expand a disk group. Right-click the second disk and choose **New Dynamic Disk Group** from the shortcut menu.

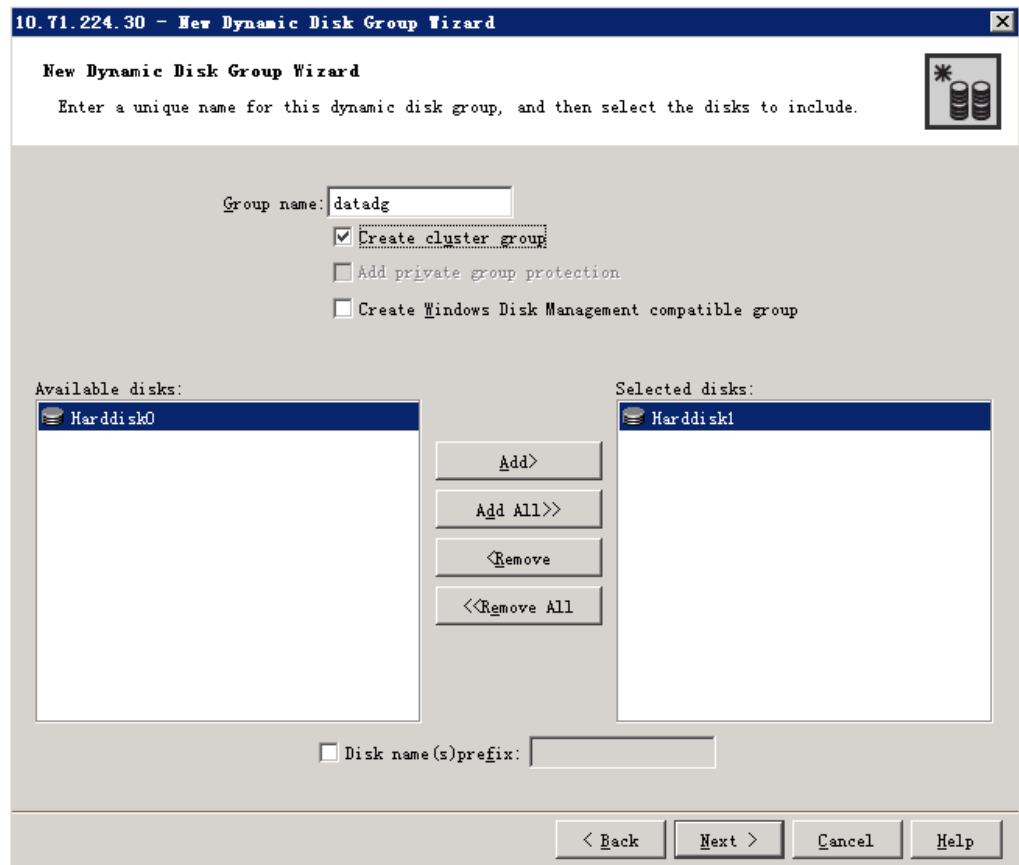


CAUTION

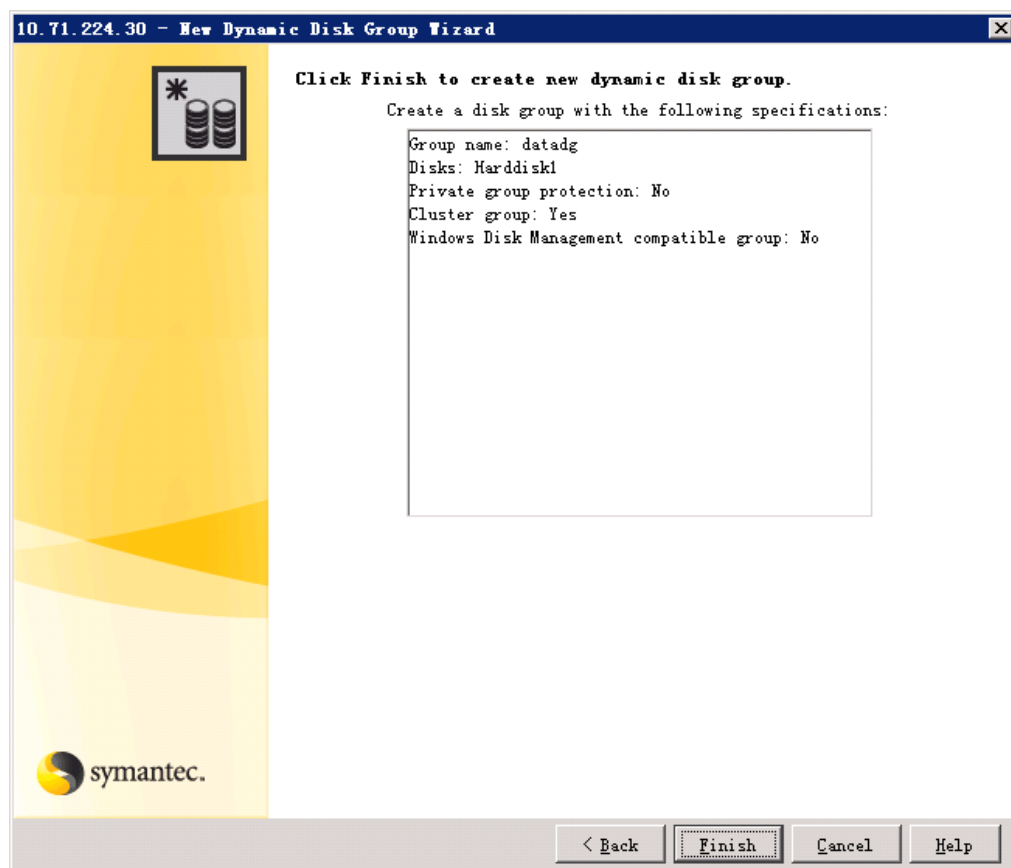
The dynamic (cluster) disk group must be created on the second disk. Do not perform the operation on the first disk.



- 3 On the welcome page that is displayed, click **Next**.
- 4 Set **Group name** to **datadg**. Select the **create cluster group** check box. Then, click **Next**.



- 5 In the dialog box that is displayed, click **Next**.
- 6 Click **Finish** to complete creation of the disk group.



----End

7.2.3 Creating a Veritas Volume

This topic describes how to create a Veritas volume. The Veritas volume needs to be created on both the primary site and the secondary site.

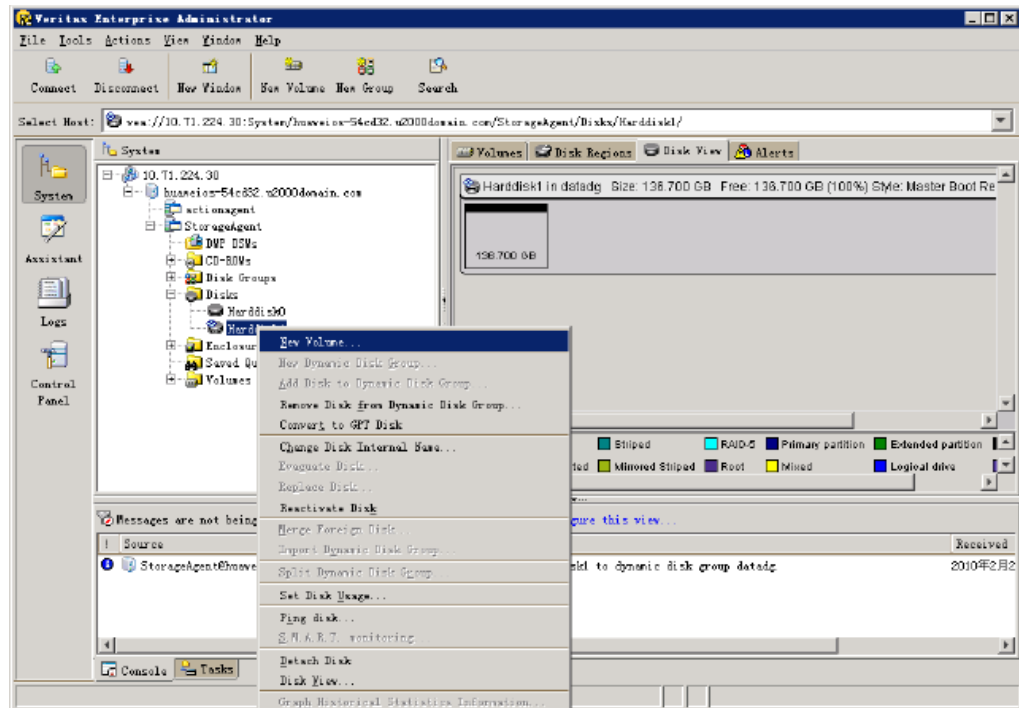
Procedure

- 1 Start the wizard for creating a volume. Expand a disk group. Right-click the second disk and choose **New Volume** from the shortcut menu.

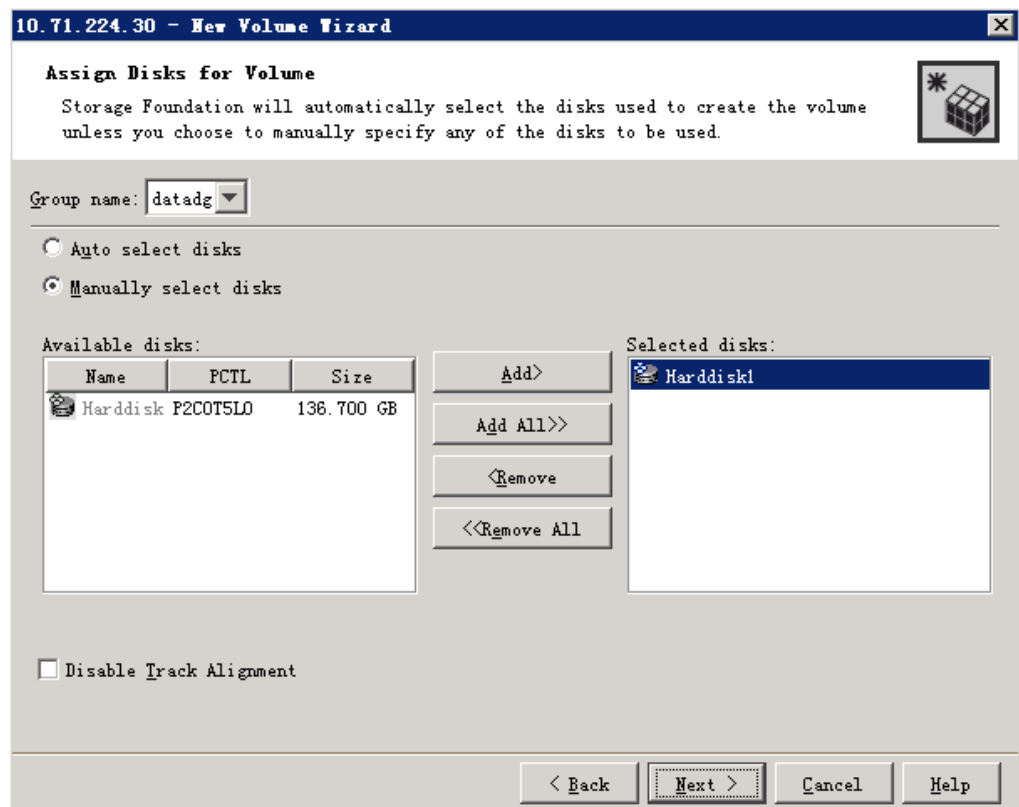


CAUTION

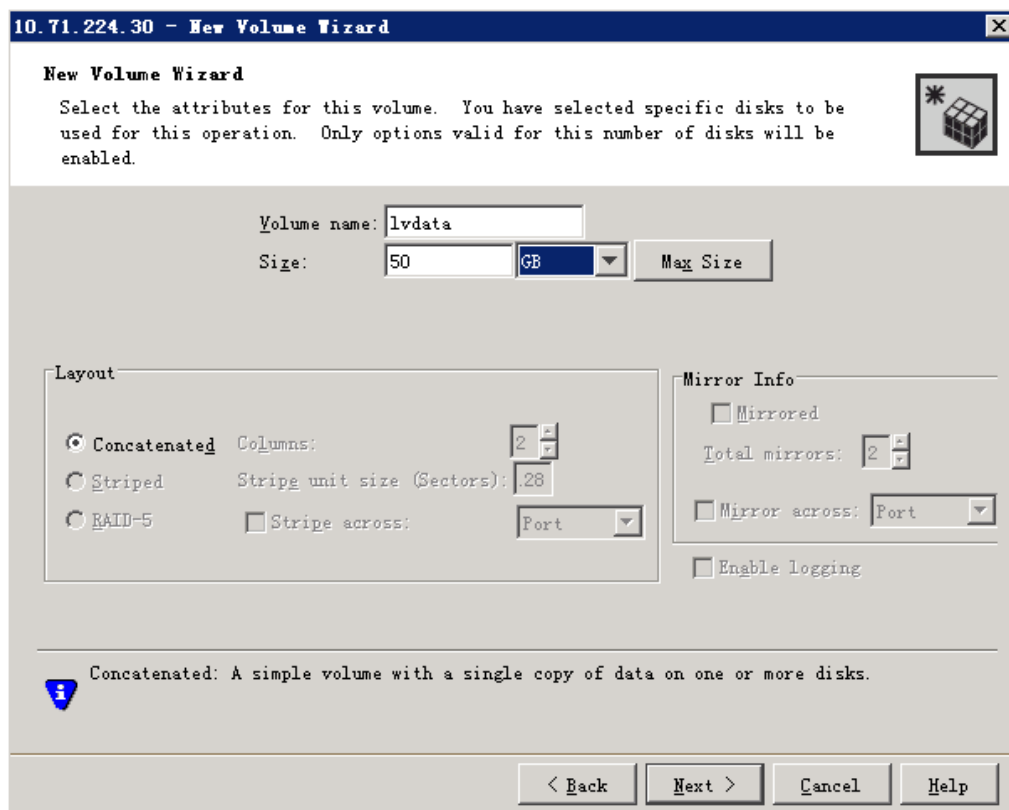
The Veritas volume must be created on the second disk. Do not perform the operation on the first disk.



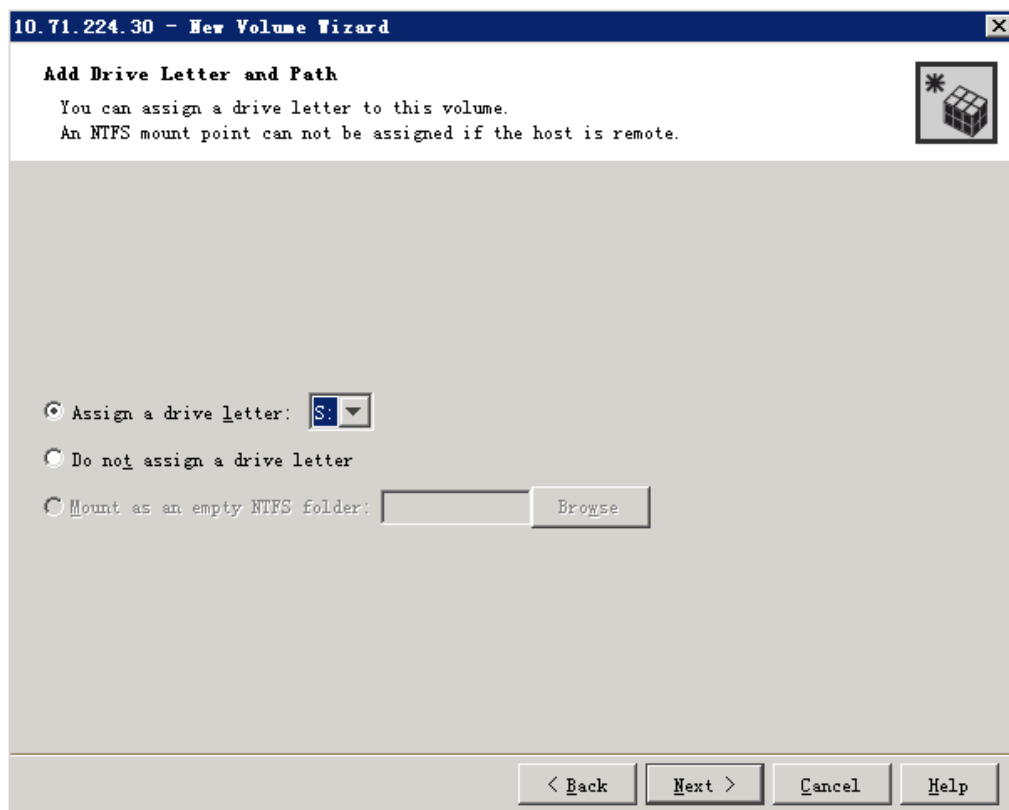
- 2 In the dialog box that is displayed, click **Next**.
- 3 Select a disk for the volume. Make sure that the relevant disk group name is displayed in the **Group name** drop-down list. Click the **Manually select disks** option button. Then, click **Add** or **Remove** to move the required disk to the **Selected disks** list. Click **Next**.



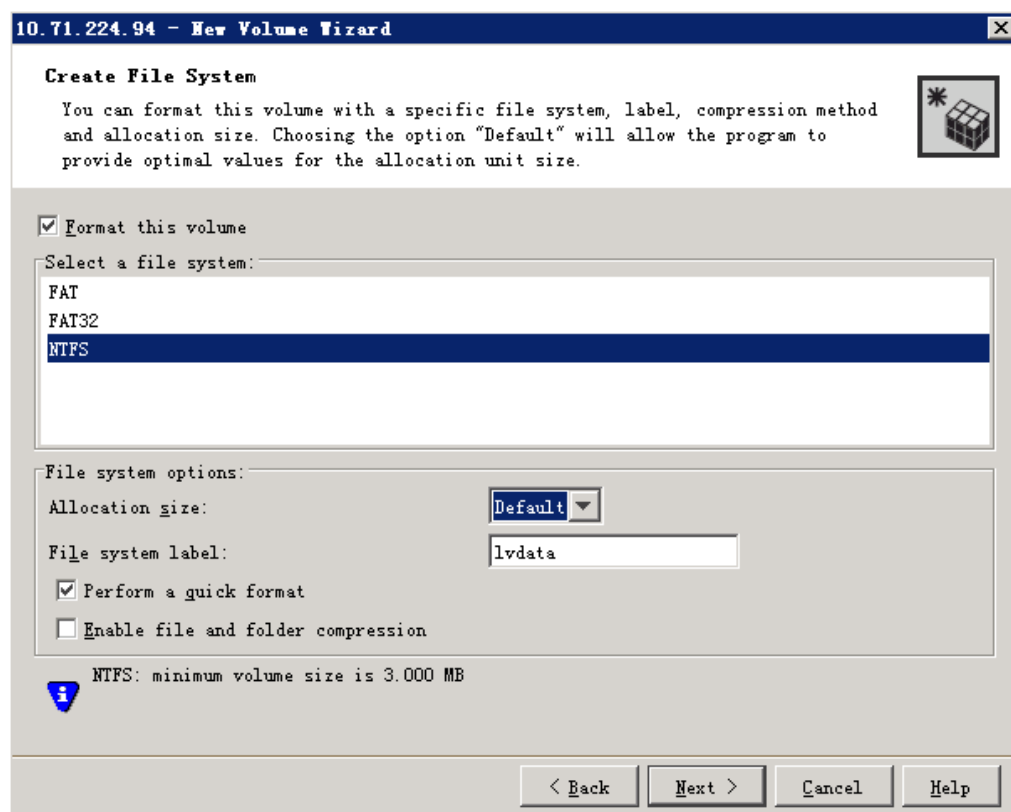
- 4 Set the volume name to **lvdata** and the volume size to **50GB**. Then, click **Next**.



- 5 Click the **Assign a drive letter** option button, and then select **S:** from the drop-down list. Then, click **Next**.



- 6 Set the file type to **NTFS**. Select the **Perform a quick format** check box. Then, click **Next**.



- 7 Click **Finish** to complete creation of the volume.
- 8 Repeat the preceding operations to create another volume, with the volume name being **srl**, the volume size being **3G**, and no drive letter being assigned.
- 9 Create the Data Change Map (DCM) on the new volume. Access a CLI, and then run the following command:

```
C:\> vxassist -g datadg addlog lvdata logtype=DCM nlog=1
```

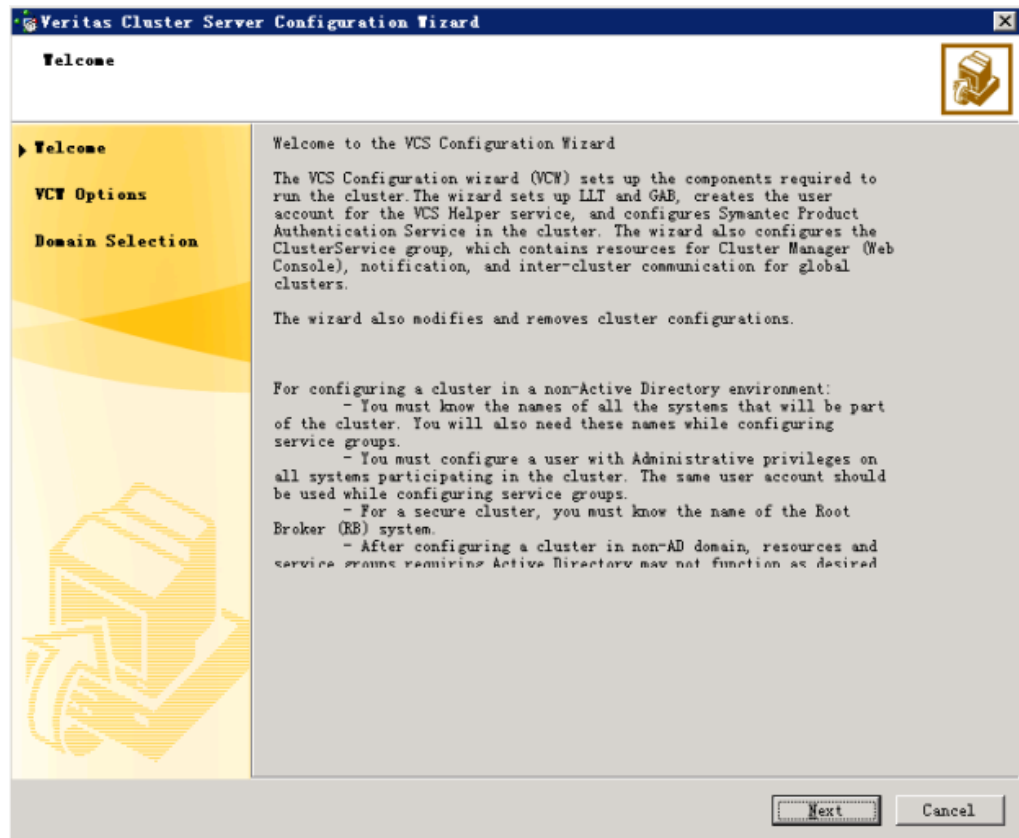

----End

7.3 Configuring a Cluster

This topic describes how to configure a cluster. The cluster needs to be configured on both the primary site and the secondary site.

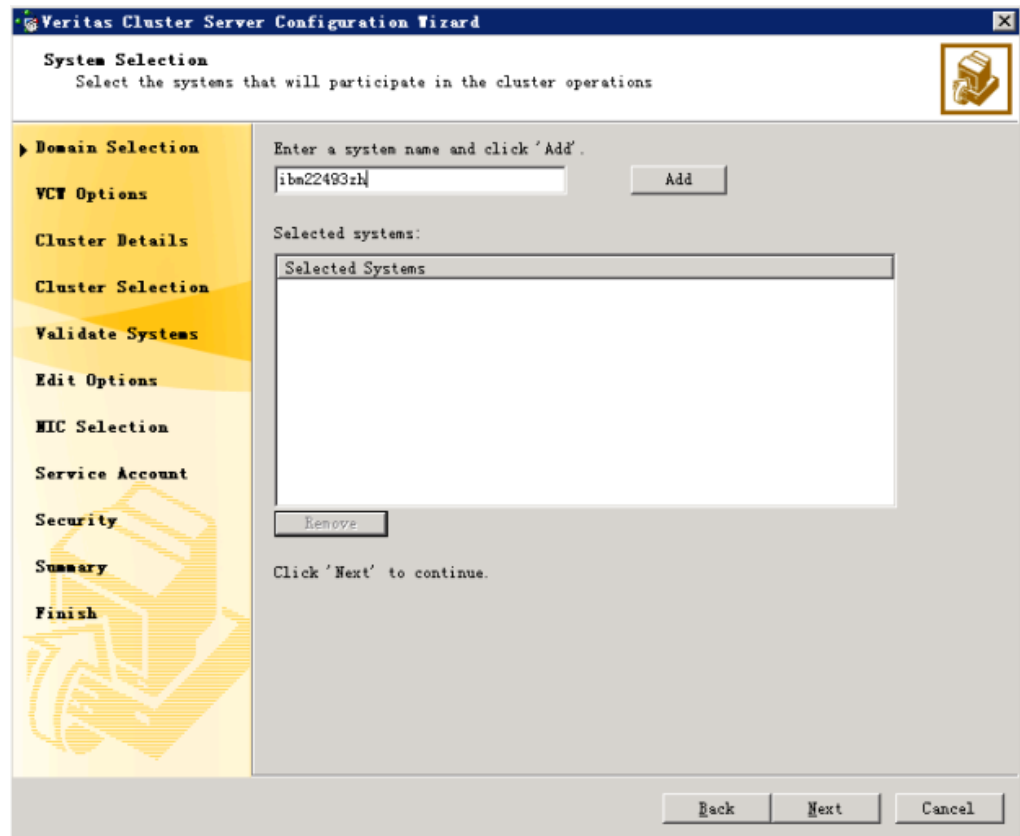
Procedure

- 1 Choose **Start > Run**. Enter **cmd**, and then press **Enter**.
- 2 In the CLI, enter **vcw -nonad**, and then press **Enter**.
- 3 Click **Next**.

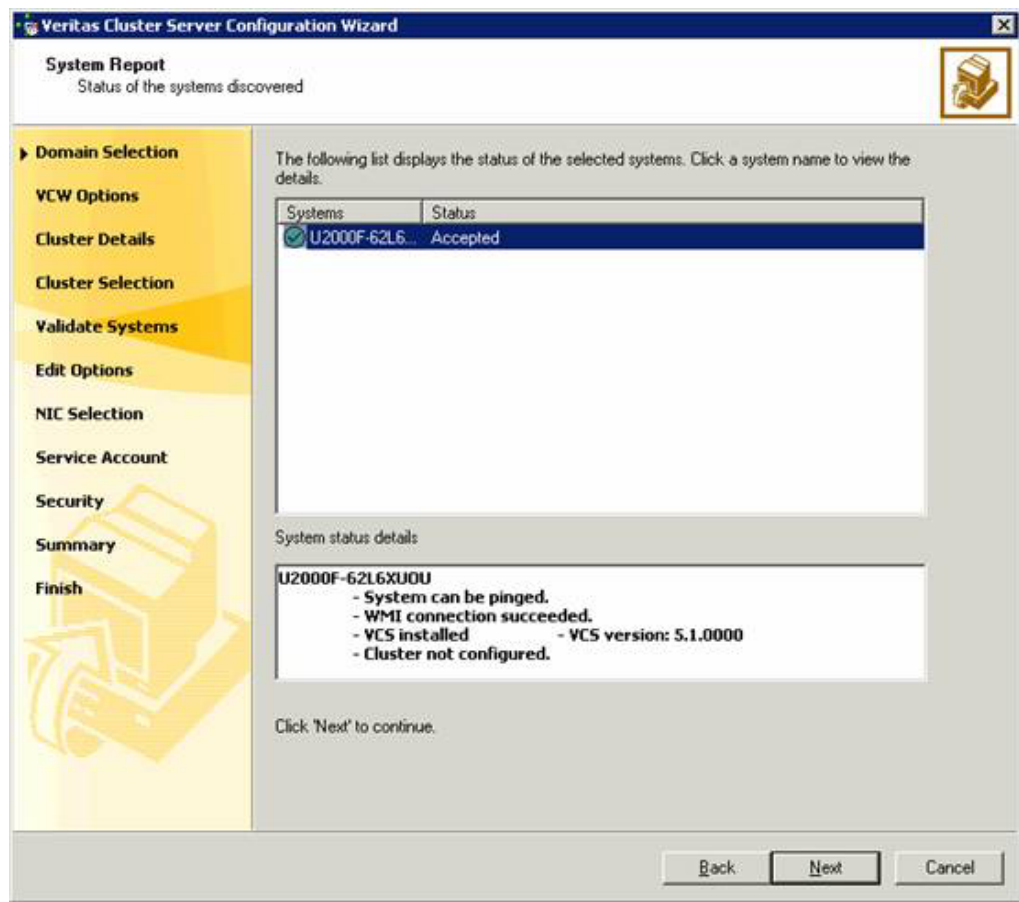


4 Enter a host name, click **Add**, and then click **Next**.

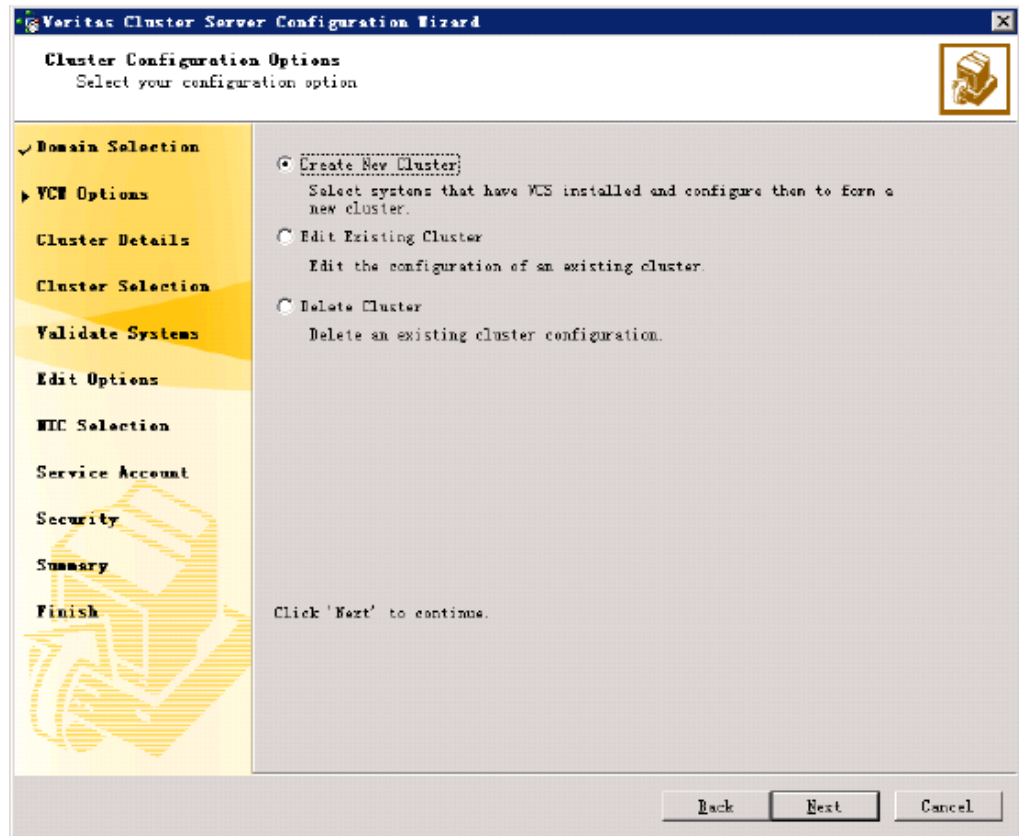
For restrictions on host names, see [3.4 Collecting Installation Information](#).



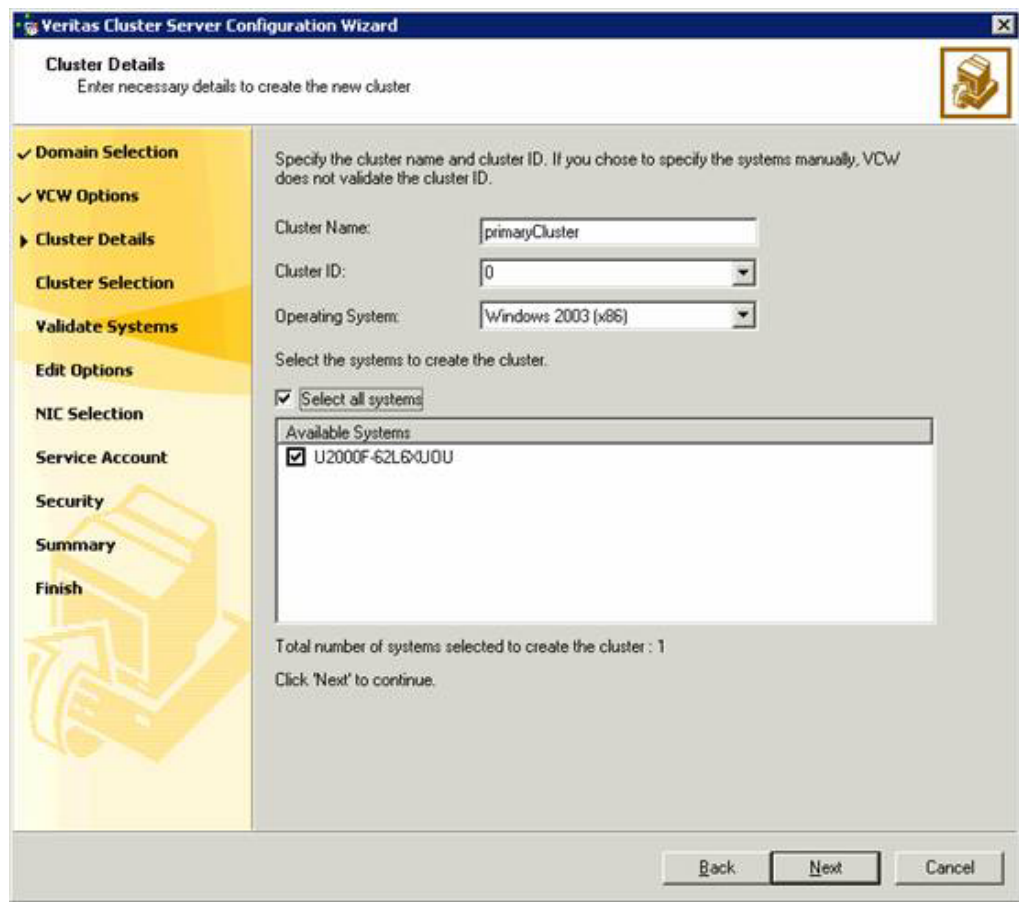
5 Click Next.



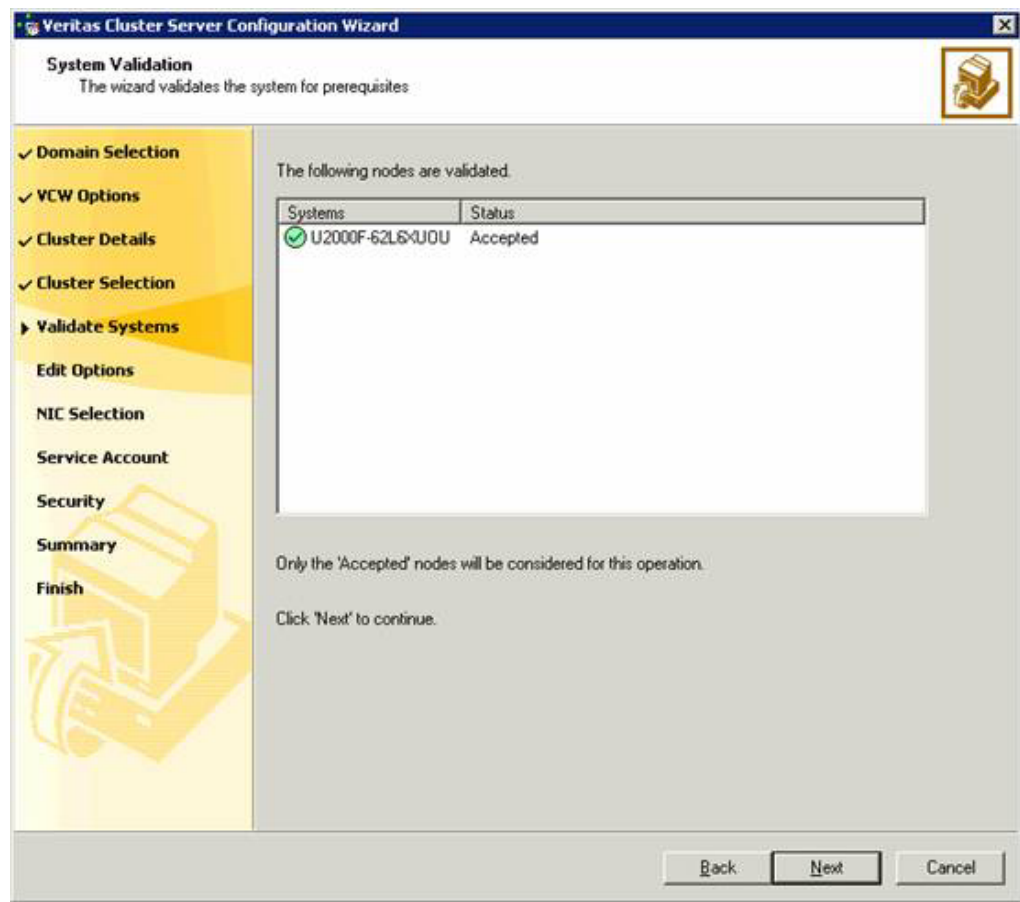
- 6 In the dialog box that is displayed, select **Create New Cluster**, and then click **Next**.



- 7 Set **Cluster Name** to **primaryCluster** for the primary site. Set **Cluster Name** to **secondaryCluster** for the secondary site. Select **Select all system**. Then, click **Next**.



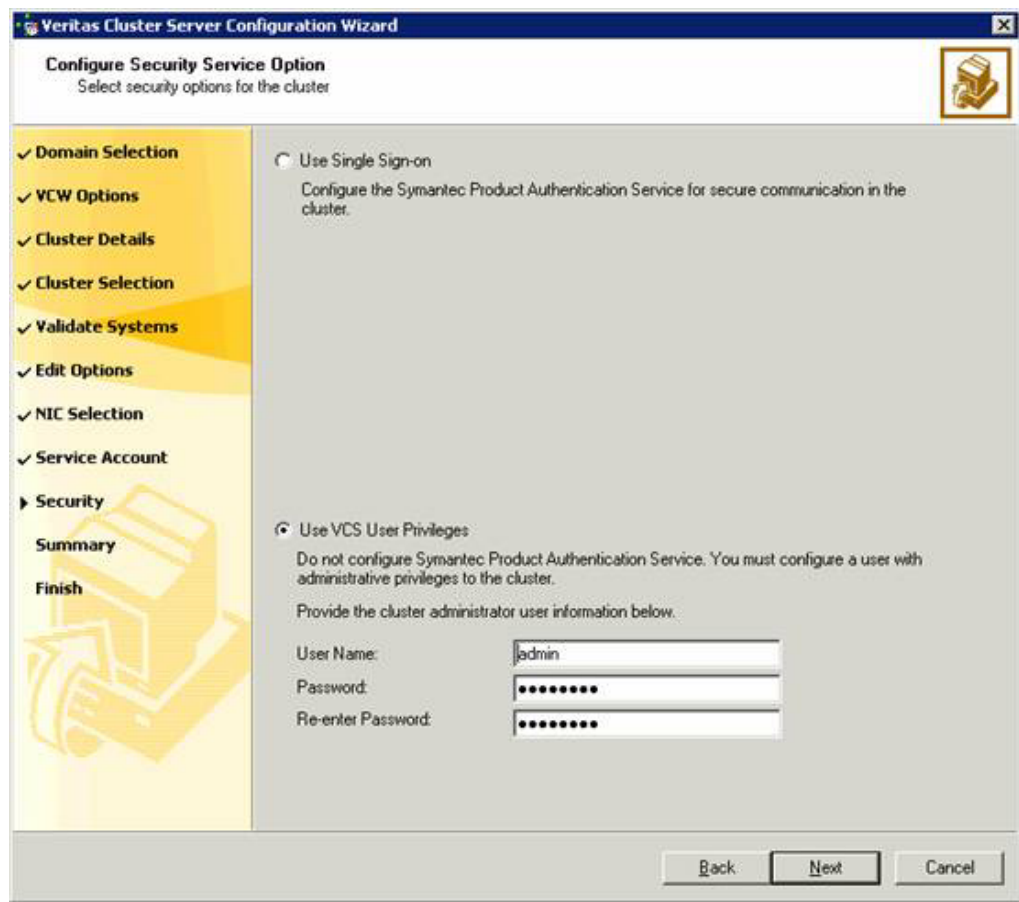
8 Click **Next**.



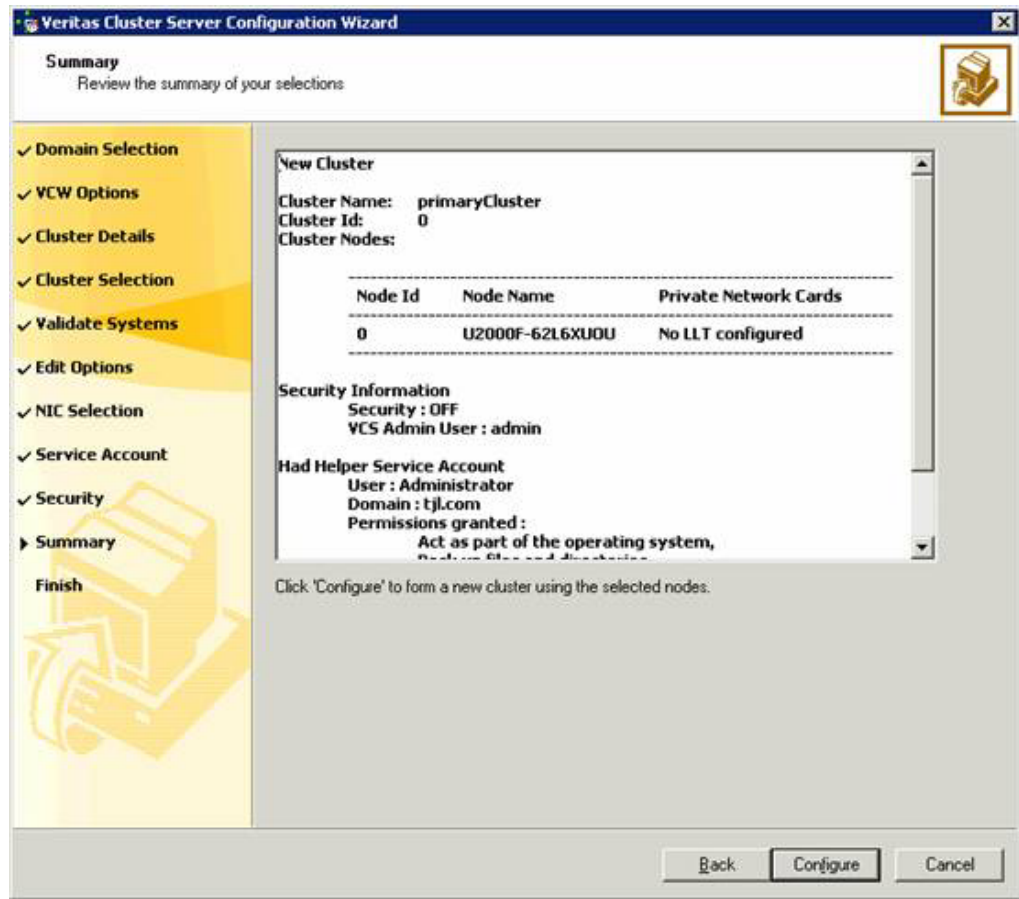
- 9 In the dialog box that is displayed, click **OK**.
- 10 Click the **Use VCS User Privileges** option button. Adopt default values for other parameters. Then, click **Next**.

 NOTE

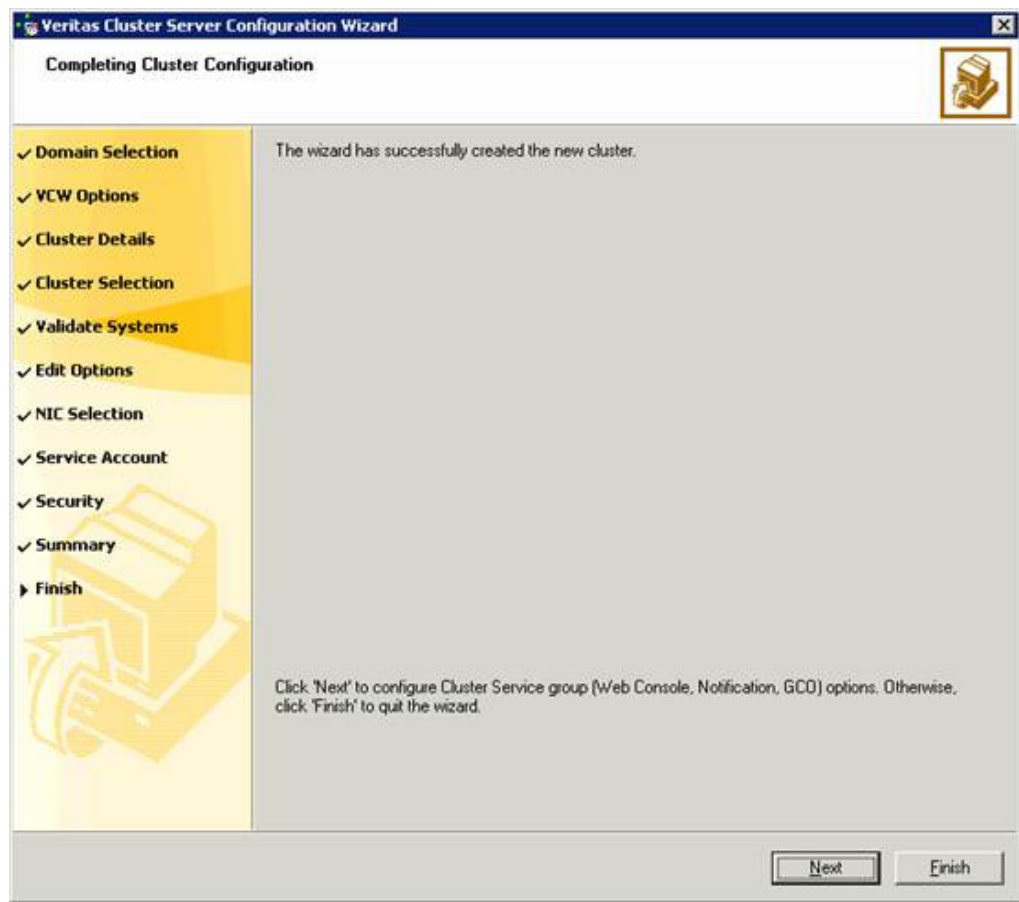
By default, the user name and the password of the VCS are **admin** and **password**.



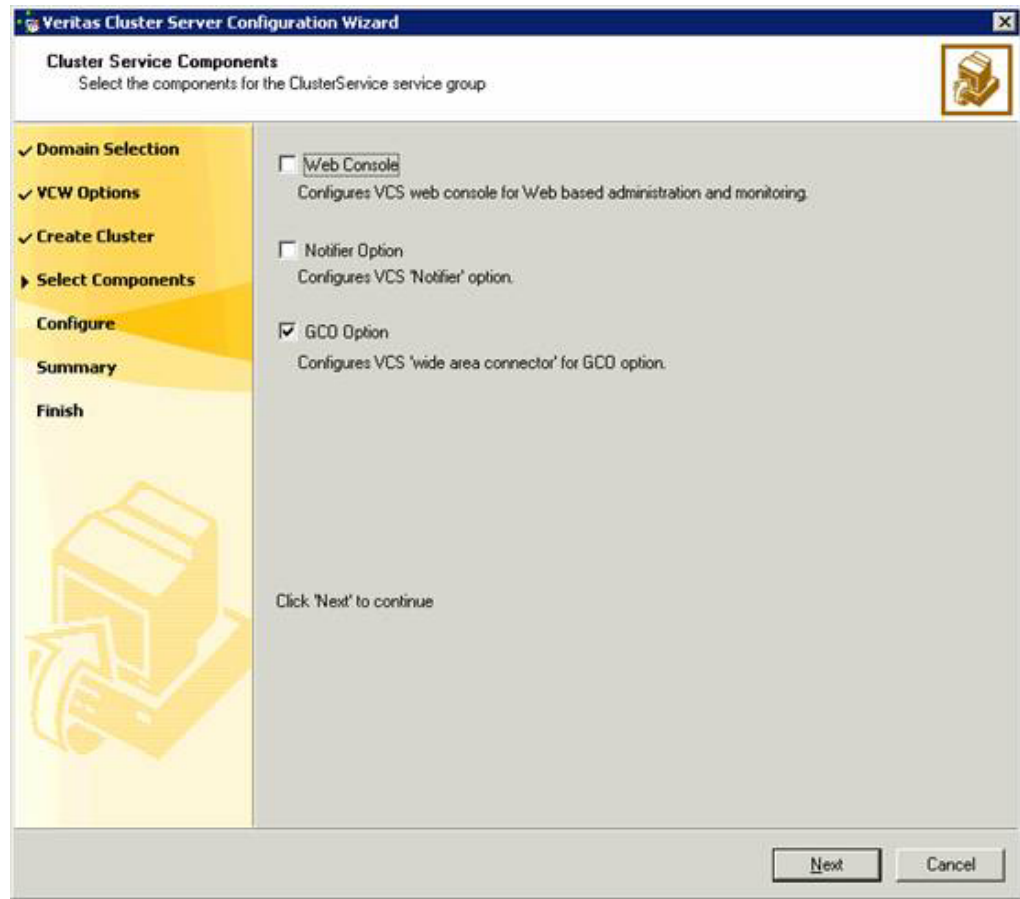
11 Click **Configure**.



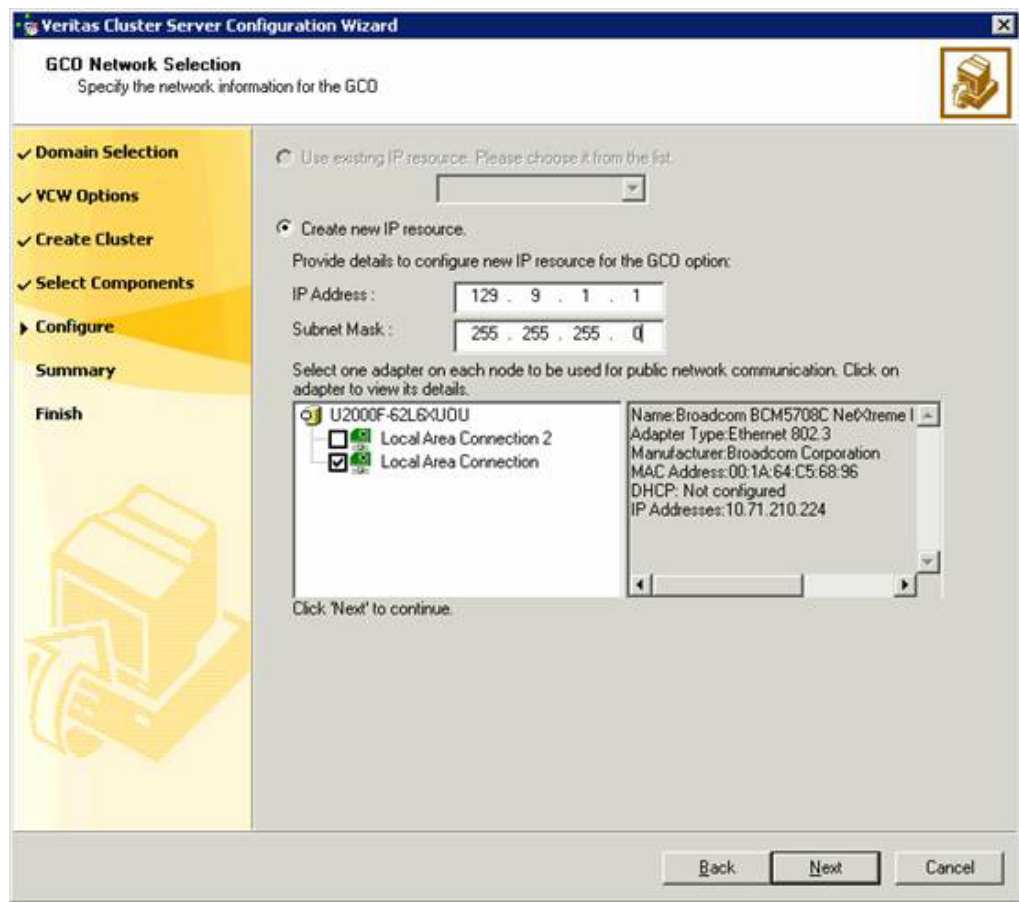
12 Click Next.



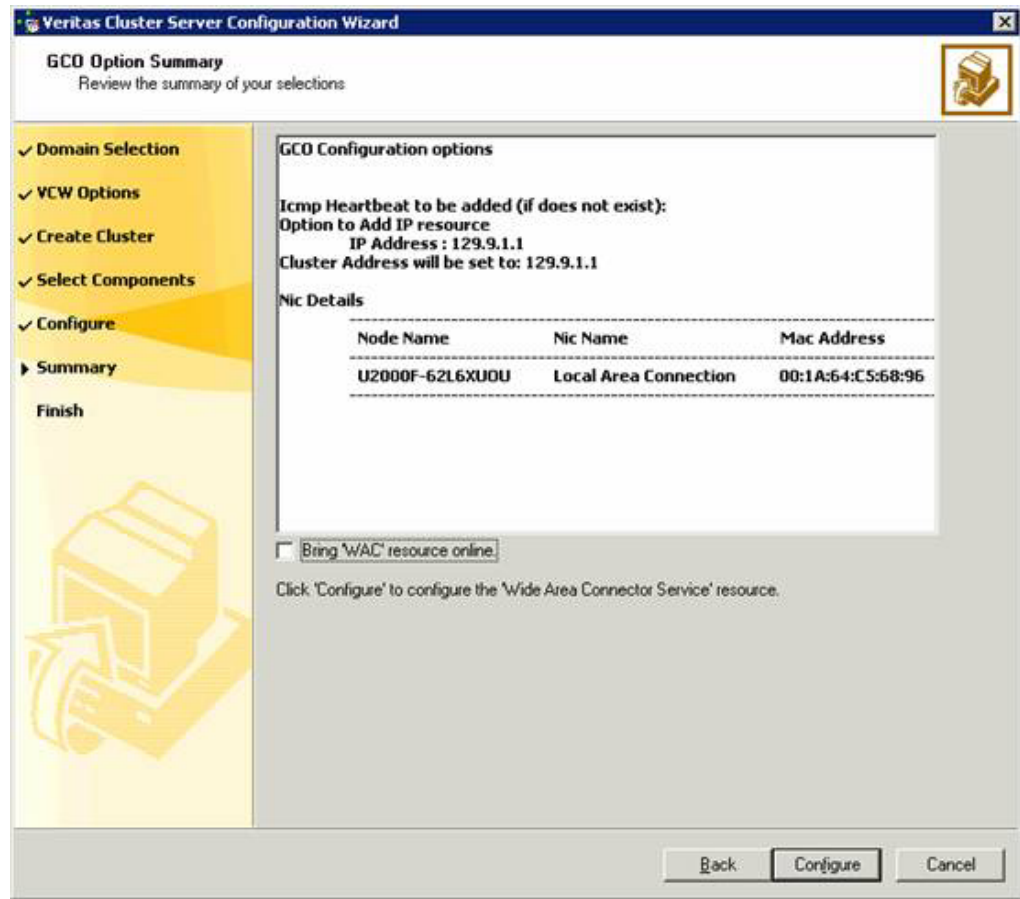
- 13 Clear the selection of **Web Console** and select **GCO Option**. Then, click **Next**.



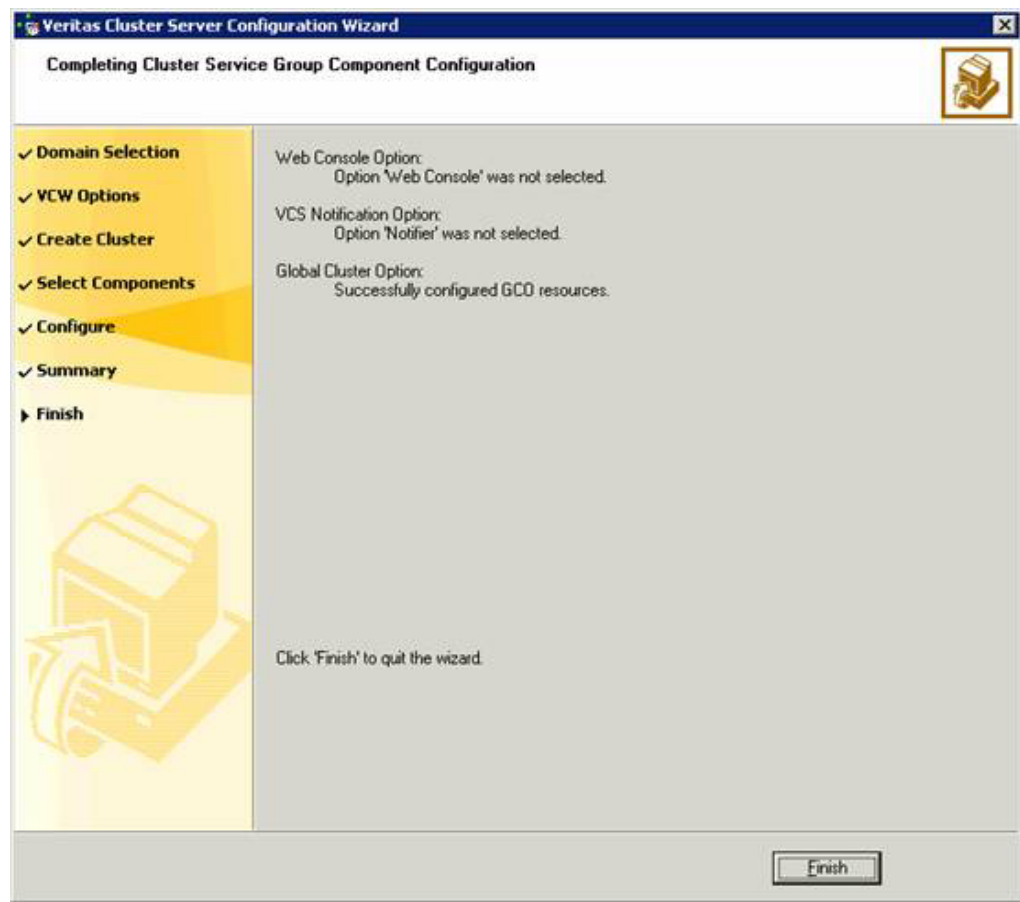
- 14 Select the primary network interface card (NIC) of the system. Enter a virtual IP address and a subnet mask. Then, click **Next**.



15 Click **Configure**.



16 Click **Finish** to complete configuration of the cluster.



----End

8 Installing the U2000 Server

About This Chapter

This topic describes the software that must be available before U2000 server installation and how to install the software.

[8.1 Obtaining Installation Software](#)

This topic describes how to obtain installation software. Ensure that the installation DVD or software package for the U2000 server and database is on-hand.

[8.2 Pre-installation Check](#)

This topic describes the checks that need to be performed before you install the U2000 on Windows OS.

[8.3 Starting the U2000 Installation Program](#)

This topic describes how to install U2000 server software at the primary and secondary sites.

8.1 Obtaining Installation Software

This topic describes how to obtain installation software. Ensure that the installation DVD or software package for the U2000 server and database is on-hand.

Context

The U2000 can be installed by using software packages or installation DVDs. To install the U2000 by using software packages, perform the following operations to upload software packages to the server and then decompress them.



CAUTION

Installation DVD

- Windows OS patch: U2000`version`_server_ospatch_win32_x86_dvd1
- SQL Server standard edition (installing the database in the Windows Server 2003 OS): U2000`version`_server_dbstd_win32_x86_dvd2
- U2000 software: U2000`version`_server_nms_win32_x86_dvd3

Installation Package

To install the U2000 using software packages, visit <http://support.huawei.com> to download the required software packages.

Perform the following operations: Visit <http://support.huawei.com> and choose **Software Center > Version Software > Network OSS&Service > iManager U2000 > iManager U2000 > iManager U2000 V100R002 > iManager U2000 V100R002C01**.

- Windows OS patch: U2000`version`_server_ospatch_en_win32_x86.zip
- SQL Server standard edition (installing the database in the Windows Server 2003 OS): U2000`version`_server_dbstd_en_win32_x86.zip



NOTE

The database software package U2000`version`_server_dbper_en_win32_x86.zip must be on-hand for installation engineers to install the U2000 on Windows XP.

- Basic components: U2000`version`_server_nmsbase_win32_x86.zip
- Core components: U2000`version`_server_nmscore_win32_x86.zip
- Transport domain component (optional). Prepare this component if managing transport or PTN equipment: U2000`version`_server_nmstrans_win32_x86.zip
- IP domain components (optional). Prepare these components if managing routers, switches, or security equipment: U2000`version`_server_nmsip_win32_x86.zip
- Access domain components (optional). Prepare this component if managing access equipment: U2000`version`_server_nmsaccess_win32_x86.zip

8.2 Pre-installation Check

This topic describes the checks that need to be performed before you install the U2000 on Windows OS.

Prerequisite

The U2000 server is powered on.

Procedure

- 1 Check whether the database has been installed. If the SQL Server database has not been installed, the server software automatically installs the SQL Server database.

1. Choose **start > Programs**.
2. Check whether the **Microsoft SQL Server** program exists. If the program exists, the database has been installed.

If the SQL Server database has been installed, check whether the database is installed in binary mode. For details, see [A.3.6 How to Check Whether the SQL Server Database Can Be Sorted in Binary Mode](#).

If the database is not installed in binary mode, the U2000 fails to install. In this case, uninstall the database. For details, see [A.3.8 How to Manually Uninstall the SQL Server Database](#).

3. Ensure that the current database version meets U2000 installation requirements. For details, see [3.1 Configuration Requirements](#).
4. Run the following command to check whether the **isql** command can be executed:

```
C:\> isql -Usa -Psa password -Sdatabase name
1>
```

If **1>** is displayed, the database can be accessed. Then, run the **quit** command.

5. Run the following commands to check whether the **bcp** command can be executed:
- ```
C:\> bcp master..sysdatabases out -Usa -Psa password -Sdatabase name -oD:\test.txt -c
```

Verify that the **test.txt** file is generated in disk D and check contents in the file. If replication data is displayed, the **bcp** command can be executed.

If the preceding requirements are met, ensure that the database is running. During U2000 installation, a message is displayed asking you whether to reuse the database. In this case, reuse the database. If the SQL Server database has not been installed, the U2000 server software automatically installs the SQL Server database.

- 2 Check whether the current server uses terminal server components.



### CAUTION

If the current server uses terminal server components, the U2000 installation will fail.

---

1. Open the **Control Panel**. In **Control Panel**, double-click **Add or Remove Programs**.

2. In the **Add or Remove Programs** dialog box, click **Add/Remove Windows Components** in the left pane.
3. In the **Windows Components Wizard** dialog box, confirm that the **Terminal Server** check box is not selected.

----End

## 8.3 Starting the U2000 Installation Program

This topic describes how to install U2000 server software at the primary and secondary sites.

### Prerequisite

- The installation software is on-hand. For details about how to obtain the installation software, see [8.1 Obtaining Installation Software](#).
- Pre-installation checks have been completed. For details about how to perform pre-installation checks, see [8.2 Pre-installation Check](#).

### Context

- Ensure that the server system time is correctly set. Stability of the server system time is critical to the U2000. Do not modify the system time while the system is running.
- In the installation process, the installation program needs to start certain services of a network adapter. Thus, the network adapter must be connected to the network; otherwise, the U2000 server cannot be installed.
- After the U2000 has been installed, to prevent the database from being suspended, install the SQL2000-KB916287-v8.00.2187 patch. For details, see [14](#).
- If the U2000 software has been installed, the client is also installed on the server.

### Procedure

- 1 Run the **install.bat** file to start U2000 installation, as follows:

- Mode 1: Installation with a DVD

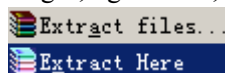
 **NOTE**

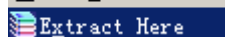
If no database has been installed on the OS, insert a database installation DVD and copy the contents on the DVD to a path, such as C:\SQLServer, on the local hard disk. During installation, a message will be displayed prompting you for the path for installing the database.

1. Insert a U2000 installation DVD into the DVD-ROM. Double-click the **install.bat** file in the root directory of the installation disk.
2. The dialog box for installing the U2000 MSuite is displayed. Wait 5 to 10 minutes. The **Copyright Notice** dialog box will be displayed.

- Mode 2: Installation with a software package:

1. Decompress all installation packages into the same directory. Use the WinRar software for an example. Select all the packages, right-click, and then choose **Extract Here** from



the shortcut menu, as shown in .



## CAUTION

Do not obtain or decompress client installation packages. Otherwise, a message will be displayed indicating that the U2000 server software fails to be installed.

If the U2000 is to be installed on Windows XP OS, the database package to be decompressed is **U2000version\_server\_dbper\_en\_win32\_x86.zip**.

There is no requirement on the decompression sequence of software packages. It is required that the installation software be decompressed to an NT file system (NTFS) partition. If the corresponding partition does not use the NTFS, convert it to an NTFS partition before decompressing the installation package. For details, see [A.1.2 How to Convert the File System Type to NTFS](#).

The installation path, including the installation package path and the U2000 installation path, can contain only letters, digits, and underscores (\_). The installation path cannot contain spaces or brackets; otherwise, the installation fails.

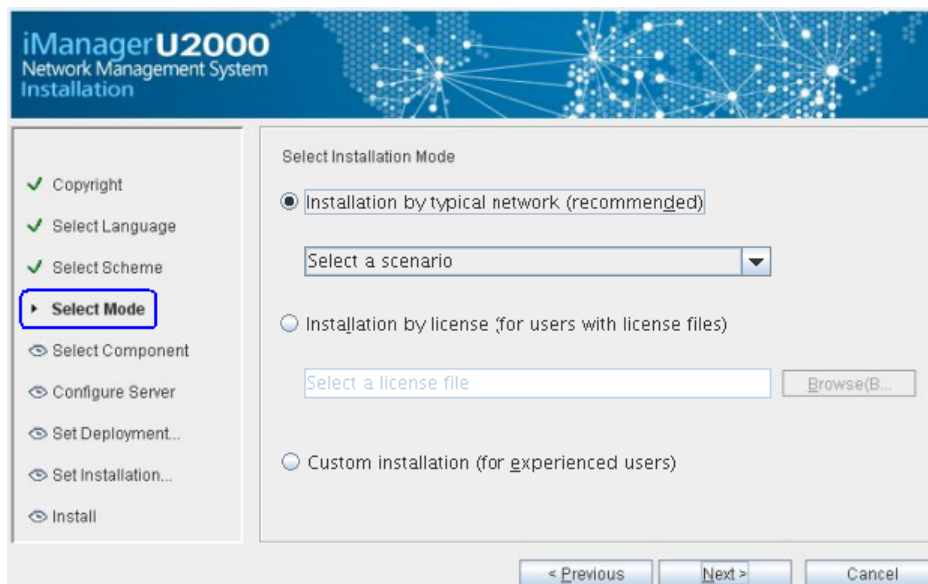
2. Double-click the **install.bat** file in the directory of the software package.
3. The dialog box for installing the MSuite is displayed. Wait 5 to 10 minutes. The **Copyright Notice** dialog box will be displayed.



### NOTE

Read the installation license agreement carefully. If you accept the agreement, click the **I accept these terms** option button.

- 2 Click **Accept these terms**, and click **Next** to continue. The **Select Language** dialog box will be displayed.
- 3 Select a language, such as **English**, and click **Next**. The **Select Scheme** dialog will be displayed.
- 4 Select **Veritas Hot Standby HA System**, and click **Next**. The **Select Installation Mode** dialog box will be displayed.



- Select **Installation by typical network**. Then, select a scenario from the drop-down list according to the type of the equipment to be managed.

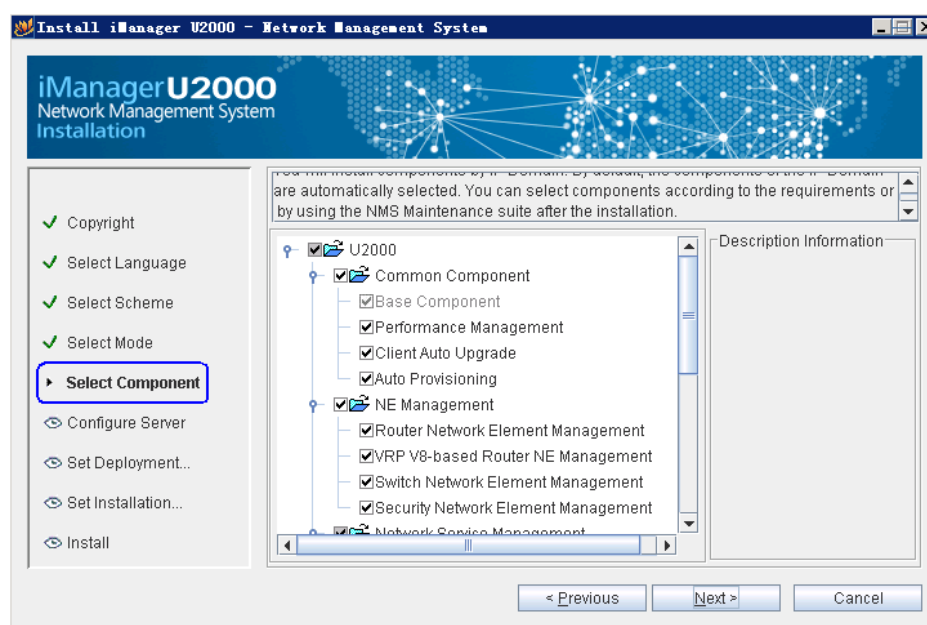
- Select **Installation by license**. Then, click **Browse** to select the license file that has already been applied for and issued.
- Select **Custom installation**.

 **NOTE**

Any of the following methods can be used to install the U2000:

- **Installation by typical network**: Choose the desired scenario according to the type of the equipment to be managed. The U2000 software provides common scenarios. This method is recommended in situations where the license file is not on-hand.
- **Installation by license**: This method is recommended if the license is on-hand.
- **Custom installation**: This method is applicable to advanced users familiar with managing the network and U2000. This method is also recommended in the event that the license file is on-hand and the common scenarios provided by the U2000 software are insufficient.

- 5 Click **Next**. The **Component** dialog box will be displayed.



- If you select **Installation by typical network**, the software selects the components to be installed according to the conditions at your site.
- If you select **Installation by license**, the software selects the components to be installed according to the license file.
- If you select **Custom installation**, the software selects the components to be installed according to the type of the equipment to be managed.



**CAUTION**

Components and instances installed on the primary and secondary sites must be the same.

- 6 Click **Next**. The **Configure Server** dialog box will be displayed.  
Set the installation path. For example, **d:\U2000**.



**NOTE**

To modify the server, select the server and click **Modify**. Then, modify server parameters in the dialog box that is displayed.

If there are multiple IP addresses existing on the server, the system cannot automatically obtain IP addresses. In this case, modify the server parameters. Specifically, set IP addresses to that for external communication.

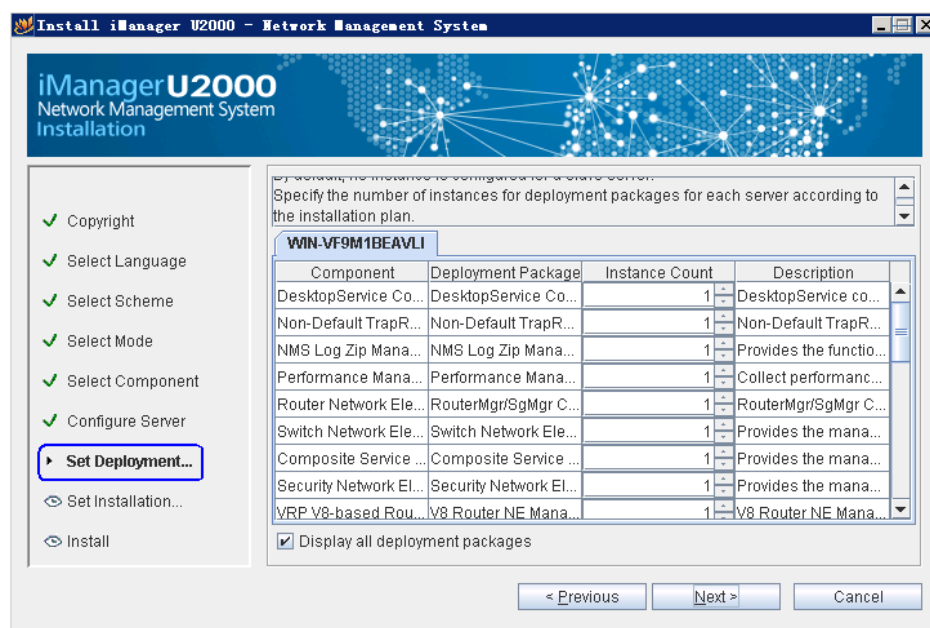
The installation path, including the installation package path and the U2000 installation path, can contain only letters, digits, and underscores (\_). The installation path cannot contain spaces or brackets; otherwise, the installation fails.

**7 Click Next.** The **Deployment Parameters** dialog box will be displayed.



**NOTE**

If the **d:\U2000** path does not exist, the **Confirm** dialog box will be displayed. Click **Yes** to create the **d:\U2000** path.



- You can modify the number of instances only for components with **single-server multi-instance**.
- Limited by the port quantity, a maximum number of 25 instances can be deployed for the transport domain in the single-server multi-instance deployment mode.
- To use the CORBA northbound interface (NBI), XML NBI, SNMP NBI, and text NBI, instances must be added by using the Network Management System Maintenance Suite after installing the desired NBIs.
- If the size of the server memory is 16 GB, set the instance quantity of **DeskTop Service Component** to 2.

**8 Click Next.** The **Version Style** dialog box will be displayed.



**NOTE**

The following is an example of the differences between the two styles:

- For the default style, alarms are displayed in the following descending order of severity: **Critical**, **Major**, **Minor** and **Warning**.
- For the North America style, alarms are displayed in the following five levels in descending order of severity: **Critical**, **Major**, **Minor**, **Not Alarmed** and **Not Reported**.

**9 Select a style, such as Default Style, and click Next.** The **Configure Parameter** dialog box will be displayed.

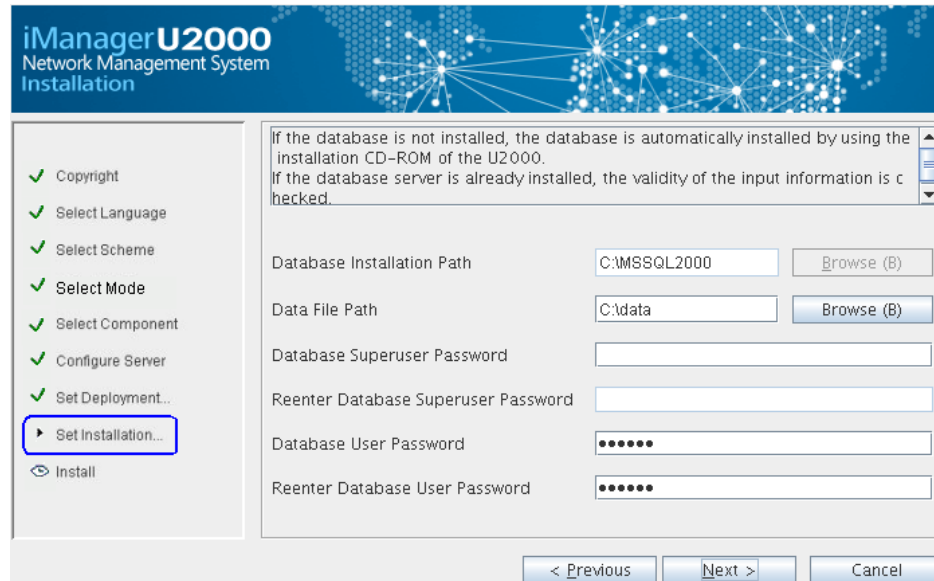
 **NOTE**

The following provides an example of differences between the two styles:

- For default styles, alarms are generated in the following descending order of severity: **Critical, Major, Minor and Warning.**
- For the North America style, alarms are generated in the following descending order of severity: **Critical, Major, Minor, Not Alarmed and Not Reported.**

If the components include **SDH Network Element Management** or **SDH Service Management**, the **Select Slot Mode** dialog box will be displayed. Select a slot mode, such as **Interleaving mode**. Then, click **Next**.

The **Sequence mode** is the international standard mode and is recommended.



The image shows the 'iManager U2000 Network Management System Installation' dialog box. On the left is a navigation pane with steps: Copyright, Select Language, Select Scheme, Select Mode, Select Component, Configure Server, Set Deployment..., Set Installation... (highlighted with a red box), and Install. The main area contains a text box with instructions about database installation. Below this are fields for 'Database Installation Path' (C:\MSSQL2000), 'Data File Path' (C:\data), 'Database Superuser Password', 'Reenter Database Superuser Password', 'Database User Password' (masked with dots), and 'Reenter Database User Password' (masked with dots). At the bottom are buttons for '< Previous', 'Next >', and 'Cancel'.

The following table lists parameters for the database U2000 user and the database server.

| Parameter                  | Settings                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Database Installation Path | The default installation path of the database is <b>C:\MSSQL2000</b> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Data File Path             | Change the installation path to <b>S:\data</b> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| DB Super Password          | Specifies the superuser password of the database. This password can be left blank (not recommended). The password must consist of 6 to 30 characters that can be letters, digits, and underscores (_). For example, it can be <b>changeme</b> .<br><b>CAUTION</b><br>If the database has been installed, enter the password for user <b>sa</b> that is set during database installation.<br>If you forget the password or the password for user <b>sa</b> does not meet the requirements, change the password. For details, see <a href="#">A.3.4 How to Solve the Problem That the Password of User sa Is Forgotten</a> . |
| Confirm DB Super Password  | Confirms the password for user <b>sa</b> . If the database has been installed, you do not need to enter the password again.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

| Parameter                | Settings                                                                                                                 |
|--------------------------|--------------------------------------------------------------------------------------------------------------------------|
| DB User Password         | Specifies it to the password of a specific user, with a minimum of six characters. The default value is <b>NMSuser</b> . |
| Confirm DB User Password | Confirms the password. The default value is <b>NMSuser</b> .                                                             |

- 10 Set the installation parameters and click **Next**. A dialog box will be displayed showing the installation information.

 **NOTE**

If a message is displayed asking you whether to use the original database software, a database has been installed on the server. If you decide to reuse the database, the installation program will skip database installation. If you do not want to reuse the database, you need to manually uninstall the database and then install it.

- 11 Verify that the installation information is correct and click **Next**. A progress bar will be displayed. The time required for the installation depends on the number of components to be installed and the server configuration. The entire process takes about 120 minutes. Wait patiently.

 **NOTE**

- The U2000 defines the initial size, increment threshold, increment step length, and auto increment threshold for the database to be installed. During U2000 installation, the system displays a message showing the available disk space and the space required for installing a database. If the available database space is smaller than the increment threshold, auto increment of the database is automatically triggered. The size of auto increment is determined by the increment step length. When the available database space reaches the auto increment threshold, auto increment stops.
- The Microsoft Visual C++2005 window is displayed during U2000 installation. Wait about three minutes. Then the window is automatically closed and no operation is required.
- When the progress bar reaches 99%, the system may wait about half an hour until U2000 installation is complete. This is normal.
- If an existing database is used, a message is displayed during U2000 installation, indicating that the current database version is too early. Manually uninstall the database and then reinstall it.
- If a message indicating an installation failure or interruption is displayed during installation, perform the following operations to clear the installation environment, and then install the U2000.
  1. In the **Windows Task Manager**, click the **Processes** tab and stop the apache and tomcat processes.
  2. Navigate to the **C:\HWENGR\engineering\tool** path and run the **FailedNMSInstallationClear.bat** script to clean up the installation environment.
  3. After the installation environment is cleaned up, double-click the **install.bat** file in the **C:\HWENGR** path to start the installation.

- 12 After the preceding settings, click **Finish** to complete U2000 installation. The **Restart the operating system** dialog box will be displayed.

- 13 Click **No** if you do not want to restart the OS immediately.

- 14 Install the SQL2000-KB916287-v8.00.2187 patch. Double-click **SQL2000-KB916287-v8.00.2187-x86x64-ENU.exe** in the Windows OS patch disk or the **HWENGR\patch\sql2000** path of the Windows OS patch installation packages.

 **NOTE**

To prevent the database from being suspended, install the SQL2000-KB916287-v8.00.2187 patch.

- 15 The installation items in the software update wizard are selected by default. In the **Authentication Mode** dialog box, click the **Windows Authentication** option button. Click **Next** to continue until the installation is complete.

- 16 Restart the OS.

Choose **start > Shut Down**. The **Shut Down Windows** dialog box will be displayed. Select **Restart** from the **What do you want the computer to do** drop-down list. Enter information in the **Comment** column to make **OK** available. Then, click **OK**.



**NOTE**

After the installation, restart the OS and ensure that the services start successfully.

----**End**

# 9 Configuring the Application Resource Group

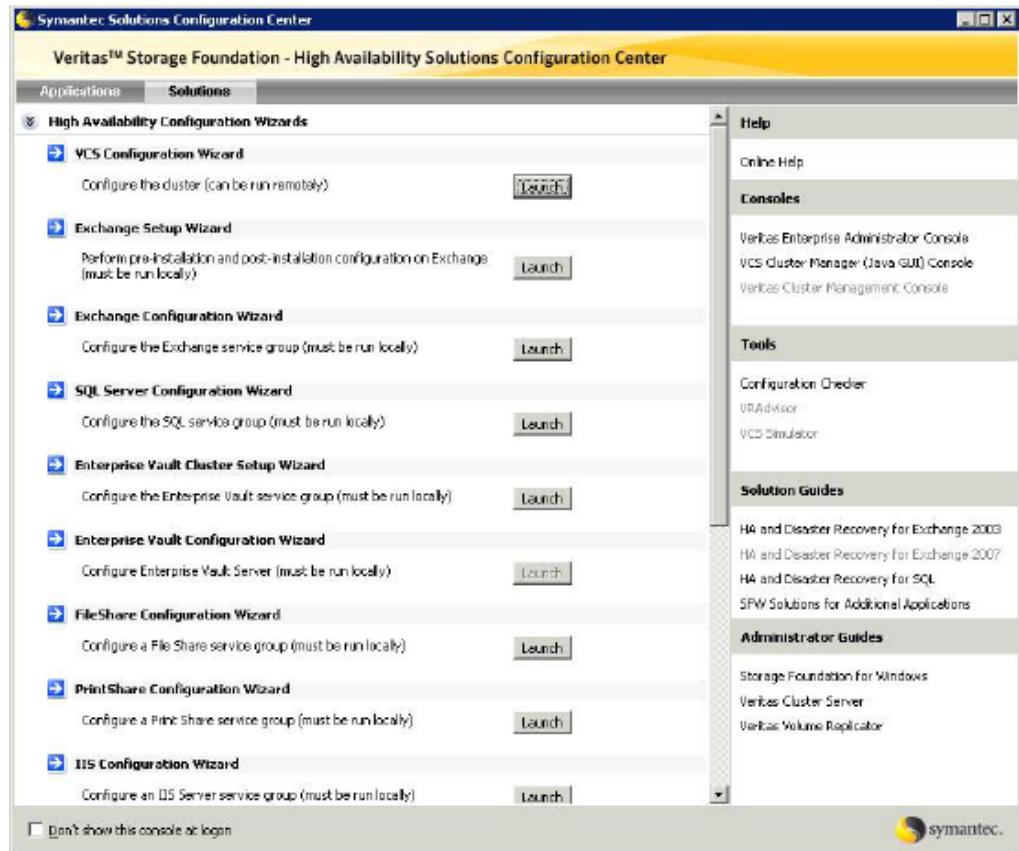
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This topic describes how to configure the application resource group. The application resource group needs to be configured on both the primary site and the secondary site.

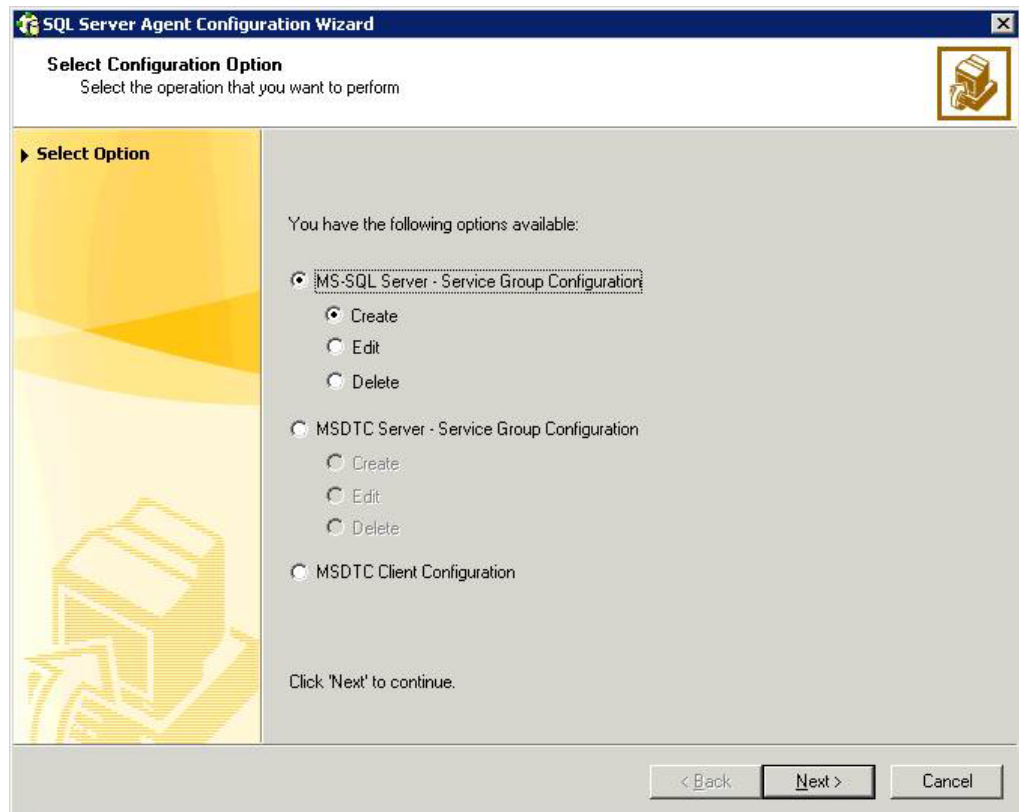
## Procedure

- 1 Choose **Start > Run**. In the **Run** dialog box, enter the **cmd** command to access the CLI. Then, run the following command:  
`C:\> vxdg -g datadg -s import`
- 2 Open the configuration center window of the VCS. Choose **Start > Programs > Symantec > Veritas Cluster Server > Solutions Configuration Center**. Click the **Solutions** tab. Select **SQL Server Configuration Wizard**, and then click **Launch**.

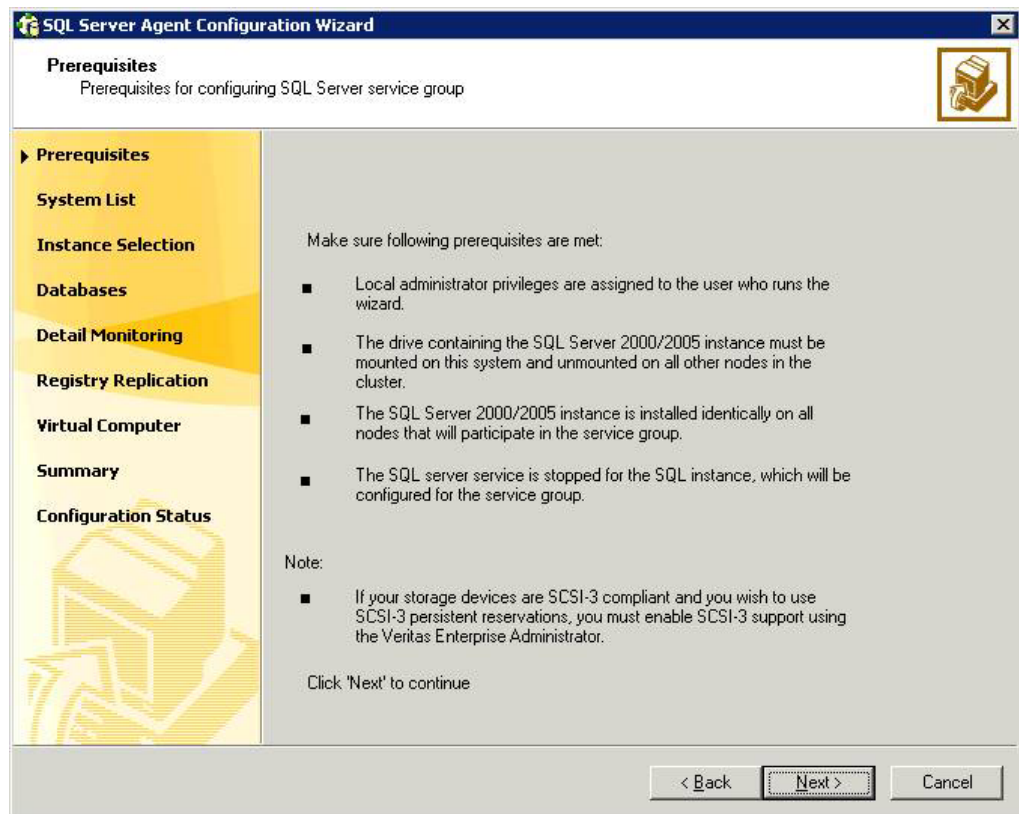
## 9 Configuring the Application Resource Group



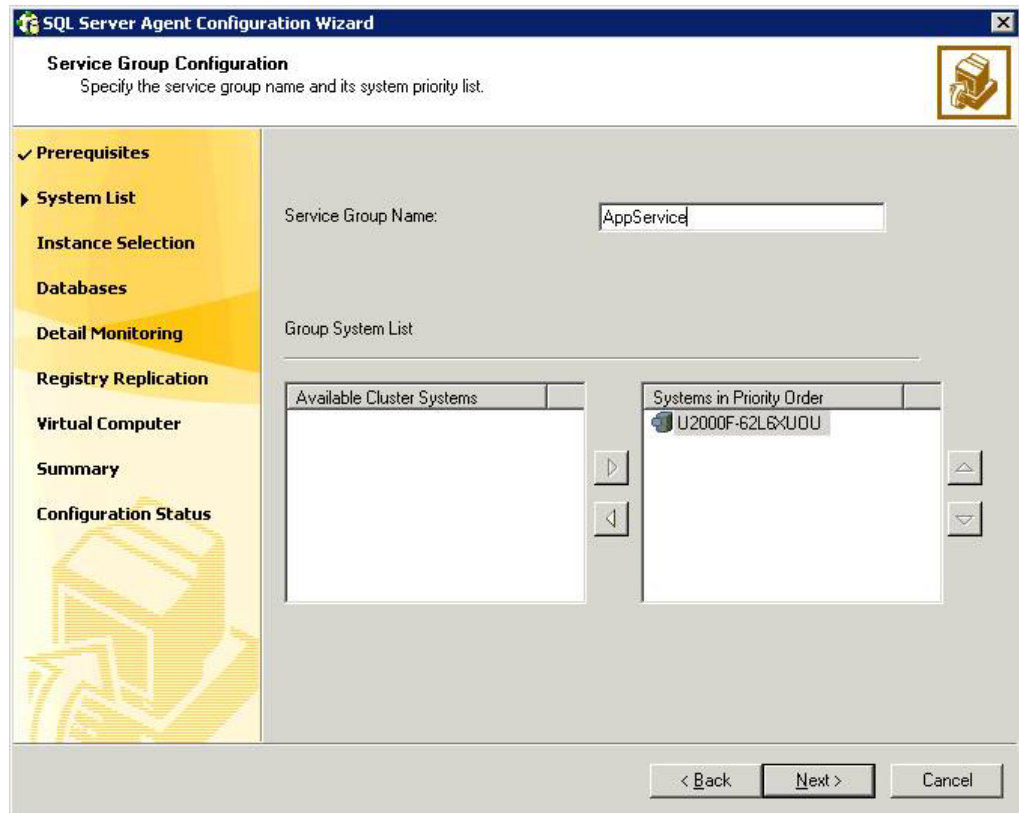
### 3 Select MS-SQL Server-Service Group Configuration, and then click Next.



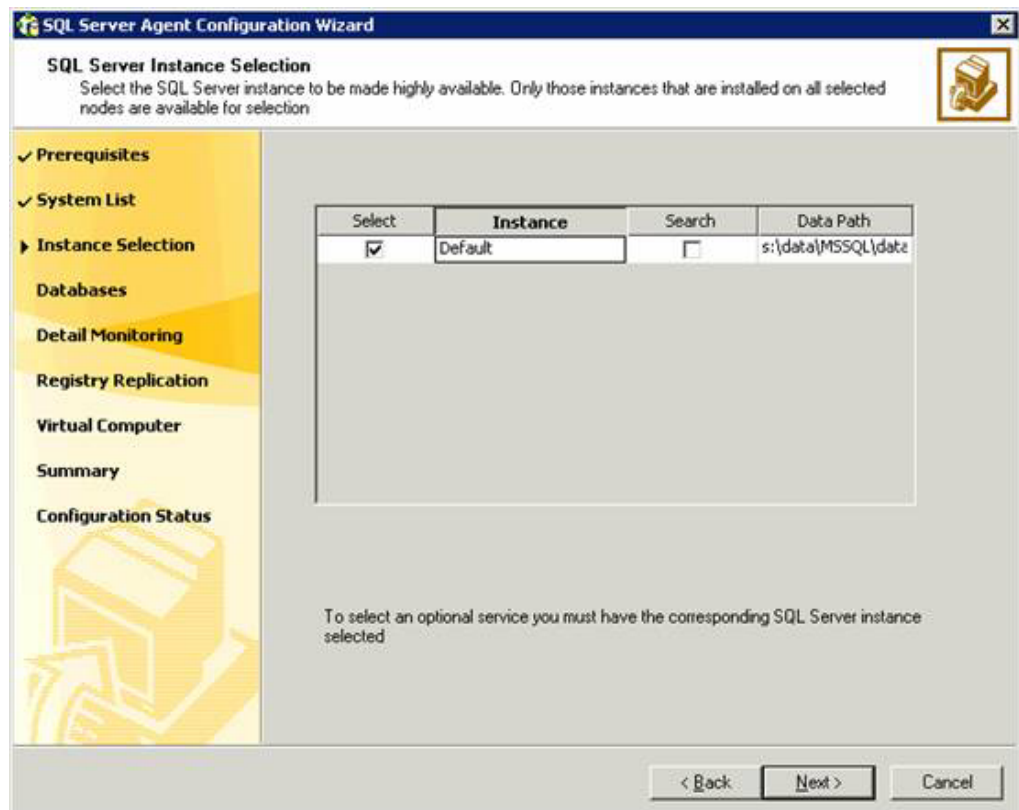
4 Click **Next**.



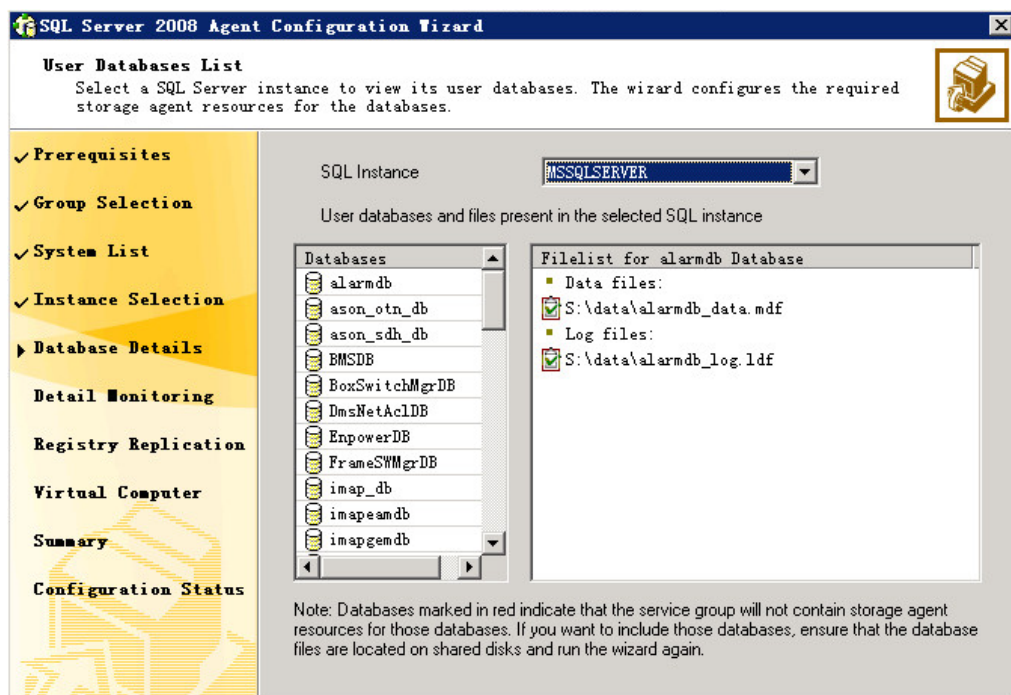
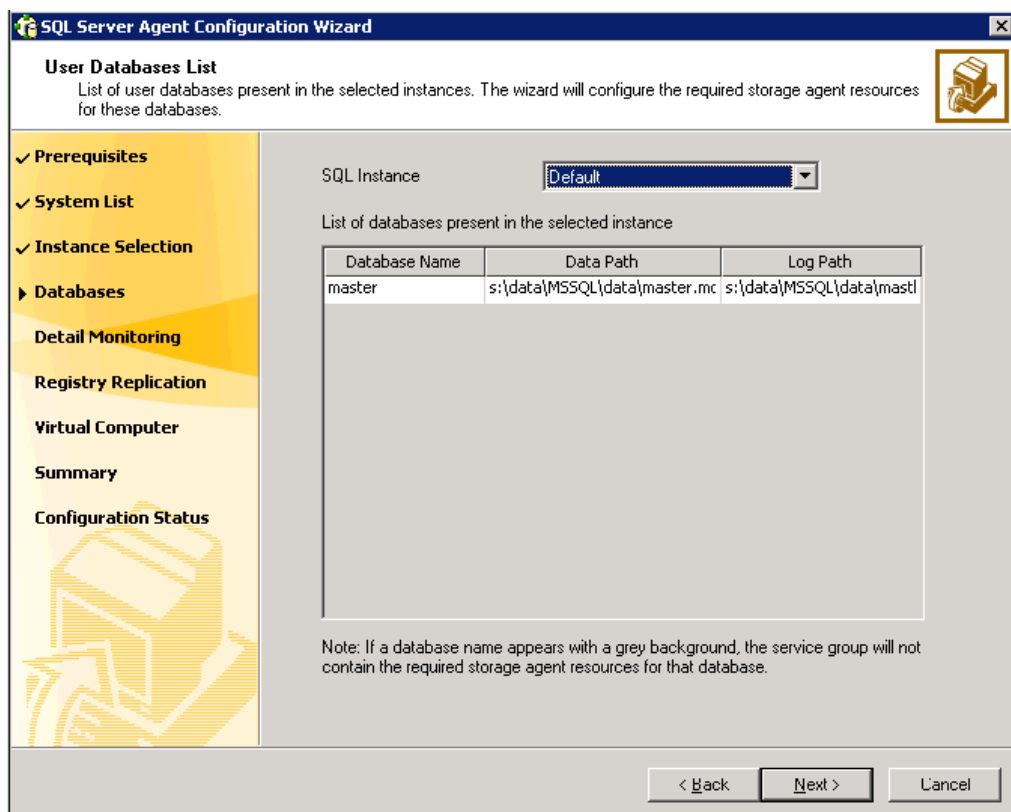
5 Set **Service Group Name** to **AppService**. In the **Group System List** area, select a cluster system from the **Available Cluster Systems** list and then click the associated arrow button to move it to the **Systems in Priority Order** list. Then, click **Next**.



- 6 Select the check box in the **Select** column, and then click **Next**.

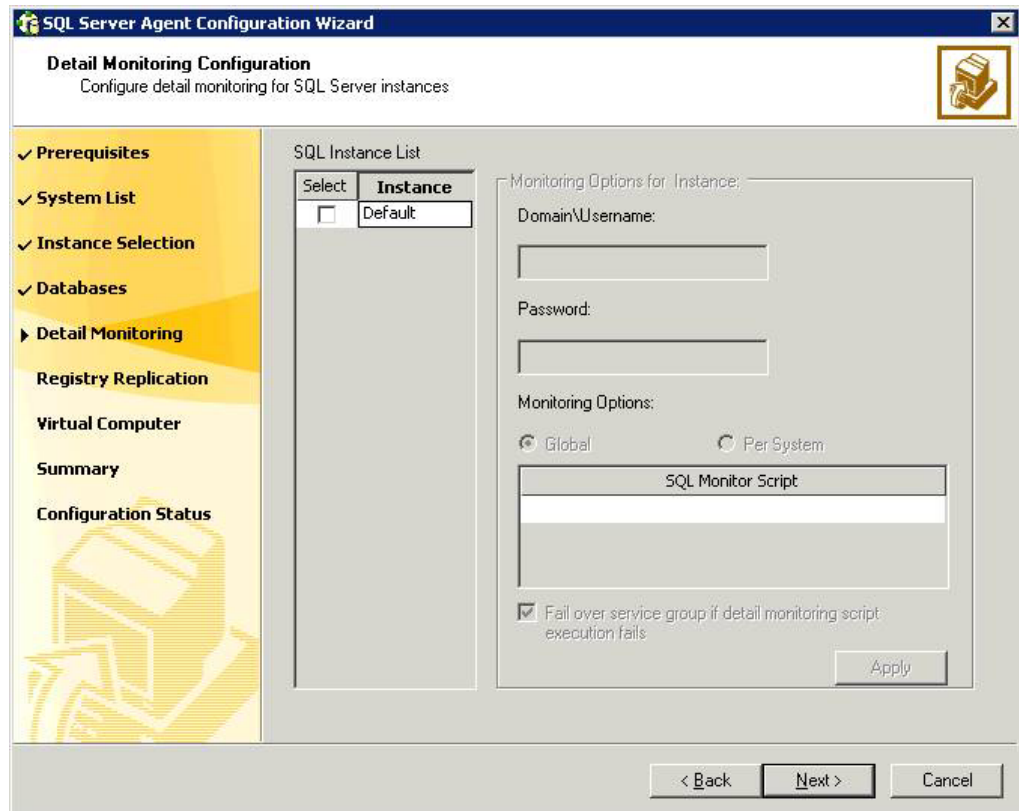


- 7 Select **Default** from the **SQL Instance** drop-down list, and then click **Next**.

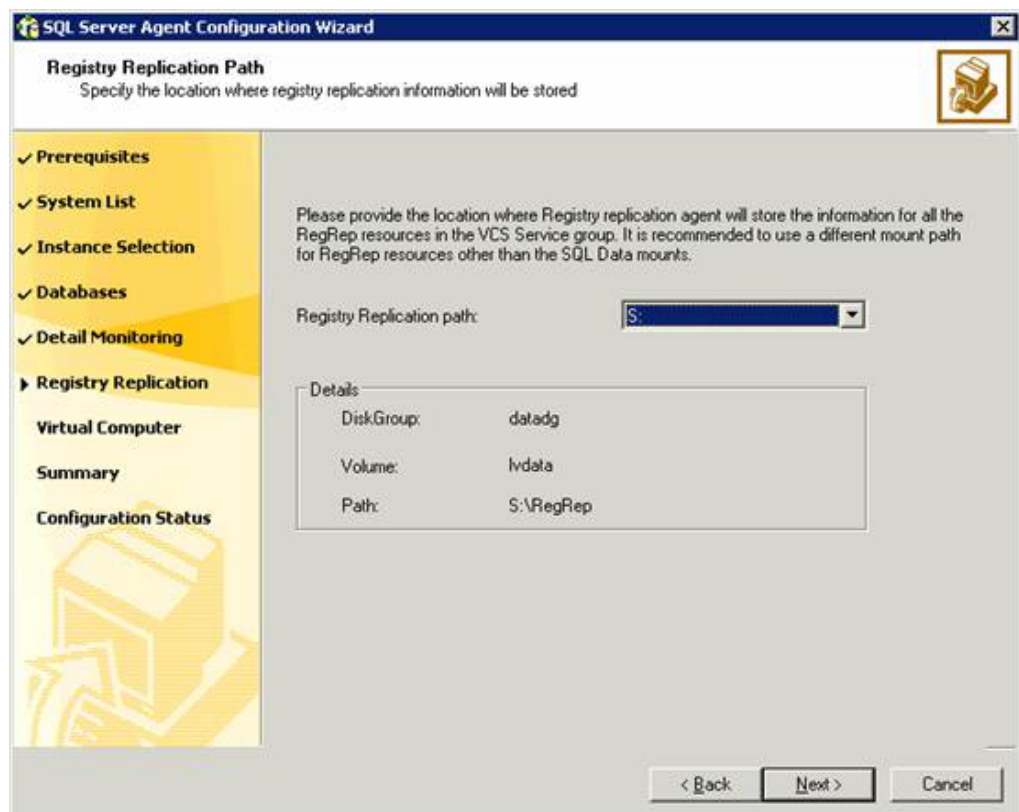


8

- 9 Make sure that the check box in the **SQL Instance List** column is not selected. Then, click **Next**.



10 Select **S:** from the **Registry Replication path** drop-down list. Then, click **Next**.

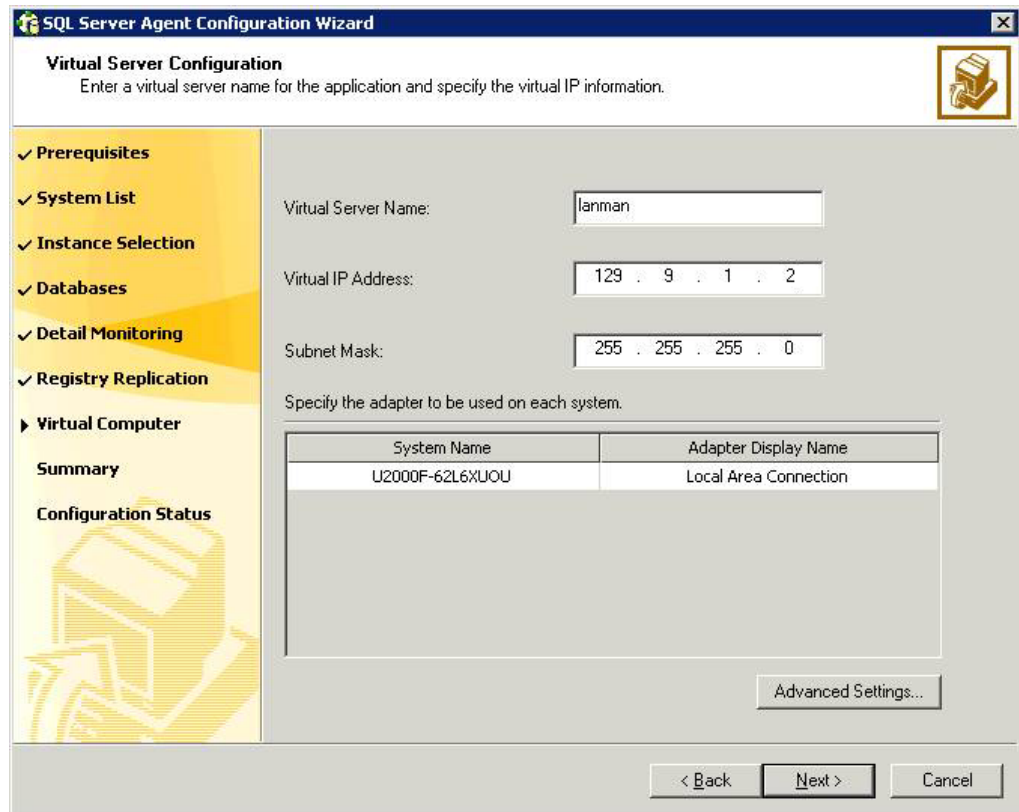


11 In the warning dialog box, click **Yes**. Then, click **OK**.

- 12 Enter a virtual server name, virtual IP address, and subnet mask. Then, click **Next**.

 **NOTE**

If multiple servers are located on a LAN, ensure that the entered virtual server names for these servers are different. For example, set a virtual server name to *lanman0* for the primary site and *lanman1* for the secondary site.



**SQL Server Agent Configuration Wizard**

**Virtual Server Configuration**  
Enter a virtual server name for the application and specify the virtual IP information.

✓ Prerequisites  
✓ System List  
✓ Instance Selection  
✓ Databases  
✓ Detail Monitoring  
✓ Registry Replication  
▶ Virtual Computer  
Summary  
Configuration Status

Virtual Server Name:

Virtual IP Address:

Subnet Mask:

Specify the adapter to be used on each system.

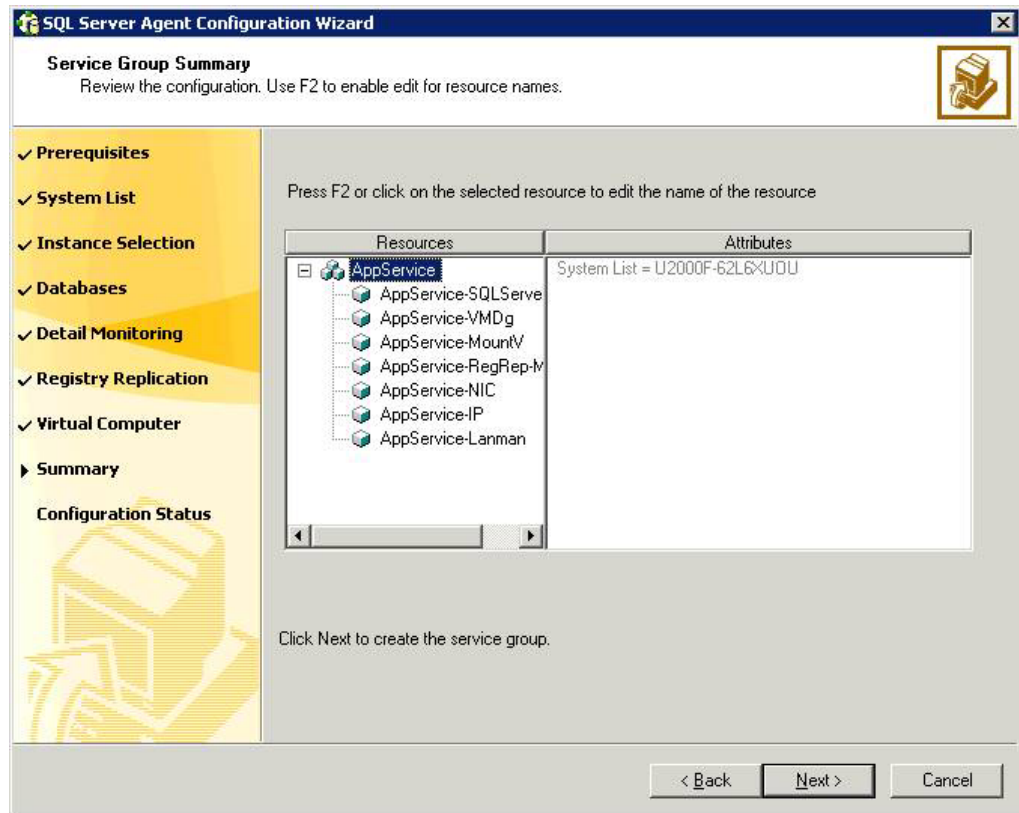
| System Name     | Adapter Display Name  |
|-----------------|-----------------------|
| U2000F-62L6XUOU | Local Area Connection |

Advanced Settings...

< Back Next > Cancel

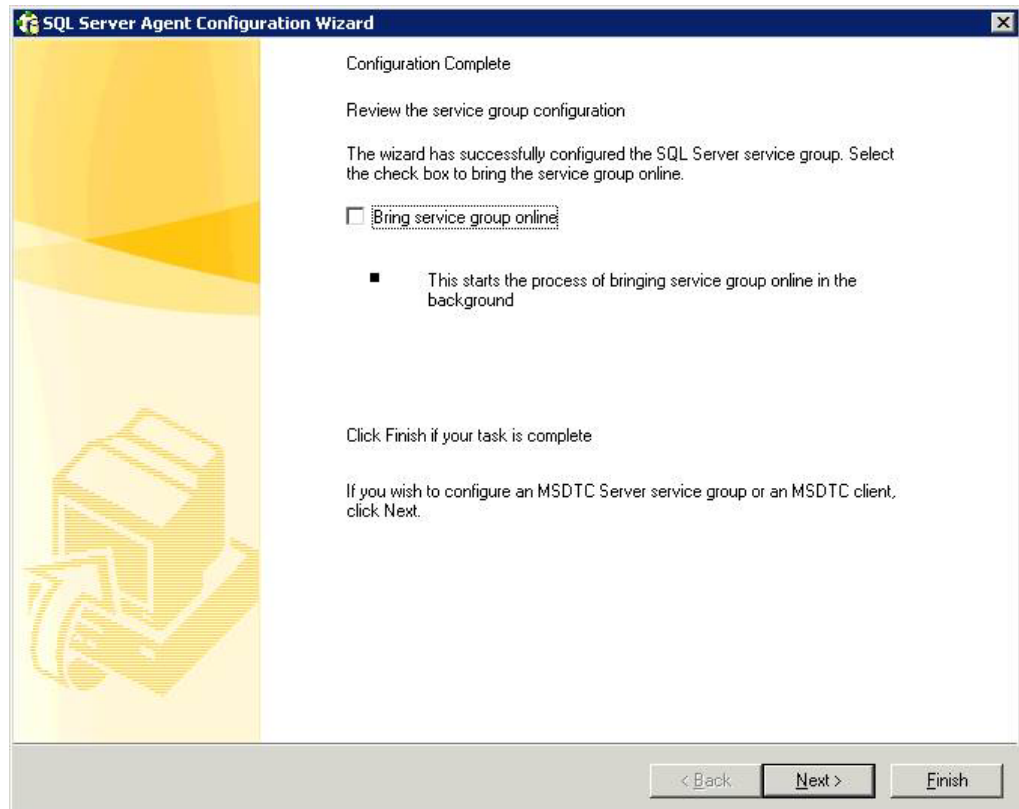
- 13 In the warning dialog box, click **Yes**.

- 14 Click **Next**.



15 In the dialog box that is displayed, click **Yes**.

16 Clear the selection of **Bring service group online**. Then, click **Next**.



- 17 Click **Cancel**. In the warning dialog box that is displayed, click **Yes** to complete configuration of the application resource group.
- 18 Stop the application resource group. Run the following commands on the primary site and secondary site respectively:

C : \> **haconf -makerw**

C : \> **hagrp -disableresources AppService**

C : \> **haconf -dump -makero**

----End



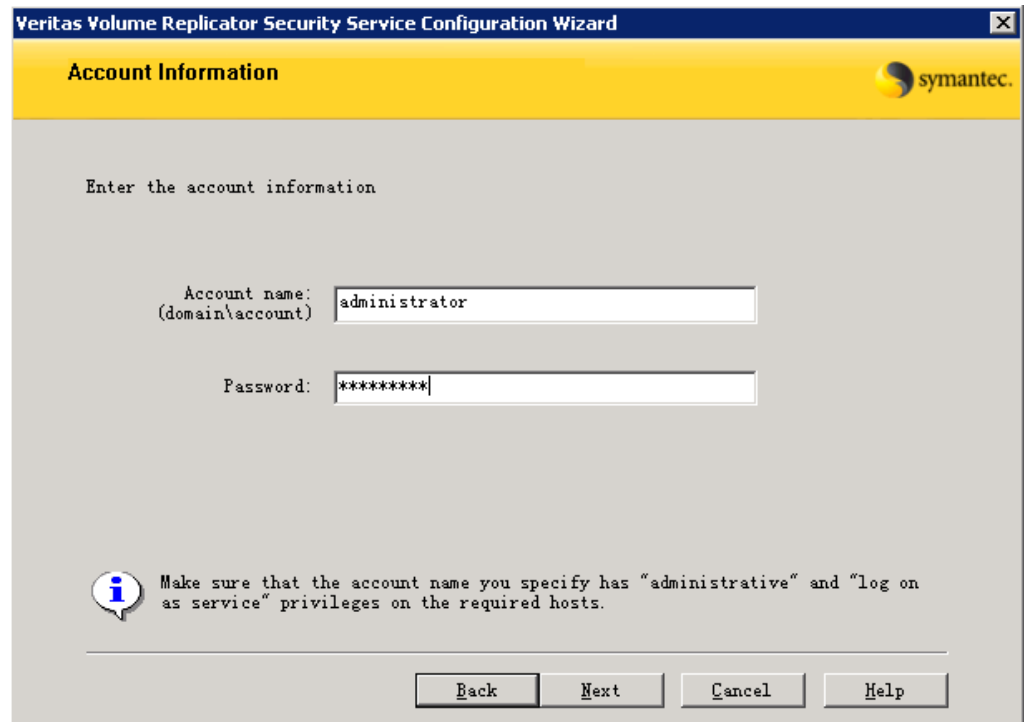
# 10 Configuring the Replication Resource Group

---

This topic describes how to configure the replication resource group. The replication resource group needs to be configured on both the primary site and secondary site.

## Procedure

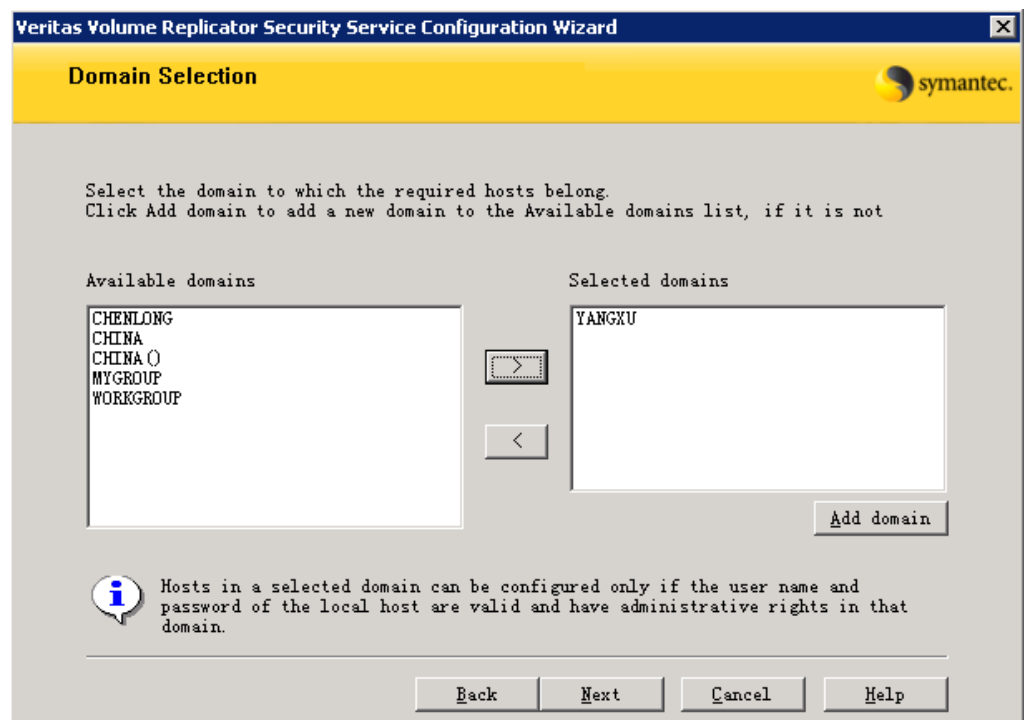
- 1 Access **VVR Security Service Configuration Wizard** to configure the cluster trust credential on both the primary site and the secondary site. Details are as follows:
  1. Choose **Start > Programs > Symantec > Veritas Storage Foundation > Configuration Wizards > VVR Security Service Configuration Wizard** to access **VVR Security Service Configuration Wizard**.
  2. In the dialog box that is displayed, click **Next**.
  3. On the **Account Information** page, enter a user name and password for accessing a node. Then, click **Next**.



4. On the **Domain Selection** page, select or enter a workgroup name. Then, click **Next**.

 **NOTE**

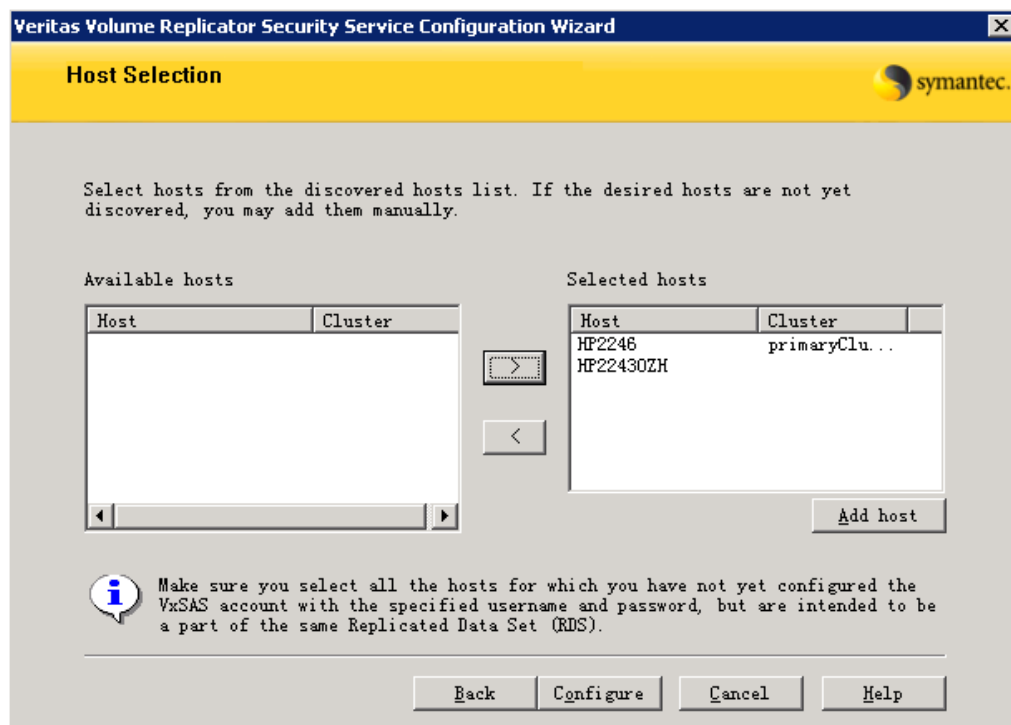
Ensure that the names for the workgroups on the primary and secondary sites are the same.



5. On the **Host Selection** page, select or enter a name for each host. Then, click **Configure**.

 **NOTE**

As shown in the following figure, add the two host names from the **Available hosts** list to the **Selected hosts** list. If no host name is available in the **Available hosts** list, click **Add host** to add host names.



## CAUTION

You can click **Configure** on the primary and secondary sites and the information indicating successful verification is displayed only after you have completed the preceding configurations on the primary and secondary sites.

6. On the **Configuration Results** page, the system automatically checks the authentication condition for each node. After the authentication is complete for all nodes, click **Finish**.
- 2 Confirm that the SQL Server service on the secondary site has been stopped. If the service is still running, manually stop it.
- 3 Set the IP address used for heartbeat detection to a system IP address. Run the following commands on both the primary and secondary sites:

### NOTE

By default, the system uses the virtual IP address entered during trunk configuration for heartbeat detection. Here, the IP address used for heartbeat detection needs to be changed to the system IP address.

Choose **Start > Run**. In the **Run** dialog box, enter the **cmd** command and click **OK** to start the CLI.

C : \> **haconf -makerw**

C : \> **haclus -modify ClusterAddress** *system IP address of the primary site*

### NOTE

When running the preceding commands on the secondary site, enter the system IP address of the secondary site.

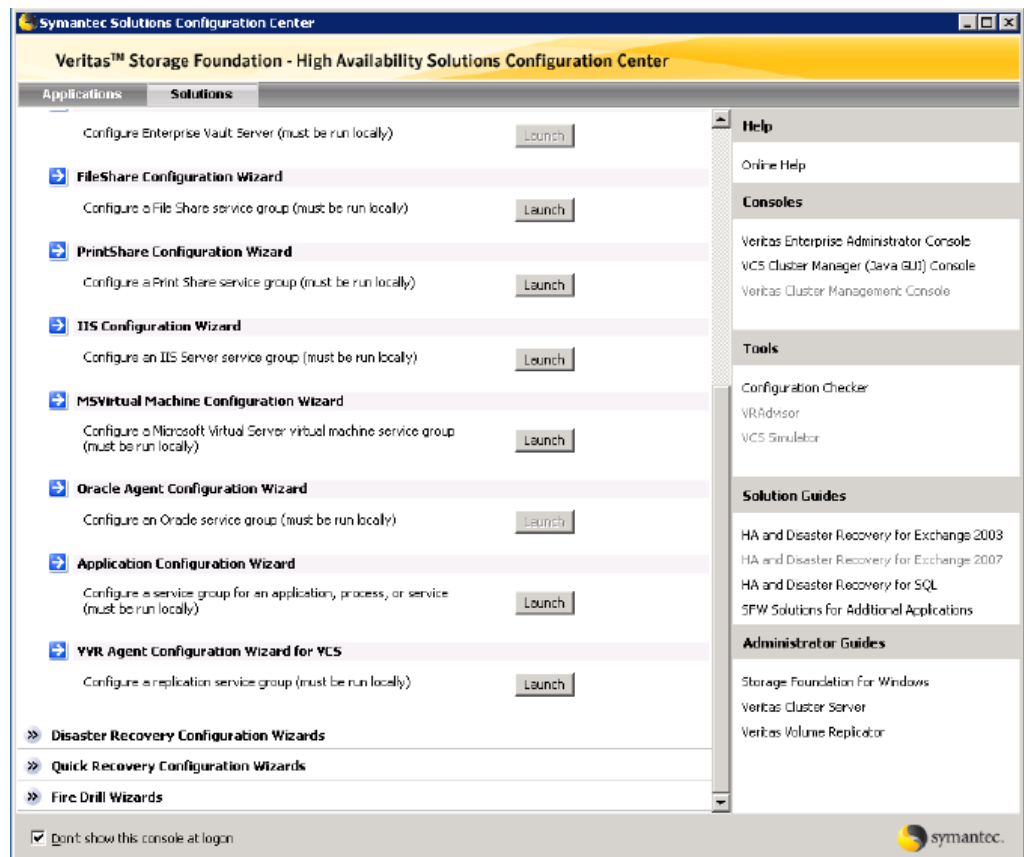
Stop the application resource group. Run the following commands on the primary site and secondary site respectively:

C : \> **hagrp -offline AppService -any**

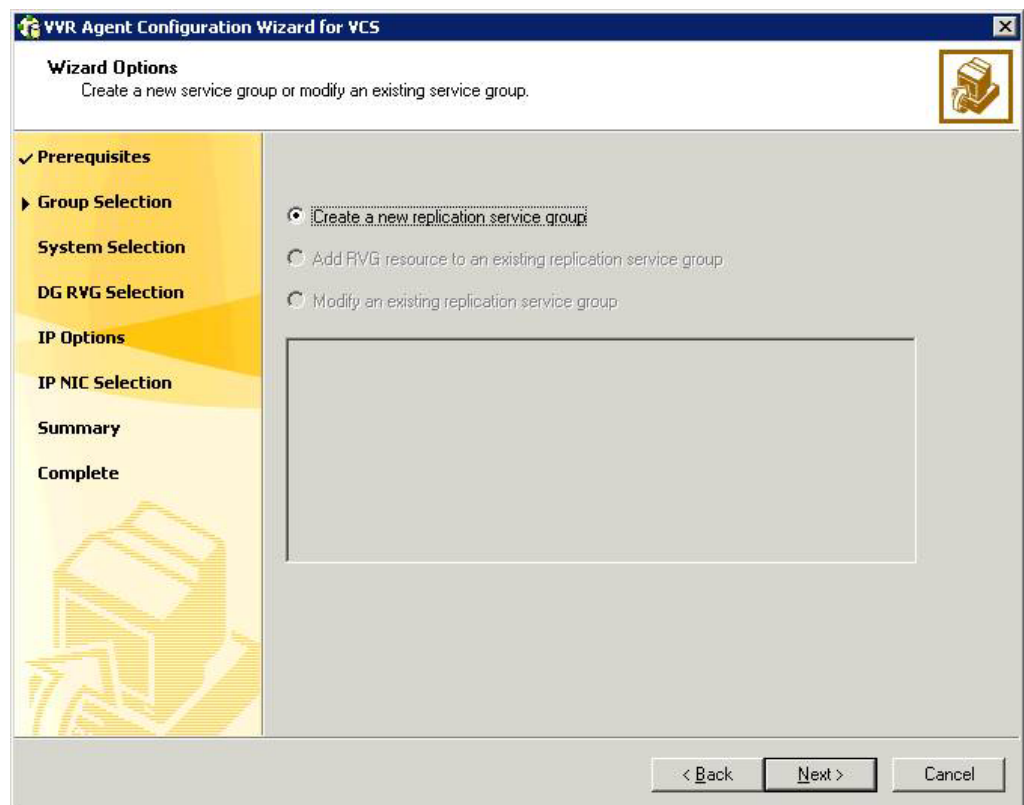
C : \> **hagrp -disableresources AppService**

C : \> **haconf -dump -makero**

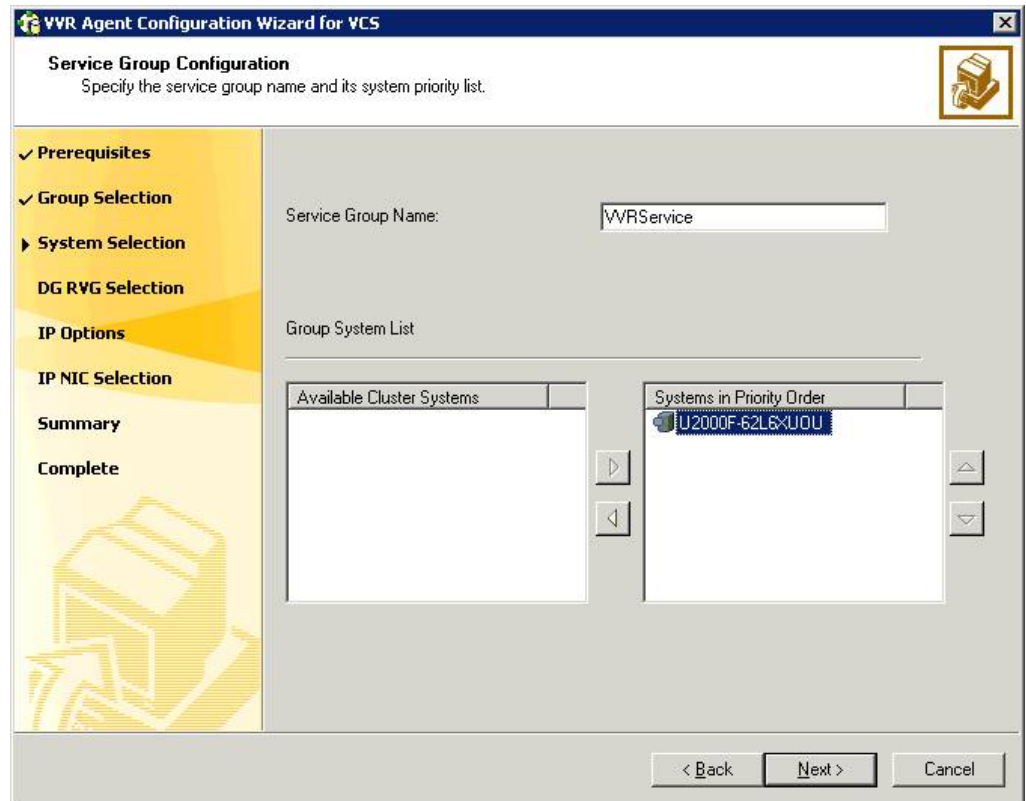
- 4 Start the U2000 MSuite. Select the primary and secondary sites to be synchronized. Then, synchronize the configurations on the primary site to the secondary site.
  1. On the primary site, double-click the **U2000 MSuite** shortcut icon on the desktop. Then, wait about one minute. The **Login** dialog box is displayed.
  2. Set the related login parameters. Details are as follows:
    - **IP Address**: System IP address for the computer where the U2000 MSuite server resides.
    - **Port No.:** The default port number is **12212**. Do not change the default value during login.
    - **User Name and Password**: The default user name is **admin** and the initial password is **admin**.
  3. Click **OK**.
  4. Choose **Deploy > Synchronize the primary and secondary sites** from the main menu. The **Synchronize the primary and secondary sites** dialog box is displayed.
  5. Enter an IP address for the secondary site.
  6. Click **OK**. A progress bar is displayed indicating the progress of synchronization between the primary and secondary sites. Wait approximately 20 minutes until a dialog box is displayed indicating that the synchronization is complete.
  7. Click **OK**. The synchronization between the primary and secondary sites is complete.
- 5 Create the replication resource group. The replication resource group needs to be configured on both the primary site and the secondary site.
  1. Access the VCS configuration center window. Then, .choose **Start > Programs > Symantec > Veritas Cluster Server > Solutions Configuration Center**. Select **VVR Agent configuration Wizard for VCS**, click **Launch**.



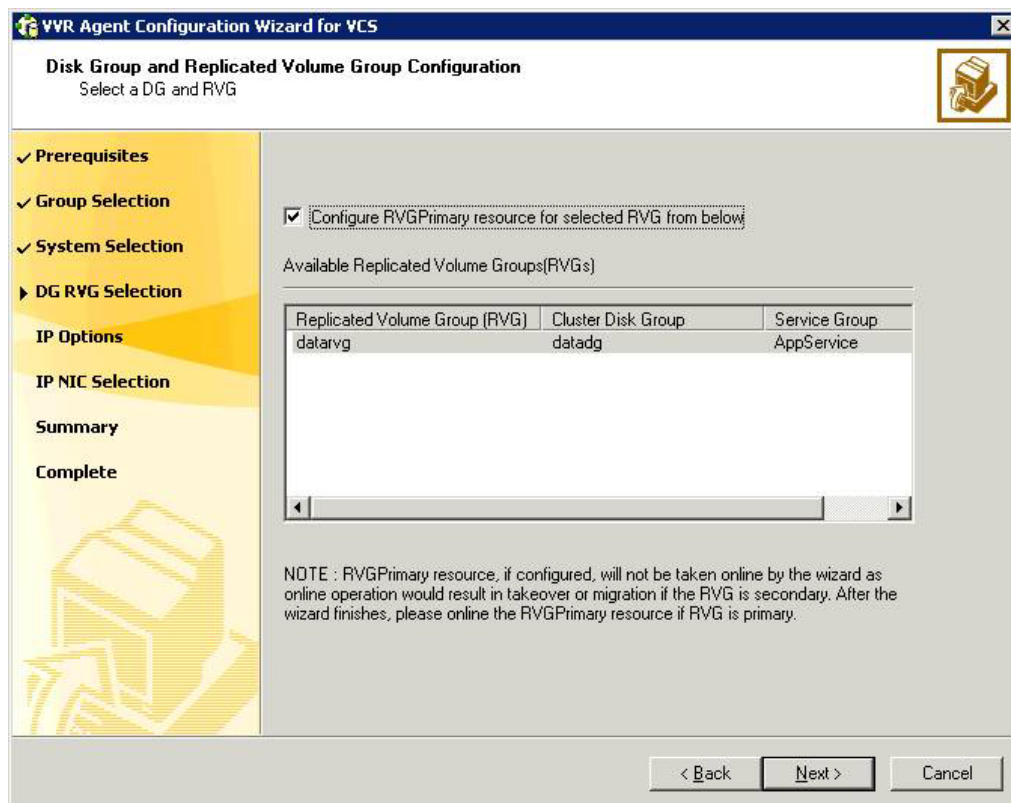
2. In the dialog box that is displayed, click **Next**.
3. Select **Create a new replication service group**. Then, click **Next**.



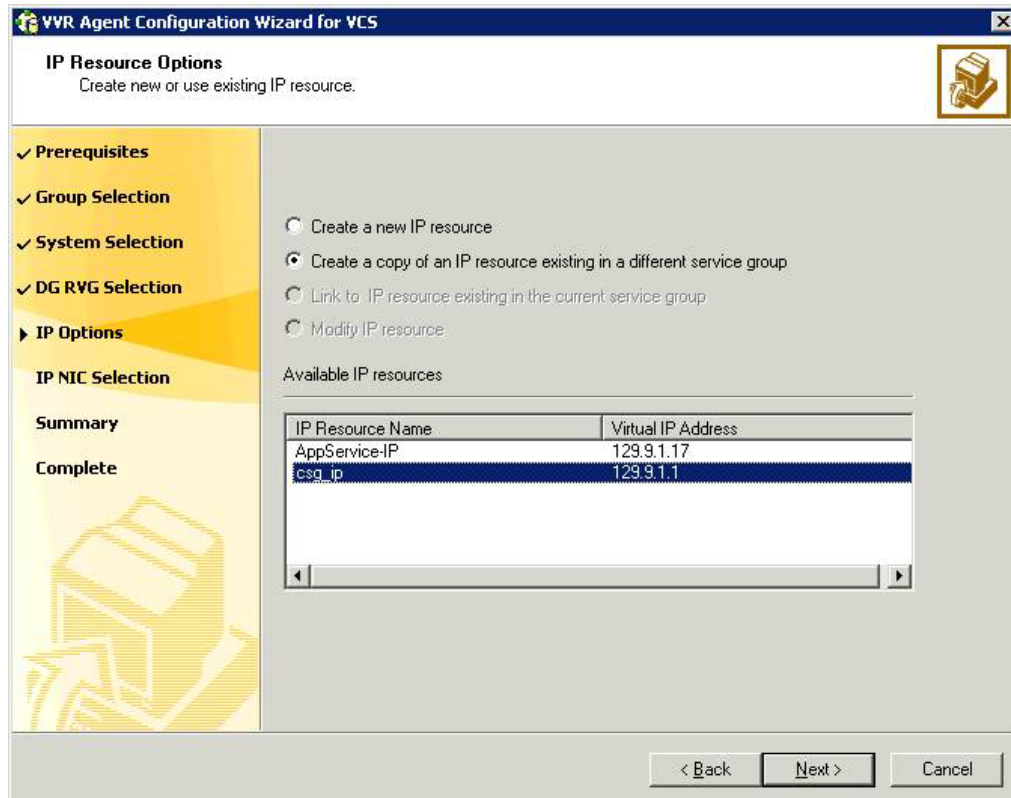
4. Enter **VVRService** in the **Service Group Name** field. In the **Group System List** area, select a cluster from the **Available Cluster Systems** list and click the associated arrow button to move it to the **Systems in Priority Order** list. Then, click **Next**.



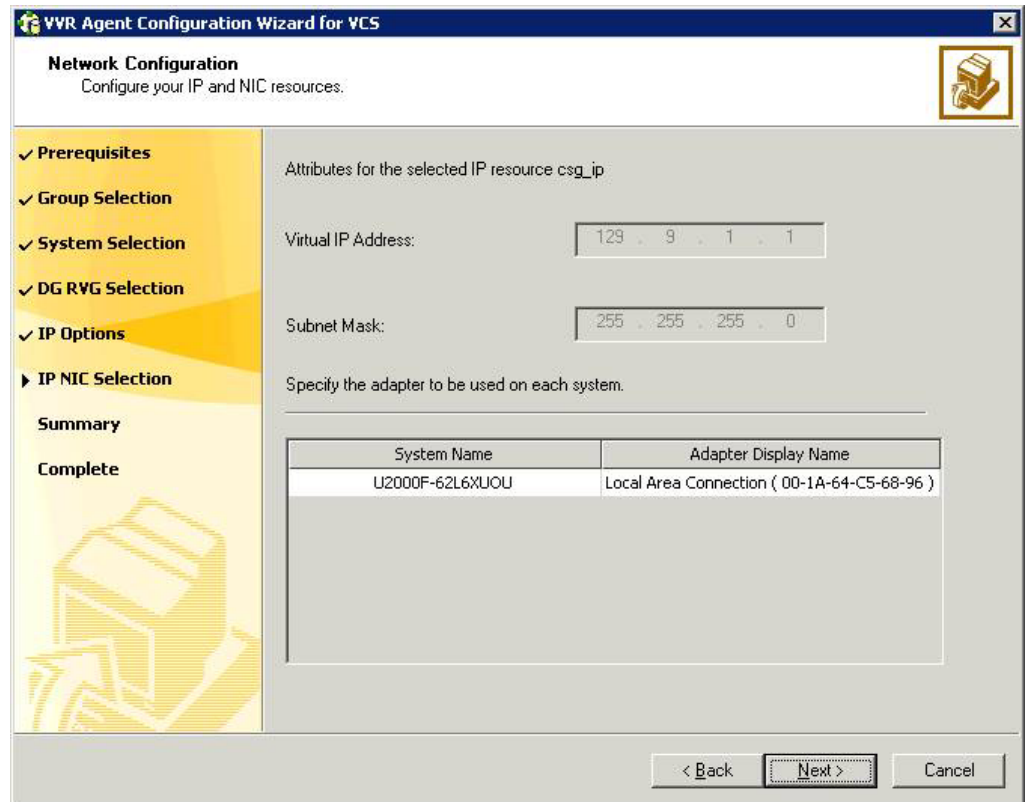
5. Select **Configure RVGPrimary** resource for selected RVG from below. Then, click **Next**.



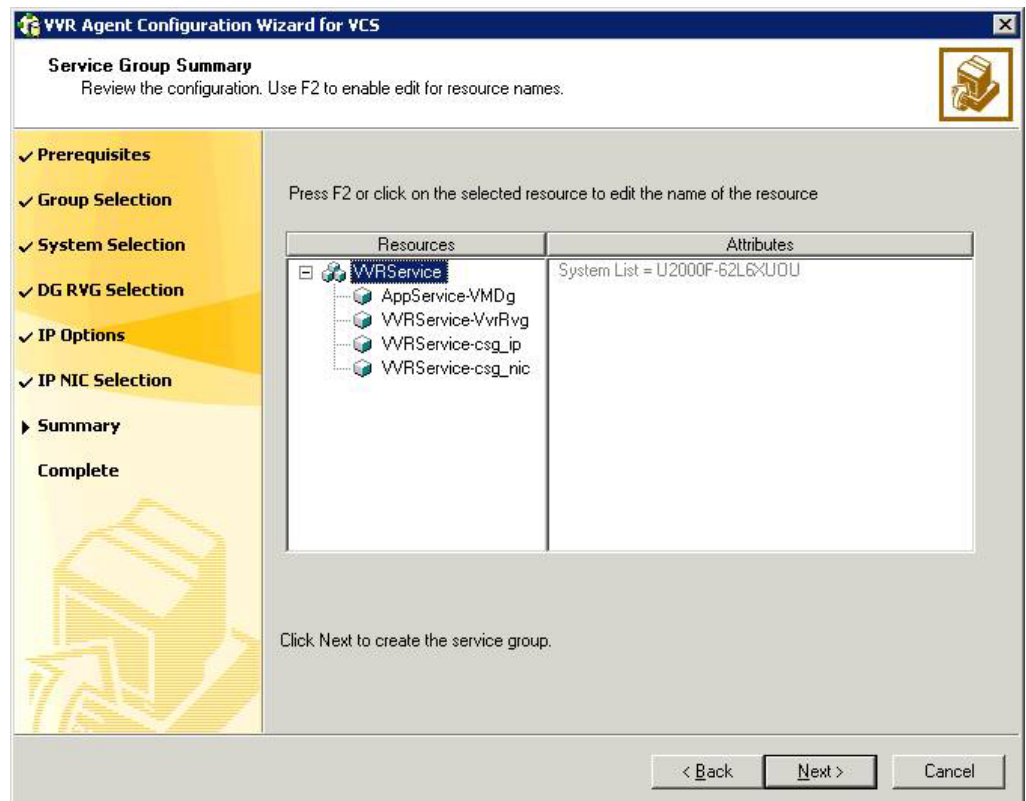
6. Click the **Create a copy of an IP resource existing in a different service group** option button. Select **csg\_ip** from the **Application IP resources** field. Then, click **Next**.



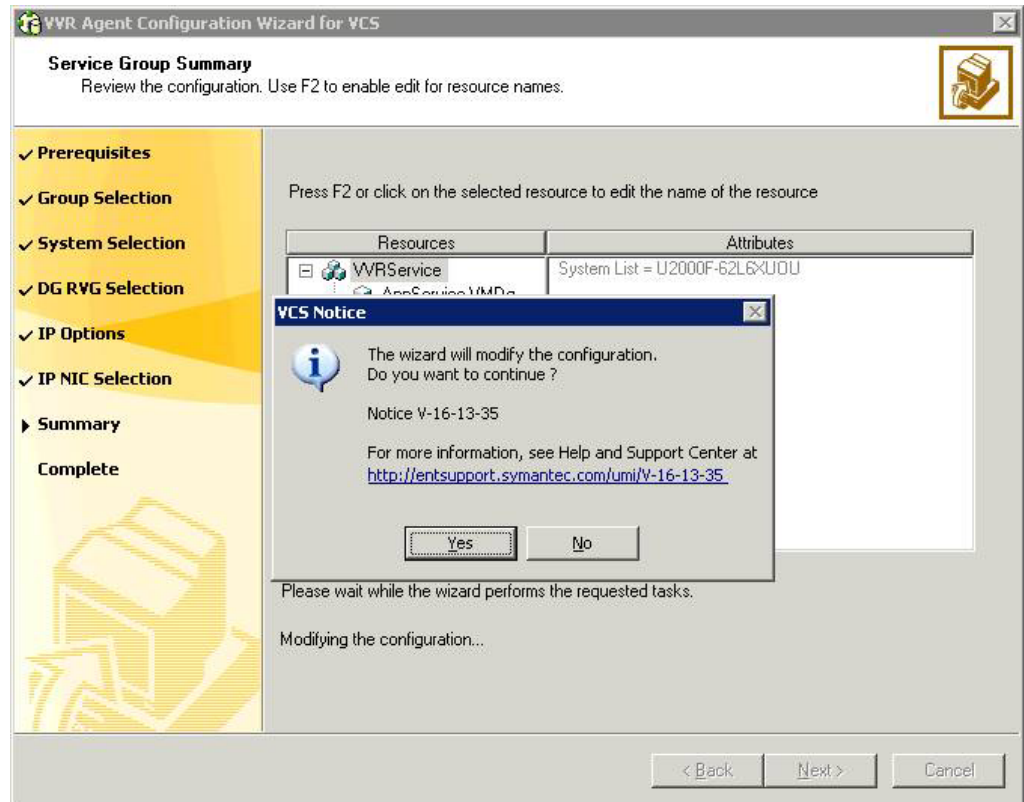
7. Click **Next**.



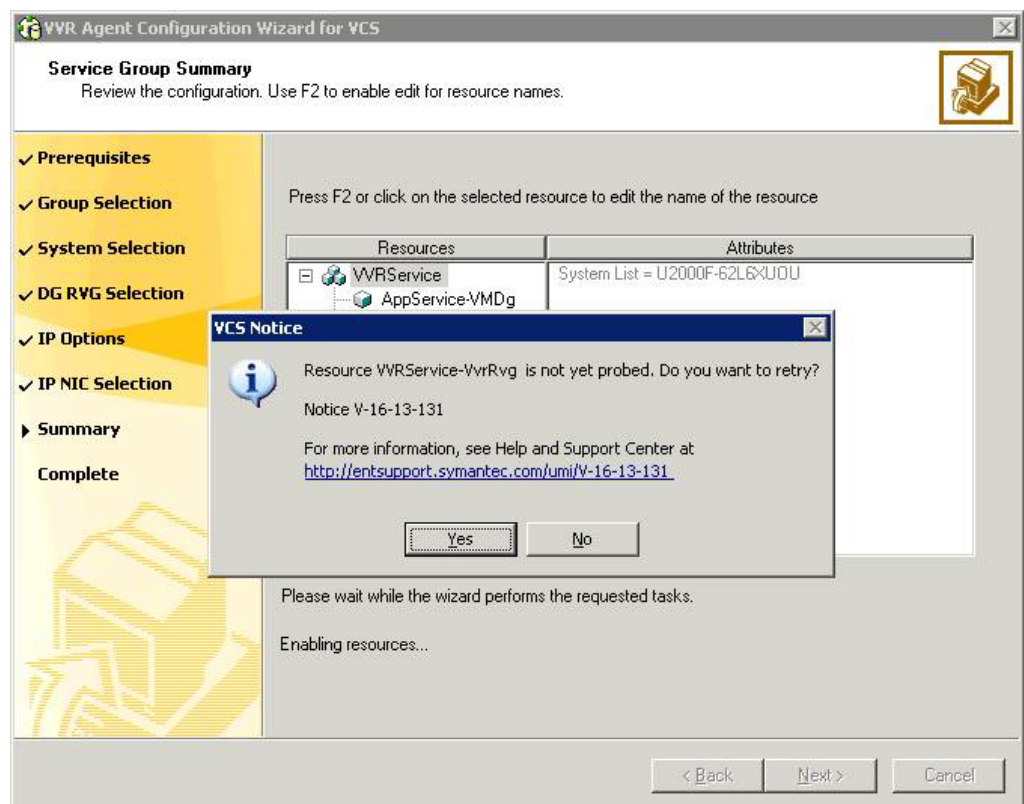
8. In the dialog box that is displayed, click **OK**.
9. Click **Next**.



10. In the dialog box that is displayed, click **Yes**.



11. **Optional:** In the dialog box that is displayed, click **No**.



 **NOTE**

During installation, a dialog box may be displayed indicating the failure to detect whether VVRService resources are available. If so, click **No**.

12. Click **Finish** to complete creation of the replication resource group.

- 6 Add the NMSServer resource. The NMSServer resource needs to be configured on both the primary site and the secondary site. Access a CLI, and then run the following commands:

```
C: \> cd c:\HWENGR\engineering
```

```
C:\HWENGR\engineering> configvcs.bat
```

If the following information is displayed, it indicates that the configuration is successful.

```
Configuring the VCS is successful.
```

----**End**

# 11 Loading or Updating a License File

---

## About This Chapter

This topic describes how to load or update a license file. After a U2000 is installed, it is recommended that you update the Veritas license file and load the U2000 license file in time. You can update the Veritas license before loading the U2000 license file or vice versa.

### [11.1 Updating a Veritas License](#)

This topic describes how to update a Veritas license. The Veritas license used in the NMS installation is a demo license. After the server is delivered to the installation site, the demo license must be replaced with the formal Veritas license in time.

### [11.2 \(Optional\) Loading a U2000 License](#)

This topic describes how to load a U2000 license. If **Installation by license** is not selected during installation of the U2000 software, you must upload a U2000 license.

## 11.1 Updating a Veritas License

This topic describes how to update a Veritas license. The Veritas license used in the NMS installation is a demo license. After the server is delivered to the installation site, the demo license must be replaced with the formal Veritas license in time.

### Prerequisite

The formal Veritas license must be obtained.

### Context

 **NOTE**

You need to replace the demo licenses on the NMS servers of both the primary and secondary sites with formal Veritas licenses.

### Procedure

- 1 Back up all the license files in the **C:\Program Files\Common Files\Veritas Shared\vrtslic\lic** directory.
- 2 In **Control Panel**, click **Add or Remove Programs**. In the **Add or Remove Programs** dialog box, select the Veritas Storage Foundation HA 5.1 for Windows (Server Components) program, and then click **Change**.
- 3 In the dialog box that is displayed, click the **License Management** option button, and then click **Next**.
- 4 Enter the license that is newly applied for, that is, VRTS STORAGE FOUNDATION STANDARD. Then, click **Update**. Click **Finish**.

 **NOTE**

- The information about the demo or formal license that is newly applied for is contained in the license file.
  - The licenses that are newly applied for include VRTS STORAGE FOUNDATION STANDARD, VRTS VOLUME REPLICATOR OPTION, and VRTS CLUSTER SERVER HA/DR.
- 5 Repeat the preceding steps, enter the license keys of VRTS VOLUME REPLICATOR OPTION and VRTS CLUSTER SERVER HA/DR.
  - 6 Run the following command to check whether the updated license takes effect:  

```
C:\> vxlicrep
```

Check whether the license key of the related component is updated and whether the authentication date of the component is correct.
  - 7 Restart the OS.

----End

## 11.2 (Optional) Loading a U2000 License

This topic describes how to load a U2000 license. If **Installation by license** is not selected during installation of the U2000 software, you must upload a U2000 license.

## Prerequisite

- The OS and database must run properly on the primary site.  
If the database has not been started, start it by referring to [A.3.3 How to Start the SQL Server Database](#).
- The processes of the U2000 must be properly started on the primary site.  
If the processes of the U2000 has not been started, start it by referring to [A.4.3 How to Start the U2000 Processes of the High Availability System \(Windows\)](#).

## Context

If you select the License installation method during the installation, the installation script automatically copies the License file of the U2000 to the **license** directory in the U2000 installation path. Manual copying is not required.

## Procedure

- **Method one: Use commands to load the license.**
  1. Log in to the server on the primary site.
  2. Copy the authorized license file to the U2000 server. Directly copying and pasting the license file to the **D:\U2000\server\etc\conf\license** path is prohibited.

### NOTE

- Do not modify the contents in the license file.
  - Check whether a temporary license file exists in the **D:\U2000\server\etc\conf\license** folder. If the file exists, create a backup folder and then copy and paste the temporary license file to it.
3. Update the U2000 license.
    - (1) Log in to the OS of the server.
    - (2) Run the following command to update the U2000 license file:

```
> updateLicense -file License_file_name
```

### NOTE

In the command, *License\_file\_name* indicates a file name or the combination of an absolute path and a file name.

Information similar to the following is displayed:

| state      | product   | feature | item         | name   |
|------------|-----------|---------|--------------|--------|
| old value  | new value |         |              |        |
| no change: | U2000     | COMMON  | LSW1CAPA01   | Client |
| 500        | 500       |         |              |        |
| no change: | U2000     | COMMON  | LSW1CAPA01   | Client |
| 1          | 1         |         |              |        |
| no change: | U2000     | COMMON  | LSW1FMCLT01  | Alarm  |
| Export     | 1         | 1       |              |        |
| no change: | U2000     | COMMON  | LSW1RENOTI01 | Client |
| 1          | 1         |         |              |        |

```
Are you sure to update the license?(Y/N)
```

- (3) Enter **Y**, and then press **Enter**.

### NOTE

After the preceding operations are performed, the license file is automatically loaded to the **D:\U2000\server\etc\conf\license** path and renamed.

4. Log in to the server on the secondary site.
5. Check whether the temporary license file exists in the **D:\U2000\server\etc\conf\license** folder. If yes, create the backup folder and copy and paste the temporary license file to it.
6. Copy and paste the updated license file on the primary site to the **D:\U2000\server\etc\conf\license** path on the server on the secondary site.

● **Method two: Load the license in the GUI.**

1. Copy and paste the authorized license to the server where the U2000 client is installed. If the U2000 and server are on the same computer, directly copying and pasting the license file to the **D:\U2000\server\etc\conf\license** path is prohibited.

 **NOTE**

- Do not modify the contents in the license file.
- Check whether a temporary license file exists in the **D:\U2000\server\etc\conf\license** folder. If the file exists, create a backup folder and then copy and paste the temporary license file to it.

2. Update the U2000 license on the primary site.
  - (1) On the OS desktop, double-click the **U2000 Client** shortcut icon. The **Login** dialog box is displayed.
  - (2) In the **Server** drop-down list, select the server (server on the primary site) to be logged in to. Then, set **User Name** and **Password** to the valid values, and click **Login**. If you have logged in to the System Monitor before, enter the password for logging in to the System Monitor. If you have never logged in to the System Monitor before and this is the first time that you log in to the U2000 client, the password is empty and you must change the password.

 **NOTE**

- If a message indicating that no license is available is displayed when you log in to the U2000 client, select the license to be updated as prompted.
- If an access domain component is selected during installation, choose **Help > License Management > License Information** from the main menu of the U2000 client. In the **License Information** dialog box, click **Update License**. In the **Open** dialog box, select the new license file and click **Open**.

3. Update the U2000 license on the secondary site.
  - (1) On the primary site, log in to the VCS client. Right-click the AppService resource group and choose **Switch to > Remote switch** from the shortcut menu.
  - (2) Select the clusters and systems to be switched.
  - (3) Click **OK**.
  - (4) In the **Confirm** dialog box, click **Yes** to switch U2000 services to the secondary site.
  - (5) Use the U2000 client to reconnect to the system IP address of the secondary site.

 **NOTE**

- If a message indicating that no license is available is displayed when you log in to the U2000 client, select the license to be updated as prompted.
- If an access domain component is selected during installation, choose **Help > License Management > License Information** from the main menu of the U2000 client. In the **License Information** dialog box, click **Update License**. In the **Open** dialog box, select the new license file and click **Open**.

----End

# 12 Checking Environment Variables

This topic describes how to check environment variables after the U2000 server software has been installed.

## Procedure

- 1 Right-click **My Computer** on the desktop and choose **Properties** from the shortcut menu.
- 2 Click the **Advanced** tab.
- 3 Click **Environment Variables**. In the dialog box that is displayed, the environment variables shown in the following table must exist in the system environment variable area.

**Table 12-1** Environment variables used for installing the U2000 server and client

| Environment Variable | Value                                                                                                                                                                                                                                                                                                                                                                                  |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IMAP                 | D:\U2000\server\conf                                                                                                                                                                                                                                                                                                                                                                   |
| IMAP_CONFIG_PATH     | D:\U2000\server\etc\conf                                                                                                                                                                                                                                                                                                                                                               |
| SSL_CERT_FILE        | D:\U2000\server\conf\certificate\ca_cert.cer                                                                                                                                                                                                                                                                                                                                           |
| IMAPROOT             | D:\U2000                                                                                                                                                                                                                                                                                                                                                                               |
| IMAP_ROOT            | D:\U2000\server                                                                                                                                                                                                                                                                                                                                                                        |
| NMSROOT              | D:\U2000                                                                                                                                                                                                                                                                                                                                                                               |
| OSS_ROOT             | D:\U2000                                                                                                                                                                                                                                                                                                                                                                               |
| HWENGRROOT           | C:\HWENGR                                                                                                                                                                                                                                                                                                                                                                              |
| Path                 | d:\U2000\server\3rdTools\lib;d:\U2000\server\3rdTools\python\bin;d:\U2000\server\3rdTools\python\lib;d:\U2000\server\3rdTools\bin;d:\U2000\server\bin;d:\U2000\server\lbin;d:\U2000\server\lib;d:\U2000\server\cbb\frame\lib;d:\U2000\client;C:\HWNMSJRE\jre_win\bin;%SystemRoot%\system32;%SystemRoot%\SystemRoot%\System32\Wbem;C:\Program Files\Microsoft SQL Server\80\Tools\BINN; |

 **NOTE**

- Use the installation of a U2000 in the **D:\U2000** path as an example. If the U2000 server is installed in another path, the **D:\U2000** path values are different.
- If the actual environment variables are different from the preceding variables, uninstall the U2000 and then reinstall it.

----**End**

# 13 Checking System Installation

---

This topic describes how to check the installation of the Windows High Availability System (Veritas Hot Standby).

## Procedure

- 1 Check the shortcut icons.



### CAUTION

If you cannot log in to the server through the GUI, skip this step.

---

The following shortcut icons are displayed on the desktop:

- **U2000 Client**
- **U2000 System Monitor**
- 
- **U2000 NMS Maintenance Suite**
- **NE Software Management**

- 2 Run the following command on the primary site to check whether the replication between the primary and secondary sites is normal:

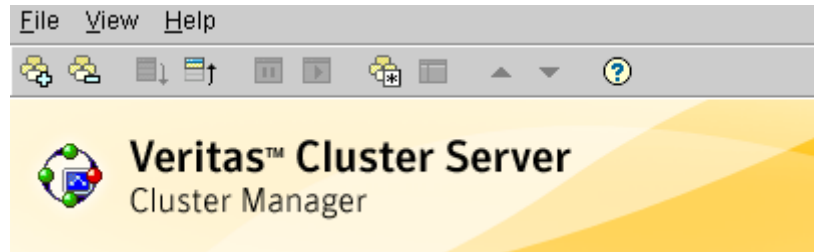
```
C:\> vxrlink -g datadg -i2 status datarlk
```

Information similar to the following is displayed:

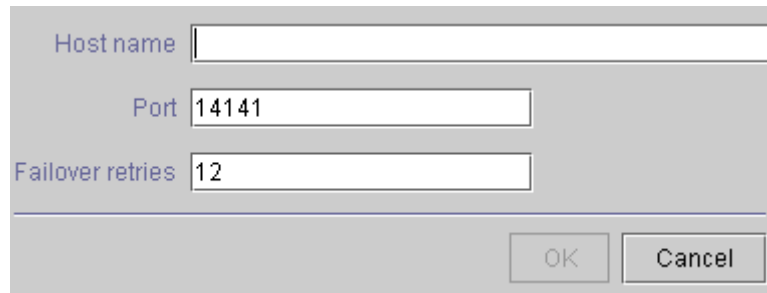
```
2010-3-8 14:35:19
RLINK is up to date.
RLINK is up to date.
```

If **RLINK is up to date** is displayed, it indicates that the replication is normal.

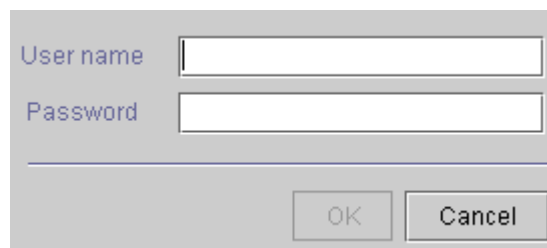
- 3 Do as follows on the primary site to start the NMS server:
  1. Choose **Start > Programs > Symantec > Veritas Cluster Server > Veritas Cluster Manager - Java Console** to start the VCS client.



2. Choose **File > New Cluster**. A dialog box is displayed, as shown in the following figure.



3. Enter the IP address of the system of the primary site. Then, click **OK**.



4. Enter the default user name **admin** and the initial password **password** for the VCS client. Then, click **OK**.
5. Right-click **AppService** and choose **Online > host\_name** from the shortcut menu.

 **NOTE**

If a fault has occurred when the AppService process was started before, right-click **AppService** and choose **clear fault** from the shortcut menu. Then, choose **Online > host\_name** to start the AppService process.

6. In the dialog box that is displayed, click **Yes**.

 **NOTE**

If all resources are in the **Online on Primaster** state, it indicates that the NMS server is started.

#### 4 Start the U2000 System Monitor client.

1. Choose **Start > Programs > Network Management System > U2000 System Monitor** or double-click the associated shortcut icon on the desktop to start the System Monitor.
2. In the **Login** dialog box, enter a user name and password to access the System Monitor window. The user name is **admin** and the initial password is blank by default. When you log in to the System Monitor for the first time, you must change the initial password.
3. Choose **Help > About** from the main menu. The **About** dialog box is displayed. Check the U2000 version.

 **NOTE**

If the version information does not meet the actual requirement, uninstall the U2000 and obtain the correct software version to reinstall the U2000. For details, see the *iManager U2000 High Availability System (Veritas) Software Installation Guide (Windows)*.

5 Start the U2000 client.

1. On the desktop, double-click the **U2000 Client** shortcut icon.
2. In the dialog box that is displayed, enter a U2000 user name and password. If you have changed the password for the **admin** user when logging in to the System Monitor, enter the new password.

 **NOTE**

There are two data transmission modes, namely, **Common** and **Security(SSL)**. You can query data transmission modes on the server. The default data transmission mode is **Common**. For details, see [A.4.13 How to Set the Communication Mode on the U2000 Server for the High Availability System \(Windows\)](#).

----End



# A FAQs

---

This topic provides answers to the most frequent questions concerning the installation.

## [A.1 Windows OS](#)

This topic provides answers to FAQs about clients installed on Windows OS.

## [A.2 Veritas HA System](#)

This topic covers FAQs about the Veritas HA system.

## [A.3 SQL Server Database](#)

This topic describes the FAQs about the SQL server database.

## [A.4 U2000 System](#)

This topic covers FAQs about the U2000 system.

## A.1 Windows OS

This topic provides answers to FAQs about clients installed on Windows OS.

[A.1.1 How to Add a Static Route](#)

[A.1.2 How to Convert the File System Type to NTFS](#)

[A.1.3 How to Verify That the Video Driver Is Correctly Installed](#)

[A.1.4 How to Configure the Remote Login to the Windows OS](#)

[A.1.5 How to Forcibly End a Process](#)

[A.1.6 How to Configure the FTP, SFTP, or TFTP Service on Windows OS](#)

[A.1.7 How to Set the Virtual Memory to the System Managed Size](#)

### A.1.1 How to Add a Static Route

#### Question

If the network connection is unstable, intermittently disconnected, or unreachable, the static route may be not added. How do I add a static route?



#### CAUTION

If there are multiple network interfaces and their IP addresses are within different network segments, the default gateway can be configured on only one of these network interfaces. To prevent the failure of one network interface from causing the disconnection of the entire network, the static route needs to be added on other network interfaces.

---

#### Answer

- 1 Run the following command on the command prompt window to view the existing routes:

```
C: \> route print
```

- 2 Run the following command to add a route:

```
C: \> route -p add network_IP_address mask netmask gateway_IP_address
```



#### NOTE

To delete a route, run the following command:

```
C: \> route delete network_IP_address mask netmask gateway_IP_address
```

----End

## A.1.2 How to Convert the File System Type to NTFS

### Question

How do I convert the file system type to NTFS?

### Answer

- 1 Choose **start** > **Run**. The **Run** window will be displayed.
- 2 Enter **cmd** and click **OK**.
- 3 Enter **convert** *Drive letter where the installation package is decompressed*: **/FS:NTFS**. For example, enter **convert F: /FS:NTFS** if you need to decompress the installation package into disk F. Enter the corresponding information at the prompt.
- 4 Restart the OS.

----End

## A.1.3 How to Verify That the Video Driver Is Correctly Installed

### Question

How do I verify that the video driver is correctly installed?

### Answer

- 1 Right-click **My Computer** on the desktop and choose **Properties** from the shortcut menu.
- 2 In the **System Properties** dialog box, click the **Hardware** tab.
- 3 On the **Hardware** tab page, click **Device Manager**.

In the **Device Manager** dialog box, expand **Display adapters** and check whether the video driver is correctly installed. If a question mask (?) or red cross (X) is displayed, the video driver is not correctly installed. Check and reinstall the video driver.

----End

## A.1.4 How to Configure the Remote Login to the Windows OS

### Question

How to configure the remote login to the Windows OS?

### Answer

- 1 Log in to the OS as the administrator.
- 2 Right-click **My Computer** and choose **Properties** from the shortcut menu.
- 3 In the **System Properties** dialog box, click the **Remote** tab.

- 4 Select the **Enable Remote Desktop on this computer** check box and click **OK**.

----End

## A.1.5 How to Forcibly End a Process

### Question

How do I forcibly end a process?

### Answer

- 1 Press **Ctrl+Shift+Esc**. The **Windows Task Manager** dialog box is displayed.
- 2 Click the **Processes** tab. Right-click the process needs to be ended, and choose **End Process**.

----End

## A.1.6 How to Configure the FTP, SFTP, or TFTP Service on Windows OS

### Question

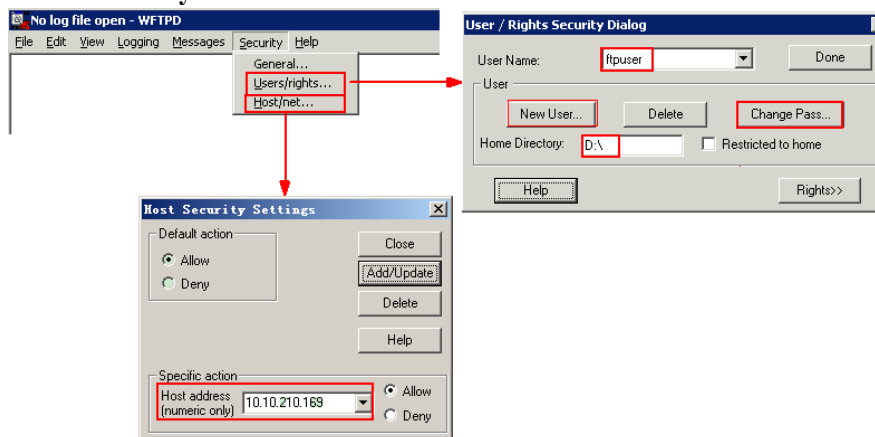
How do I configure the FTP, SFTP, or TFTP service on Windows OS?

#### NOTE

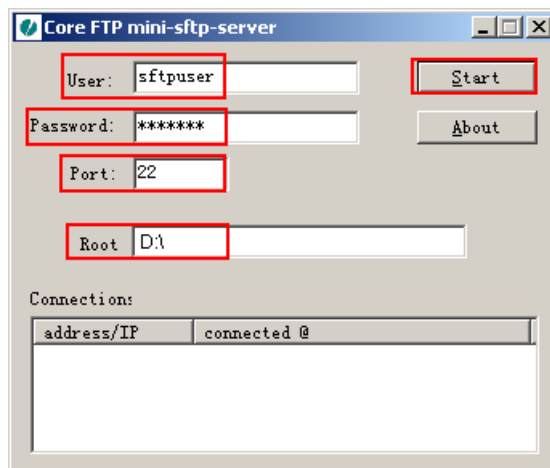
The third-party tool must be started after the FTP, SFTP, or TFTP server is configured.

### Answer

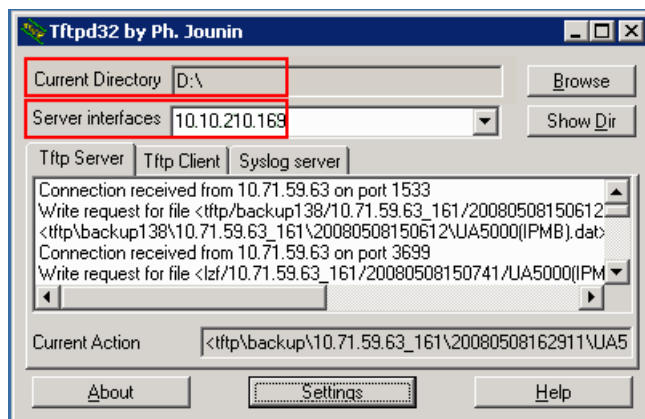
- **Configuring the FTP server using the third-party tool wftpd32.exe**
  1. Copy the **wftpd32.exe** file to the U2000 server and double-click the file.
  2. In the dialog box that is displayed, choose **Security > Users/rights** and create a user; choose **Security > Host/net** and enter the IP address of the FTP server.



- **Configuring the SFTP server using the third-party tool msftpsrvr.exe**
  1. Copy the **msftpsrvr.exe** file to the U2000 server and double-click the file.
  2. In the dialog box that is displayed, create a user.



- **Configuring the TFTP server by using the third-party tool tftpd32.exe**
  1. Copy the **tftpd32.exe** file to the U2000 server and double-click the file.
  2. In the dialog box that is displayed, set the root directory and the IP address of the TFTP server.



----End

## A.1.7 How to Set the Virtual Memory to the System Managed Size

### Question

How to set the virtual memory to the system managed size?

### Answer

- 1 Right-click **My Computer** and choose **Properties** from the shortcut menu.
- 2 In the **System Properties** dialog box, click the **Advanced** tab.
- 3 In the **Performance** area, click **Settings**.
- 4 In the **Performance Options** dialog box, click the **Advanced** tab.
- 5 In the **Virtual memory** area, click **Change**.
- 6 In the **Virtual Memory** dialog box, click the **System managed size** option button.

7 Click **Set**.

8 Click **OK**.

----End

## A.2 Veritas HA System

This topic covers FAQs about the Veritas HA system.

### [A.2.1 License Management](#)

This topic describes the FAQs about license management.

### [A.2.2 System Settings](#)

This topic describes the FAQs about the system settings in the HA system.

## A.2.1 License Management

This topic describes the FAQs about license management.

### [A.2.1.1 How to Check the Veritas License](#)

### [A.2.1.2 How to Update the Veritas License](#)

### A.2.1.1 How to Check the Veritas License

#### Question

How to check the Veritas license?

#### Answer

- 1 Run the following commands to query the details about the Veritas license.

Do as follows for Veritas license 5.1:

- If the displayed information does not contain **VXKEYLESS = Enabled**, the license is a permanent formal license.
- If the displayed information contains **VXKEYLESS = Enabled**, the license is a temporary license and you must replace it with a formal license in time.

Do as follows for Veritas license 5.0:

- If **PERMANENT** is displayed in the **License Type** field, it indicates the licenses of these components are permanent formal licenses.
- If **DEMO** is displayed in the **License Type** field, it indicates that this license is a temporary license. In this case, the expiry time of the license is also displayed. You need to replace the temporary license with the formal license in time.

#### **vxlicrep**

The following message will be displayed:

```
Symantec License Manager vxlicrep utility version 3.02.34.0
Copyright (C) 1996-2008 Symantec Corporation. All rights reserved.
```

Creating a report on all VERITAS products installed on this system

-----\*\*\*\*\*-----

|                  |                                             |
|------------------|---------------------------------------------|
| License Key      | = XXXX-XXXX-XXXX-XXXX-XXXX-XXXX-XXXX-XXXX-X |
| Product Name     | = VERITAS Storage Foundation Enterprise HA  |
| Serial Number    | = 2851                                      |
| License Type     | = PERMANENT                                 |
| OEM ID           | = 2006                                      |
| Site License     | = YES                                       |
| Editions Product | = YES                                       |

Features :=

|                                                    |                  |
|----------------------------------------------------|------------------|
| Reserved                                           | = 0              |
| CPU Count                                          | = Not Restricted |
| Platform                                           | = un-used        |
| VxVM#VERITAS Volume Manager                        | = Enabled        |
| Global Cluster Option#VERITAS Cluster Server       | = Enabled        |
| VXFS#VERITAS File System                           | = Enabled        |
| Version                                            | = 5.1            |
| Tier#VERITAS Cluster Server                        | = Unused         |
| Mode#VERITAS Cluster Server                        | = VCS            |
| VERITAS Storage Foundation Enterprise HA           | = Enabled        |
| Storage Expert#VERITAS Volume Manager              | = Enabled        |
| QLOG#VERITAS File System                           | = Enabled        |
| PGR#VERITAS Volume Manager                         | = Enabled        |
| Dynamic Lun Expansion#VERITAS Volume Manager       | = Enabled        |
| Hardware assisted copy#VERITAS Volume Manager      | = Enabled        |
| Cross-platform Data Sharing#VERITAS Volume Manager | = Enabled        |
| File Change Log#VERITAS File System                | = Enabled        |
| Cross-platform Data Sharing#VERITAS File System    | = Enabled        |
| Extra-Big File Systems#VERITAS File System         | = Enabled        |
| Multi-Volume Support#VERITAS File System           | = Enabled        |
| FASTRESYNC#VERITAS Volume Manager                  | = Enabled        |
| DGSJ#VERITAS Volume Manager                        | = Enabled        |
| VXCKPT#VERITAS File System                         | = Enabled        |
| Quality of Storage Service#VERITAS File System     | = Enabled        |
| VVS_CONFIG#VERITAS Volume Manager                  | = Enabled        |
| VXKEYLESS                                          | = Enabled        |

-----\*\*\*\*\*-----

|              |                          |
|--------------|--------------------------|
| Product Name | = VERITAS Volume Manager |
| License Type | = PERMANENT              |

Features :=

|                             |           |
|-----------------------------|-----------|
| PGR                         | = Enabled |
| PGR_TRAINING                | = Enabled |
| Site Awareness              | = Enabled |
| DGSJ                        | = Enabled |
| VVS_CONFIG                  | = Enabled |
| Hardware assisted copy      | = Enabled |
| RAID5SNAP                   | = Enabled |
| Storage Expert              | = Enabled |
| Dynamic Lun Expansion       | = Enabled |
| Cross-platform Data Sharing | = Enabled |

-----\*\*\*\*\*-----

|              |                       |
|--------------|-----------------------|
| Product Name | = VERITAS File System |
| License Type | = PERMANENT           |

Features :=

|                            |           |
|----------------------------|-----------|
| VXFDD                      | = Enabled |
| Quality of Storage Service | = Enabled |

```
VXCKPT = Enabled
QLOG = Enabled
File Change Log = Enabled
Cross-platform Data Sharing = Enabled
Extra-Big File Systems = Enabled
Multi-Volume Support = Enabled
```

-----\*\*\*\*\*-----

```
Product Name = VERITAS Database Edition for Oracle
License Type = PERMANENT

Features :=
 DATABASE_EDITION = Enabled
 DBED_ORA_TOOLS = Enabled
 ODM = Enabled
```

-----\*\*\*\*\*-----

```
Product Name = VERITAS SANPoint Control
License Type = PERMANENT

Features :=
 SPC Lite = Enabled
```

-----\*\*\*\*\*-----

```
License Key = XXXX-XXXX-XXXX-XXXX-XXXX-XXXX-XXXX-XXXX-X
Product Name = VERITAS Volume Manager
Serial Number = 2851
License Type = PERMANENT
OEM ID = 2006
Site License = YES
Point Product = YES

Features :=

Storage Expert = Enabled
VxVM = Enabled
FASTRESYNC = Enabled
DGSJ = Enabled
CPU Count = Not Restricted
PGR = Enabled
VVS_CONFIG = Enabled
Platform = un-used
Version = 5.1
Dynamic Lun Expansion = Enabled
Hardware assisted copy = Enabled
Cross-platform Data Sharing = Enabled
Maximum number of volumes = Not Restricted
```

-----\*\*\*\*\*-----

```
License Key = XXXX-XXXX-XXXX-XXXX-XXXX-XXXX-XXXX-XXXX-X
Product Name = VERITAS Cluster Server
Serial Number = 2851
License Type = PERMANENT
OEM ID = 2006
Site License = YES
Point Product = YES

Features :=
```

```
Platform = Unused
Version = 5.1
Tier = Unused
Reserved = 0

Mode = VCS
Global Cluster Option = Enabled
```

-----\*\*\*\*\*-----

```
License Key = XXXX-XXXX-XXXX-XXXX-XXXX-XXXX-XXXX-XXXX-X
Product Name = VERITAS File System
Serial Number = 2851
License Type = PERMANENT
OEM ID = 2006
Site License = YES
Point Product = YES
```

```
Features :=
VXFS = Enabled
QLOG = Enabled
VXCKPT = Enabled

CPU Count = Not Restricted
Platform = un-used
Version = 5.1
File Change Log = Enabled
Cross-platform Data Sharing = Enabled
Extra-Big File Systems = Enabled
Multi-Volume Support = Enabled
Quality of Storage Service = Enabled
Maximum number of file systems = Not Restricted
```

-----\*\*\*\*\*-----

```
License Key = XXXX-XXXX-XXXX-XXXX-XXXX-XXXX-XXXX-XXXX-X
Product Name = VERITAS Volume Manager
Serial Number = 5924
License Type = PERMANENT
OEM ID = 2006
Site License = YES
Editions Product = YES
```

```
Features :=
VVR = Enabled
CPU Count = Not Restricted
Platform = un-used
Version = 5.1
Maximum number of volumes = Not Restricted
VXKEYLESS = Enabled
```



#### NOTE

The preceding information uses that of Veritas license 5.1 as an example. The displayed information is different for Veritas license 5.0.

In the above information, **X** stands for the information about the license key.

The displayed information varies according to the OS.

----End

## A.2.1.2 How to Update the Veritas License

### Question

How do I update the Veritas license?

### Answer

- 1 Back up all the license files in the **C:\Program Files\Common Files\Veritas Shared\vrtslic\lic** directory.
- 2 In **Control Panel**, click **Add or Remove Programs**. In the **Add or Remove Programs** dialog box, select the Veritas Storage Foundation HA 5.1 for Windows (Server Components) program, and then click **Change**.
- 3 In the dialog box that is displayed, click the **License Management** option button, and then click **Next**.
- 4 Enter the license that is newly applied for, that is, VRTS STORAGE FOUNDATION STANDARD. Then, click **Update**. Click **Finish**.



#### NOTE

- The information about the demo or formal license that is newly applied for is contained in the license file.
  - The licenses that are newly applied for include VRTS STORAGE FOUNDATION STANDARD, VRTS VOLUME REPLICATOR OPTION, and VRTS CLUSTER SERVER HA/DR.
- 5 Repeat the preceding steps, enter the license keys of VRTS VOLUME REPLICATOR OPTION and VRTS CLUSTER SERVER HA/DR.
  - 6 Run the following command to check whether the updated license takes effect:  
`C:\> vxlicrep`  
Check whether the license key of the related component is updated and whether the authentication date of the component is correct.
  - 7 Restart the OS.

----End

## A.2.2 System Settings

This topic describes the FAQs about the system settings in the HA system.

[A.2.2.1 How to Log in and Exit the VCS \(Veritas Cluster Server\)](#)

[A.2.2.2 How to Query the RVG Status](#)

[A.2.2.3 How to Query the Rlink Status](#)

[A.2.2.4 How to Query the VVR Status](#)

[A.2.2.5 How to Manually Start the VCS Service \(Windows\)](#)

[A.2.2.6 How to Manually Stop the VCS Service \(Windows\)](#)

[A.2.2.7 How to Solve the Problem That the VMDg Node Icon Becomes Grayed out After the High Availability System Is Established](#)

#### A.2.2.8 How to Solve the Problem Where the Communications between the Primary Site and the Secondary Site Are Interrupted After the HA System Is Set Up

### A.2.2.1 How to Log in and Exit the VCS (Veritas Cluster Server)

#### Question

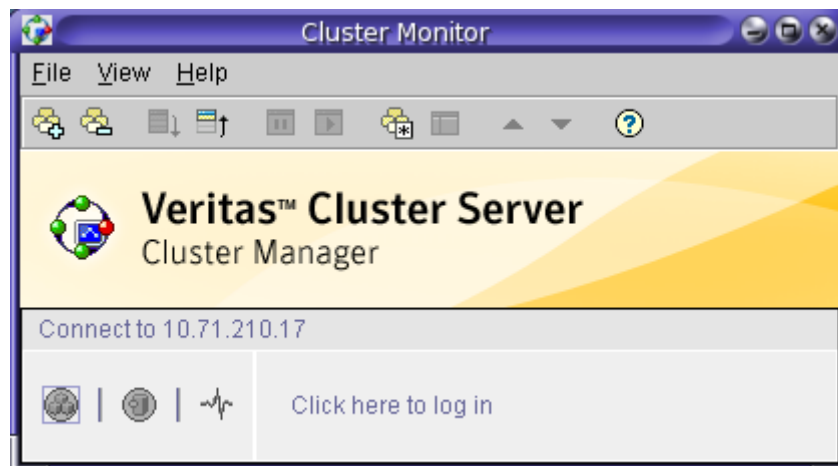
How do I log in to and exit the VCS?

#### Answer

**1** Log in to the VCS.

1. Open the Cluster monitor.

In Windows OS, choose **Start > Programs > Symantec > Veritas Cluster Server > Veritas Cluster Manager - Java Console**.



2. Click **Connect to Cluster name**.

 **NOTE**

If you are logging in to the VCS for the first time, you need to create a new Cluster.

- a. Click **File > New Cluster**.
  - b. Enter the IP address of application network.
  - c. Click **OK**.
3. Enter *User Name* and *Password*.

 **NOTE**

The default user name of the VCS is **admin** and the password is **password**. For system security, modify the password and remember the new password.

4. Click **OK**.

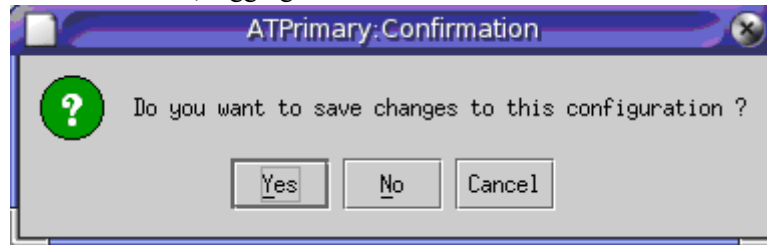
**2** Exit the VCS:

1. Choose **File > Log Out** to exit the VCS.



## CAUTION

If the configuration changes, click **Yes** in the **Confirmation** dialog box when exiting the VCS. Otherwise, logging in to the VCS fails after the server is restarted.



----End

## A.2.2.2 How to Query the RVG Status

### Question

How do I query the RVG status?

### Answer

- 1 Run the following command to view the RVG status of the primary site:

**vxprint -Vl**

The following message will be displayed:

```
Diskgroup = BasicGroup
Diskgroup = datadg

Rvg : datarvg
state : state=ACTIVE kernel=ENABLED
assoc : datavols=S:
 srl=\Device\HarddiskDmVolumes\datadg\srl
 rlinks=datarlk
att : rlinks=datarlk
checkpoint :
flags : primary enabled attached clustered
```

**Table A-1** describes the RVG status of the primary site.

**Table A-1** RVG status of the primary site

| Field      | Description                                                                                                                                                                                                                   |
|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Disk group | Indicates the disk group where the RVG is located.                                                                                                                                                                            |
| Rvg        | Indicates the name of the RVG.                                                                                                                                                                                                |
| state      | Indicates the status of the RVG. In normal cases, the situations are as follows: <ul style="list-style-type: none"> <li>● <b>state</b> is set to <b>ACTIVE</b>.</li> <li>● <b>kernel</b> is set to <b>ENABLED</b>.</li> </ul> |

| Field | Description                                                                                                                                                                                                                                                                                                                 |
|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| assoc | Indicates the association information about the RVG. <ul style="list-style-type: none"><li>● <b>datavols</b> indicates the data disk volume that the RVG contains.</li><li>● <b>srl</b> indicates the SRLog disk volume that the RVG contains.</li><li>● <b>rlinks</b> indicates the Rlink that the RVG contains.</li></ul> |
| att   | Indicates the activated Rlink of the RVG.                                                                                                                                                                                                                                                                                   |
| flags | Indicates the flag of the RVG. In normal cases, the value is <b>primary enabled attached clustered</b> .                                                                                                                                                                                                                    |

- 2 Run the following command to view the RVG status on the secondary site:

**vxprint -VI**

The following message will be displayed:

```
Diskgroup = BasicGroup

Diskgroup = datadg

Rvg : datarvg
state : state=ACTIVE kernel=ENABLED
assoc : datavols=\Device\HarddiskDmVolumes\datadg\lvdata
 srl=\Device\HarddiskDmVolumes\datadg\srl
 rlinks=datarlk
att : rlinks=datarlk
checkpoint :
flags : secondary enabled attached clustered
```

For the description of the RVG status at the secondary site, see [Table A-1](#). Normally, **flags** on the secondary site is **secondary enabled attached clustered**.

----End

### A.2.2.3 How to Query the Rlink Status

#### Question

How do I query the Rlink status?

#### Answer

- 1 Run the following command at the primary site to query the Rlink status:

**vxprint -PI <rlinkName>**

For example, run the following command to query the status of **datarlk**:

**vxprint -PI datarlk**

A message similar to the following will be displayed:

```
Diskgroup = datadg

Rlink : datarlk
info : timeout=500 connections=15
 latency_high_mark=10000 latency_low_mark=9950
```

```

bandwidth_limit=none
state : state=ACTIVE
 synchronous=override latencyprot=off srlprot=autodcm
assoc : rvg=datarvg
 remote_host=10.71.224.43
 remote_dg=datadg
 remote_rlink=datarlk
 local_host=10.71.224.44
protocol : TCP/IP
flags : write attached consistent connected

```

**Table A-2** describes the Rlink status on the primary site.

**Table A-2** Rlink status on the primary site

| Field      | Description                                                                                                                                                                                                                                                                                                                                            |                                               |
|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|
| Disk group | Indicates the disk group where the Rlink is located.                                                                                                                                                                                                                                                                                                   |                                               |
| Rlink      | Indicates the name of the Rlink.                                                                                                                                                                                                                                                                                                                       |                                               |
| info       | Indicates the information about the Rlink. <ul style="list-style-type: none"> <li>● <b>timeout</b> indicates the timeout period.</li> <li>● <b>latency_high_mark</b> indicates the highest delay flag.</li> <li>● <b>latency_low_mark</b> indicates the lowest delay flag.</li> <li>● <b>bandwidth_limit</b> indicates the bandwidth limit.</li> </ul> |                                               |
| state      | Indicates the status of the Rlink. In normal cases, the situations are as follows: <ul style="list-style-type: none"> <li>● <b>state</b> is set to <b>ACTIVE</b>.</li> <li>● <b>synchronous</b> is set to <b>override</b>.</li> <li>● <b>latencyprot</b> is set to <b>off</b>.</li> <li>● <b>srlprot</b> is set to <b>autodcm</b>.</li> </ul>          |                                               |
| assoc      | rvg                                                                                                                                                                                                                                                                                                                                                    | Indicates the RVG where the Rlink is located. |
|            | remote_host                                                                                                                                                                                                                                                                                                                                            | Indicates the IP address of the remote host.  |
|            | remote_dg                                                                                                                                                                                                                                                                                                                                              | Indicates the remote disk group.              |
|            | remote_rlink                                                                                                                                                                                                                                                                                                                                           | Indicates the Rlink name of the remote host.  |
|            | local host                                                                                                                                                                                                                                                                                                                                             | Indicates the IP address of the local host.   |
| protocol   | Indicates the protocol for synchronizing data.                                                                                                                                                                                                                                                                                                         |                                               |
| flags      | Indicates the flag of the Rlink. Normally, the value is <b>write attached consistent connected</b> .                                                                                                                                                                                                                                                   |                                               |

- 2 Run the following command on the standby site to query the Rlink status:

**vxprint -PI <rlinkName>**

For example, run the following command to query the **datarlk** status:

**vxprint -PI datarlk**

A message similar to the following will be displayed:

```
Diskgroup = datadg

Rlink : datarlk
info : timeout=500 connections=15
 latency_high_mark=10000 latency_low_mark=9950
 bandwidth_limit=none
state : state=ACTIVE
 synchronous=override latencyprot=off srlprot=autodcm
assoc : rvg=datarvg
 remote_host=10.71.224.44
 remote_dg=datadg
 remote_rlink=datarlk
 local_host=10.71.224.43
protocol : TCP/IP
flags : write attached consistent connected
```

For the description of the Rlink status on the secondary site, see [Table A-2](#).

----End

## A.2.2.4 How to Query the VVR Status

### Question

How do I query the VVR status when maintaining the Veritas HA system?

### Answer

- 1 Run the following command to view the rvg name of the replication system:

**vradmin printrvg**

A message similar to the following will be displayed:

```
Replicated Data Set : RDS
Primary :
 Hostname : 10.71.224.44 <localhost>
 RvgName : datarvg
 DgName : datadg
Secondary :
 Hostname : 10.71.224.43
 RvgName : datarvg
 DgName : datadg
```

In the preceding message, the rvg name (RvgName) is **datarvg**.

- 2 Run the following command to view the Rlink name of the replication system. The parameter **datarvg** is obtained in Step 1.

**vxprint -l datarvg**

A message similar to the following will be displayed:

```
Diskgroup = datadg

Rvg : datarvg
state : state=ACTIVE kernel=ENABLED
assoc : datavols=S:
 srl=\Device\HarddiskDmVolumes\datadg\srl
 rlinks=datarlk
att : rlinks=datarlk
checkpoint :
flags : primary enabled attached clustered

Rlink : datarlk
```

```
info : timeout=500 connections=15
 latency_high_mark=10000 latency_low_mark=9950
 bandwidth_limit=none
state : state=ACTIVE
 synchronous=override latencyprot=off srlprot=autodcm
assoc : rvg=datarvg
 remote_host=10.71.224.43
 remote_dg=datadg
 remote_rlink=datarlk
 local_host=10.71.224.44
protocol : TCP/IP
flags : write attached consistent connected
```

In the preceding information, the Rlink name (Rlink) is **datarlk**.

- 3 Run the following commands to view other status information of the replication system. The parameters **datarvg** and **datarlk** are obtained in Step 1 and Step 2.
  - Run the # **vxdisk list** command to query the disk status.
  - Run the # **vx dg list** command to query the status of the disk group.
  - Run the # **vxprint -l datarvg** command to query the RVG status.
  - Run the # **vxprint -l datarlk** command to query the Rlink status.
  - Run the # **vxlink -g datadg status datarlk** command on the primary site to query the replication cache status.

Save the response to the preceding commands.

----End

## A.2.2.5 How to Manually Start the VCS Service (Windows)

### Question

How do I manually start the VCS service (Windows)?

### Answer

- 1 Run the following command to start the VCS process:

```
C:\> hastart
```

----End

## A.2.2.6 How to Manually Stop the VCS Service (Windows)

### Question

How do I manually stop the VCS service (Windows)?

### Answer

- 1 Run the following command to stop the VCS service:

```
C:\> hastop -all -force
```

----End

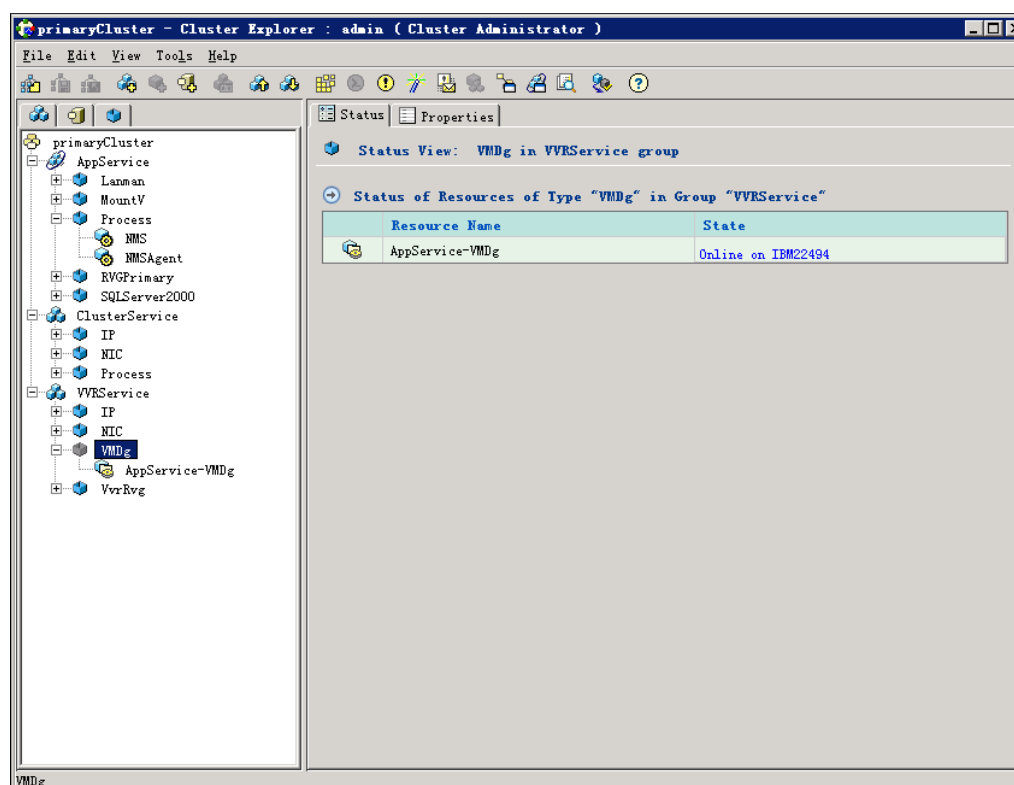
## A.2.2.7 How to Solve the Problem That the VMDg Node Icon Becomes Grayed out After the High Availability System Is Established

### Question

How do I solve the problem that the VMDg node icon becomes grayed out after the high availability system is established?

### Answer

- 1 After establishing the high availability system, log in to the VCS client and view the grayed-out state of the VMDg node icon, as shown in the following figure:



This is the problem of abnormal icon display, but functions are not affected.

----End

## A.2.2.8 How to Solve the Problem Where the Communications between the Primary Site and the Secondary Site Are Interrupted After the HA System Is Set Up

### Question

After the HA system is set up, the communications between the primary site and secondary site are interrupted. As a result, the active/standby switchover occurs and the replication status between the primary site and the secondary site is abnormal. How do I restore the normal HA system relationship?

## Answer

- 1 Check the connection status of the network port or network cables of the primary site. Then, restore the normal communications at the primary site.
- 2 Log in to the VCS client of the primary site. The client displays that the **AppService** resource group is offline. In addition, the client displays errors of the **ClusterService** resource group and **VVRService** resource group.
- 3 Right-click the **ClusterService** resource group and **VVRService** resource group, and then choose **Clear Fault > primaryCluster** from the shortcut menu to clear the errors of the resource groups.
- 4 Right-click the **ClusterService** resource group and **VVRService** resource group respectively, and then choose **Online > Host Name** from the shortcut menu to make the resource groups online.
- 5 At the secondary site, log in to the client of the network management system maintenance suite, and then choose **Deploy > Fore local site be primary**.
- 6 Click **OK**. The normal HA system relationship is restored. All NMS applications are running at the secondary site.

----End

## A.3 SQL Server Database

This topic describes the FAQs about the SQL server database.

[A.3.1 How to Check Whether the SQL Server Database Has Been Installed](#)

[A.3.2 How to Shut Down the SQL Server Database](#)

[A.3.3 How to Start the SQL Server Database](#)

[A.3.4 How to Solve the Problem That the Password of User sa Is Forgotten](#)

[A.3.5 How to Solve the Problem That the Application Is Suspended During the Installation of the SQL Server](#)

[A.3.6 How to Check Whether the SQL Server Database Can Be Sorted in Binary Mode](#)

[A.3.7 How to Change the Database Sorting Mode to Binary](#)

[A.3.8 How to Manually Uninstall the SQL Server Database](#)

[A.3.9 How to Check the Name of the SQL Server Database](#)

### A.3.1 How to Check Whether the SQL Server Database Has Been Installed

#### Question

How do I check whether the SQL Server database has been installed?

## Answer

### NOTE

- If the SQL Server database has not been installed, when you install the U2000, the SQL Server database is automatically installed with the U2000.
- If the SQL Server database has been installed, when you install the U2000, a dialog box is displayed asking you whether to reuse the SQL Server database. If you choose to reuse it, you do not need to reinstall the SQL Server database and thus can save time; if you choose not to reuse it, you need to reinstall the SQL Server database. Generally, you are not recommended to reuse the SQL Server database.
- Consult the computer's administrator to learn whether the SQL Server database has been installed.
- Check whether the installation directory and file of the SQL Server database exist. A sample directory is **C:\MSSQL2000**.
- Manually start the SQL Server database. For details, see [A.3.3 How to Start the SQL Server Database](#).
- Check whether the database is installed in binary mode. For details, see [A.3.6 How to Check Whether the SQL Server Database Can Be Sorted in Binary Mode](#).

----End

## A.3.2 How to Shut Down the SQL Server Database

### Question

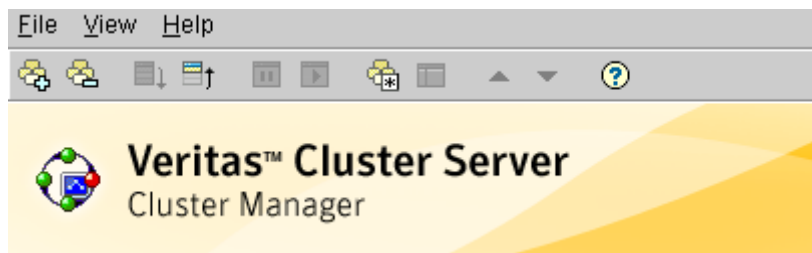
How do I shut down the SQL server database?

### NOTE

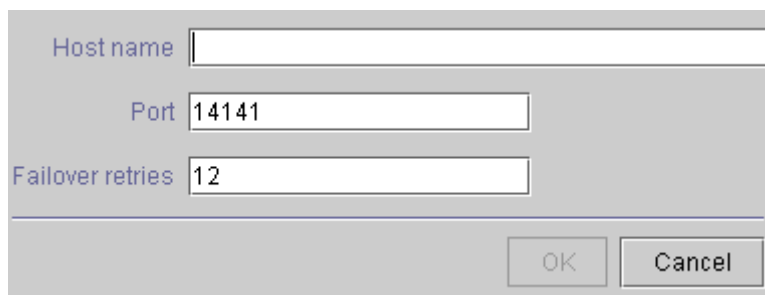
In normal cases, the SQL server database of the primary site are started but those of the secondary site are not started.

### Answer

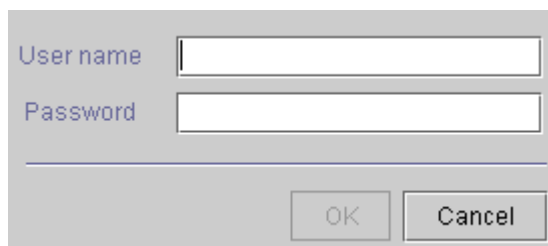
- 1 In the high availability system, log in to the OS as the user who has administrator rights.
- 2 Start the VCS client.
  1. Choose **Start > Programs > Symantec > Veritas Cluster Server > Veritas Cluster Manager - Java Console** to start the VCS client.



2. Choose **File > New Cluster**. A dialog box is displayed, as shown in the following figure.



3. Enter the IP address of the system of the primary site. Then, click **OK**.



4. Enter the default user name **admin** and the default password **password** of the VCS client. Then, click **OK**.
- 3 Choose **AppService** from the navigation tree and click the **Resources** tab. Then, right-click **NMSServer** and choose **Offline > host\_name** from the shortcut menu. In the dialog box that is displayed, click **Yes**.
- 4 After the **NMSServer** resource is stopped, right-click **AppService-SQLServer2000** and choose **Offline > host\_name** from the shortcut menu. In the dialog box that is displayed, click **Yes**.

----End

### A.3.3 How to Start the SQL Server Database

#### Question

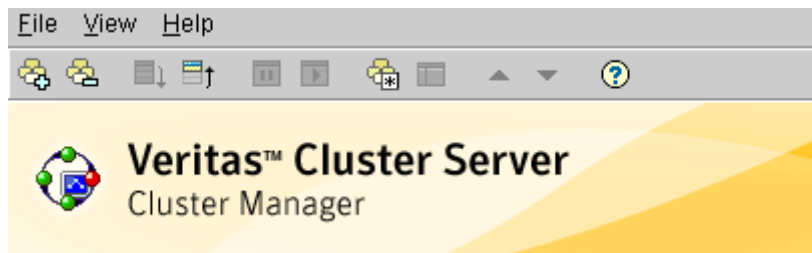
How do I start the SQL server database?

#### NOTE

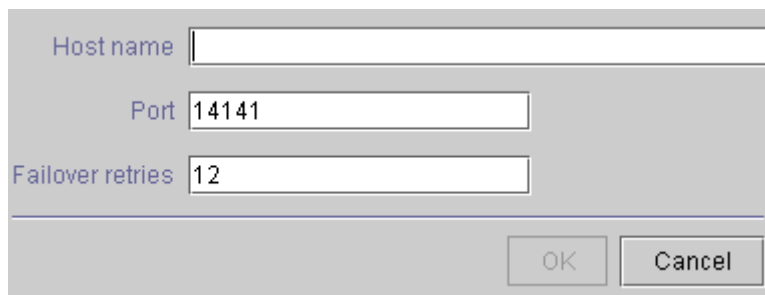
In normal cases, the SQL server database of the primary site are started but those of the secondary site are not started.

#### Answer

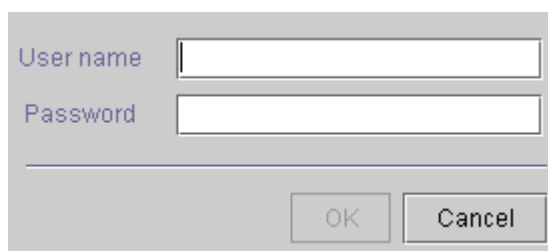
- 1 In the high availability system, log in to the OS as the user who has administrator rights.
- 2 Start the VCS client.
  1. Choose **Start > Programs > Symantec > Veritas Cluster Server > Veritas Cluster Manager - Java Console** to start the VCS client.



2. Choose **File > New Cluster**. A dialog box is displayed, as shown in the following figure.



3. Enter the IP address of the system of the primary site. Then, click **OK**.



4. Enter the default user name **admin** and the default password **password** of the VCS client. Then, click **OK**.
- 3 Choose **AppService** from the navigation tree and click the **Resources** tab. Then, right-click **AppService-SQLServer2000** and choose **Online > host\_name** from the shortcut menu. In the dialog box that is displayed, click **Yes**.

----End

## A.3.4 How to Solve the Problem That the Password of User sa Is Forgotten

### Question

How do I solve the problem that the password of user **sa** of the SQL server database is forgotten?

#### NOTE

This method is applicable to scenarios where the NMS is not installed. If the NMS is installed and you forget the password of user **sa**, contact Huawei technical support engineers.

### Answer

- 1 Choose **start > All Programs > Microsoft SQL Server > Enterprise Manager**.

- 2 In the **SQL Server Enterprise Manager** window, expand **Microsoft SQL Servers > SQL Server Group** in **Console Root** on the left, and choose **Security** on a server.
- 3 Click **Login**. Double-click the **sa** item in the right pane, and set the password in the **SQL Server Login Properties-sa** dialog box.

----End

## A.3.5 How to Solve the Problem That the Application Is Suspended During the Installation of the SQL Server

### Question

How do I solve the problem that the application is suspended during the installation of the SQL Server?

When the database is not installed for the first time or is reinstalled after the installation failure, the system displays the message "A previous program installation created pending file operations on the installation machine. You must restart the computer before running setup."

### Answer

- 1 Choose **Start > Run**. The **Run** dialog box is displayed.
- 2 Enter **regedit** and click **OK**.
- 3 In the **Registry Editor** tree, choose **My Computer > HKEY\_LOCAL\_MACHINE > SYSTEM > CurrentControlSet > Control > Session Manager**.
- 4 In the right pane, right-click **PendingFileRenameOperations** and choose **Delete** from the shortcut menu.
- 5 Restart the OS.
- 6 Reinstall the SQL Server database.

----End

## A.3.6 How to Check Whether the SQL Server Database Can Be Sorted in Binary Mode

### Question

When you install the SQL Server database, you need to select the binary mode as the sorting mode. How do I check whether the SQL Server database can be sorted in binary mode?

### Answer

- 1 Run the following commands at the command prompt:  

```
C:\> isql -Usa -Psa password -Sdatabase name
1> sp_helpsort
2> go
```

If the displayed information includes *binary sort*, the database is sorted in binary mode. If the displayed information does not include *binary sort*, the database is not sorted in binary mode.

----End

## A.3.7 How to Change the Database Sorting Mode to Binary

### Question

How to change the database sorting mode to binary?



#### NOTE

This operation is applicable to SQL Server 2000 SP4.

### Answer

- 1 Choose **Start > Run**. Then, enter **cmd** to open a CLI.
- 2 To change the database sorting mode to binary, run the following commands:

```
C:\> cd C:\HWENGR\engineering\tool\ModifySort
```

```
C:\HWENGR\engineering\tool\ModifySort> ModifySort.bat database name sasa
password
```

If information similar to the following is displayed, the database sorting mode is changed to binary.

```
Starting deal database sort,please wait.....
End deal database sort
Starting deal table sort,please wait.....
deal DB-Library:'s Tables
All Finish
```

----End

## A.3.8 How to Manually Uninstall the SQL Server Database

### Question

How do I manually uninstall the SQL server database?

### Answer

- 1 Ensure that the database is uninstalled correctly by performing the following steps:
  1. You need to stop the database server and exit the database service manager before uninstalling the Microsoft SQL Server 2000.
  2. Click **Start > Control Panel**. The **Control Panel** window is displayed.
  3. Double-click the **Add or Remove Programs** icon. The **Add or Remove Programs** window is displayed.
  4. Select **Microsoft SQL Server 2000**, and then click **Change/Remove**.
  5. Click **Yes**. A progress bar is displayed.
  6. Perform the remaining operations at system prompts.

7. Delete the **MSSQL2000** folder in the installation directory of the database.
  8. Delete the **Microsoft SQL Server** folder in the **Program files** folder that is in the installation directory of the OS.
  9. Delete the **MSDesigners7** and **MSDesigners98** folders in the **Program Files\Common Files\Microsoft Shared** directory that is in the installation directory of the OS.
  10. Check whether the following registration table information has been deleted automatically. If the information exists, manually delete it.
    - a. HKEY\_LOCAL\_MACHINE\SOFTWARE\Microsoft\Microsoft SQL Server
    - b. HKEY\_LOCAL\_MACHINE\SOFTWARE\Microsoft\MSSQLServer
    - c. HKEY\_LOCAL\_MACHINE\SOFTWARE\Microsoft\Updates\SQL Server 2000
    - d. HKEY\_LOCAL\_MACHINE\SYSTEM\CurrentControlSet\Services\MSSQLSERVER
    - e. HKEY\_LOCAL\_MACHINE\SYSTEM\CurrentControlSet\Services\SQLSERVERAGENT
    - f. HKEY\_LOCAL\_MACHINE\SYSTEM\CurrentControlSet\Services\MSSQLServerADHelper
- 2 After the preceding operations are performed, restart the OS.
  - 3 Ensure that the registries do not contain the **PendingFileRenameOperations** key value .
    1. Click **Start > Run**. In the **Run** dialog box, enter **regedit** to open the registration table.
    2. Choose **Edit > Find** from the main menu. Then, enter **PendingFileRenameOperations** and click **Find Next**.
    3. Check that the search result does not include **PendingFileRenameOperations**. If **PendingFileRenameOperations** is included, right-click it and choose **Delete** from the shortcut menu.

----End

## A.3.9 How to Check the Name of the SQL Server Database

### Question

How to check the name of the SQL Server database?

### Answer

- 1 Choose **Start > All Programs > Microsoft SQL Server > Client Network Utility**. The **SQL Server Client Network Utility** dialog box is displayed.
- 2 Click the **Alias** tab page to check the database name.

----End

## A.4 U2000 System

This topic covers FAQs about the U2000 system.

### [A.4.1 How to Verify That the U2000 Is Installed](#)

[A.4.2 How to Check Whether the U2000 Processes of the High Availability System \(Windows\) Are Started](#)

[A.4.3 How to Start the U2000 Processes of the High Availability System \(Windows\)](#)

[A.4.4 How to End the U2000 Processes of the High Availability System \(Windows\)](#)

[A.4.5 How to Resolve the Problem Wherein the Icon of the U2000 Client Is Inconsistent with Other Icons](#)

[A.4.6 How to Resolve the Problem Wherein the Message "PATH environment's length is too long" Is Displayed During Installation](#)

[A.4.7 How to Determine Which Types of Software Are Preinstalled](#)

[A.4.8 Which Installation Packages Are Required for U2000 Installation](#)

[A.4.9 How to Process the Message Displayed During Installation of the U2000, Indicating That a Suspended File Has Been Created](#)

[A.4.10 How to Process the Message Displayed During Installation of the U2000, Indicating That ISQL Connection Check Fails](#)

[A.4.11 How to Handle the Problem Wherein the System Displays a Message Indicating That the Client Installation Packages and Basic Packages Cannot Exist at the Same Time During Decompression](#)

[A.4.12 How to Check Downloaded Software Packages by Using MD5 Software](#)

[A.4.13 How to Set the Communication Mode on the U2000 Server for the High Availability System \(Windows\)](#)

## A.4.1 How to Verify That the U2000 Is Installed

### Question

How do I verify that the U2000 is installed?

### Answer

1. Log in to the OS as a user with administrator rights.
2. Check whether the icons of the U2000 client and U2000 System Monitor exist on the desktop. If they exist, it indicates that the U2000 has been installed.

#### NOTE

Sometimes, the shortcut icons do not exist on the desktop because they are deleted by mistake. In this case, check whether the U2000 is installed by choosing **Start > All Programs**. If the U2000 item exists after you choose **Start > All Programs**, it indicates that the U2000 is installed.

## A.4.2 How to Check Whether the U2000 Processes of the High Availability System (Windows) Are Started

### Question

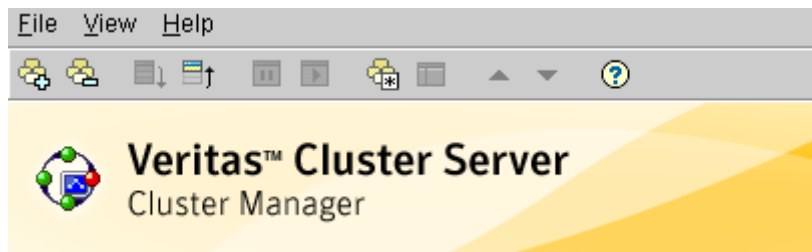
How to check whether the U2000 processes of the high availability system (Windows) are started?

 **NOTE**

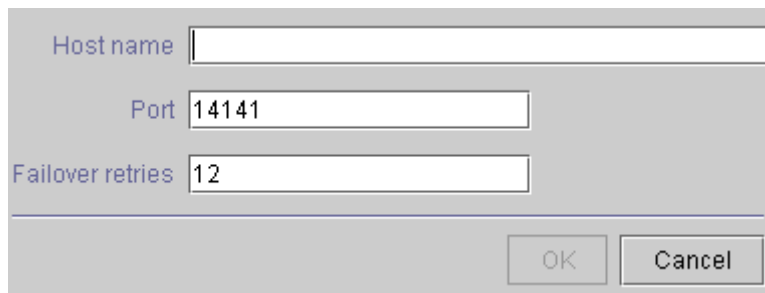
In normal cases, the U2000 processes of the primary site are started but those of the secondary site are not started.

## Answer

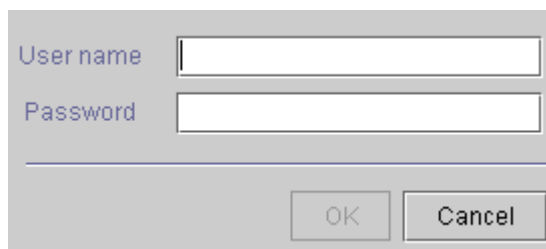
- 1 Log in to the OS as a user with administrator rights.
- 2 Start the VCS client.
  1. Choose **Start > Programs > Symantec > Veritas Cluster Server > Veritas Cluster Manager - Java Console** to start the VCS client.



2. Choose **File > New Cluster**. A dialog box is displayed, as shown in the following figure.



3. Enter the IP address of the system of the primary site. Then, click **OK**.



4. Enter the default user name **admin** and the default password **password** of the VCS client. Then, click **OK**.
- 3 Select the **AppService** resource group from the navigation tree and check whether resources on the **Resource** tab page are started.

----End

## A.4.3 How to Start the U2000 Processes of the High Availability System (Windows)

### Question

How to start the U2000 processes of the high availability system (Windows)?

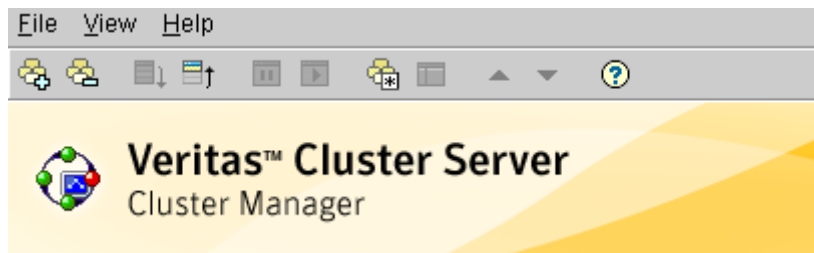
 **NOTE**

In normal cases, the U2000 processes of the primary site are started but those of the secondary site are not started.

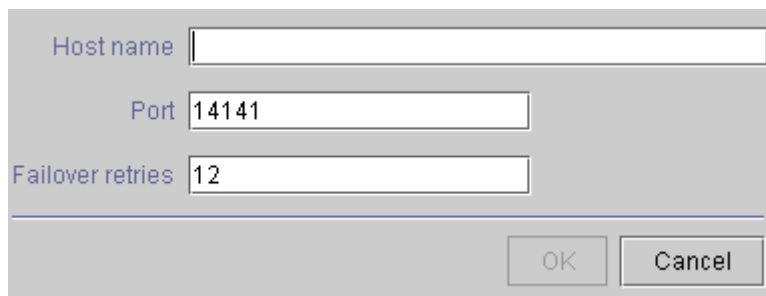
## Answer

- 1 Log in to the OS as a user with **administrator** rights. The system automatically starts the database and U2000 service.
- 2 If the database and U2000 processes do not automatically start along with the OS, run the following command to manually start them:

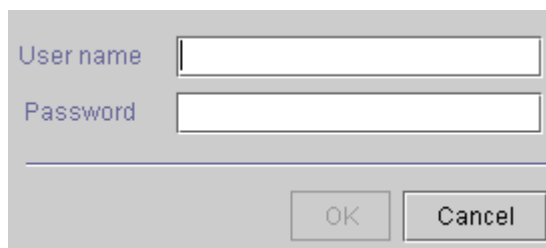
1. Choose **Start > Programs > Symantec > Veritas Cluster Server > Veritas Cluster Manager - Java Console** to start the VCS client.



2. Choose **File > New Cluster**. A dialog box is displayed, as shown in the following figure.



3. Enter the IP address of the system of the primary site. Then, click **OK**.



4. Enter the default user name **admin** and the default password **password** of the VCS client. Then, click **OK**.
5. Right-click **AppService** in the navigation tree and choose **Online > host\_name** from the shortcut menu.
6. In the dialog box that is displayed, click **Yes**.

----End

## A.4.4 How to End the U2000 Processes of the High Availability System (Windows)

### Question

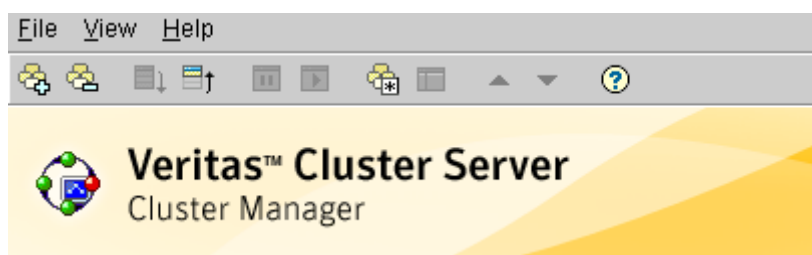
How do I end the U2000 processes of the high availability system (Windows)?

#### NOTE

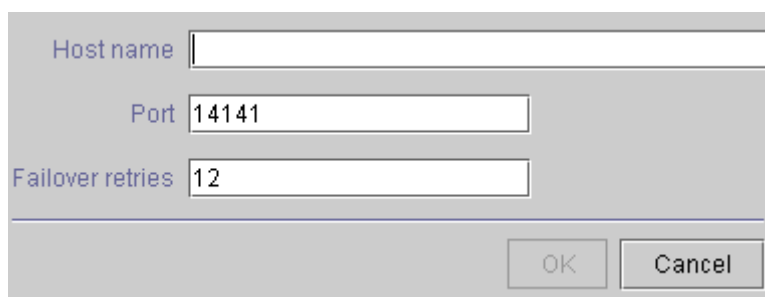
In normal cases, the U2000 processes of the primary site are started but those of the secondary site are not started.

### Answer

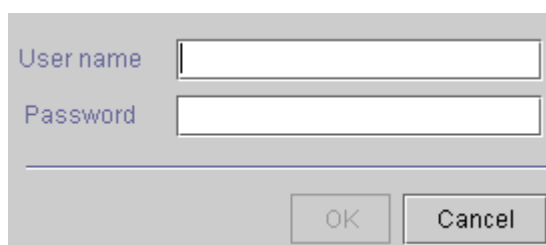
- 1 Log in to the OS as a user with administrator rights.
- 2 End the U2000 processes of the Veritas high availability system.
  1. Choose **Start > Programs > Symantec > Veritas Cluster Server > Veritas Cluster Manager - Java Console** to start the VCS client.



2. Choose **File > New Cluster**. A dialog box is displayed, as shown in the following figure.



3. Enter the IP address of the system of the primary site. Then, click **OK**.



4. Enter the default user name **admin** and the default password **password** of the VCS client. Then, click **OK**.
5. Right-click **AppService** in the navigation tree and choose **Offline > host\_name** from the shortcut menu.

6. In the dialog box that is displayed, click **Yes**.

----End

## A.4.5 How to Resolve the Problem Wherein the Icon of the U2000 Client Is Inconsistent with Other Icons

### Question

If the U2000 has been reinstalled, the icon of the U2000 client may be inconsistent with other icons. How do I resolve this problem?

### Answer

- 1 Right-click on the desktop and choose **Properties** from the shortcut menu.
- 2 On the **Appearance** tab page, click **Advanced** to access the **Advanced Appearance** dialog box.
- 3 Select **Icon** from the **Item** drop-down list.
- 4 Memorize the size of the current default icon. Then, modify the icon size.
- 5 Click **OK** twice. The icon size is changed.
- 6 Repeat the preceding steps to change the icon size back to the default one. The icon is then normally displayed.

----End

## A.4.6 How to Resolve the Problem Wherein the Message "PATH environment's length is too long" Is Displayed During Installation

### Question

When the U2000 is installed on Windows OS, the following message is displayed and the installation is paused. In this case, how do I resolve the problem?

PATH environment's length is too long. Please delete some useless fields and then perform the installation.

### Answer

- 1 Right-click **My Computer** on the desktop and choose **Properties** from the shortcut menu.
- 2 Click the **Advanced** tab.
- 3 Click **Environment Variables** to check whether the environment variable exceeds the maximum length. When you check the length of the PATH environment variable, you may find that **%PATH%** is added to the environment variable. As a result, environment variable exceeds the maximum length.

... C:\WINDOWS\system32;%PATH%; ...

In this case, delete **%PATH%** from the environment variable.

----End

## A.4.7 How to Determine Which Types of Software Are Preinstalled

### Question

Servers come preinstalled with software from Huawei. The U2000 servers come preinstalled to different extents according to the scheme and software purchased. How do I determine which types of software are preinstalled?

### Answer

The U2000 is installed based on the BOM.

- If the U2000 license BOM is available, the U2000 HA system needs to be installed according to the license BOM while the primary site and secondary site are separated as much as possible. Technical support engineers need to change the IP address, check that the network between the primary site and secondary site is functioning properly, and then connect the two sites.
- If the U2000 license BOM is unavailable, only the OS needs to be installed.

## A.4.8 Which Installation Packages Are Required for U2000 Installation

### Question

Which installation packages are required for U2000 installation?

### Answer

Prepare installation packages according to the U2000 installation scheme.

**Table A-3** DVD list

| Software              | DVD Name                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Windows OS software   | Windows OS installation DVD: Windows Server 2003 R2 Enterprise with SP2<br><b>NOTE</b><br>There are five Windows OS DVDs available, among which DVDs A, B, and C are used to install Windows Server 2003 R2 Enterprise with SP1, and DVDs D and E are used to install Windows Server 2003 R2 Enterprise with SP2. Only DVDs D and E must be used.<br>OS patch installation DVD: Windows OS patch:<br>U2000 <del>version</del> _server_ospatch_win32_x86_dvd1 |
| Database software     | Installation DVD: SQL Server standard edition (installing the database in the Windows Server 2003 OS):<br>U2000 <del>version</del> _server_dbstd_win32_x86_dvd2                                                                                                                                                                                                                                                                                              |
| Veritas software      | Installation DVD: Veritas Storage Foundation and High Availability Solutions 5.1 for Windows                                                                                                                                                                                                                                                                                                                                                                 |
| U2000 server software | Installation DVD: U2000 software:<br>U2000 <del>version</del> _server_nms_win32_x86_dvd3                                                                                                                                                                                                                                                                                                                                                                     |

**Table A-4** Software package list

| Software              | Medium Name                                                                                                                                                                                                                                                                                                                                                           | Description                                                                                                                                                                                                                                                                                                                       |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Windows OS software   | Windows OS installation DVD: Windows Server 2003 R2 Enterprise with SP2<br>OS patch installation software package:<br>Windows OS patch:<br>U2000 <del>version</del> _server_ospatch_en_win32_x86.zip                                                                                                                                                                  | It is used to install the Windows OS. <b>It must be available.</b>                                                                                                                                                                                                                                                                |
| Database software     | Installation software package: SQL Server standard edition (installing the database in the Windows Server 2003 OS):<br>U2000 <del>version</del> _server_dbstd_en_win32_x86.zip<br><b>NOTE</b><br>The database software package U2000 <del>version</del> _server_dbper_en_win32_x86.zip must be on-hand for installation engineers to install the U2000 on Windows XP. | <b>It must be available.</b> It is used to install the database.                                                                                                                                                                                                                                                                  |
| Veritas software      | Installation software package:sf_ha_32bit.dvd1.5.1.0.0.win.zip                                                                                                                                                                                                                                                                                                        | <b>It must be available.</b> It is used to install the Veritas.                                                                                                                                                                                                                                                                   |
| U2000 server software | Basic components:<br>U2000 <del>version</del> _server_nmsbase_win32_x86.zip                                                                                                                                                                                                                                                                                           | <b>It must be available.</b> It is used to install the U2000.                                                                                                                                                                                                                                                                     |
|                       | Core components:<br>U2000 <del>version</del> _server_nmscore_win32_x86.zip                                                                                                                                                                                                                                                                                            | <b>It must be available.</b> It is used to install the U2000.                                                                                                                                                                                                                                                                     |
|                       | Transport domain component (optional).<br>Prepare this component if managing transport or PTN equipment:<br>U2000 <del>version</del> _server_nmstrans_win32_x86.zip                                                                                                                                                                                                   | <b>It is required only if the U2000 needs to manage Huawei transport equipment.</b> Huawei transport equipment includes: <ul style="list-style-type: none"> <li>● MSTP equipment</li> <li>● WDM equipment</li> <li>● NA WDM equipment</li> <li>● Submarine equipment</li> <li>● RTN equipment</li> <li>● PTN equipment</li> </ul> |

| Software | Medium Name                                                                                                                                                                  | Description                                                                                                                                                                                                                                                                                                                                                                            |
|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|          | IP domain components (optional). Prepare these components if managing routers, switches, or security equipment:<br>U2000 <code>version_</code><br>server_nmsip_win32_x86.zip | <b>It is required only if the U2000 needs to manage Huawei IP equipment.</b><br>Huawei IP equipment includes:<br><ul style="list-style-type: none"> <li>● Routers</li> <li>● Switches</li> <li>● Metro service equipment</li> <li>● Broadband access equipment</li> <li>● VoIP gateways</li> <li>● Firewalls</li> <li>● Service inspection gateway</li> <li>● SVN equipment</li> </ul> |
|          | Access domain components (optional). Prepare this component if managing access equipment:<br>U2000 <code>version_</code><br>server_nmsaccess_win32_x86.zip                   | <b>It is required only if the U2000 needs to manage Huawei access equipment.</b><br>Huawei access equipment includes:<br><ul style="list-style-type: none"> <li>● FTTx equipment</li> <li>● MSAN equipment</li> <li>● DSLAM equipment</li> </ul>                                                                                                                                       |

## A.4.9 How to Process the Message Displayed During Installation of the U2000, Indicating That a Suspended File Has Been Created

### Question

How do I process the message displayed during installation of the U2000, indicating that a suspended file has been generated?

### Answer

- 1 On Windows OS, the system displays a message indicating that a suspended file is already created during the reinstallation of the U2000. This is because the suspended file is generated during the previous installation.

Enter the following command in the address bar and then press **Enter**:

%tmp%

- 2 Query the **ClearInstallDiskDir.bat** file and delete it.

----End

## A.4.10 How to Process the Message Displayed During Installation of the U2000, Indicating That ISQL Connection Check Fails

### Question

How do I process the message displayed during installation of the U2000, indicating that ISQL connection check fails?

### Answer

- 1 Check whether the environment variable **path** contains the following path and ensure that the environment variables of other databases are not configured:  
  
C:\Program Files\Microsoft SQL Server\80\Tools\BINN.
- 2 Choose **Start > Program > Microsoft SQL Server > Query Analyzer**. On the **Connect to SQL Server** page that is displayed, set the IP address of the local host as the service name, select the **Start SQL Server if it is stopped** check box, enter the password of the **sa** user, and then click **OK**. Check whether the SQL Server can be normally connected.

----End

## A.4.11 How to Handle the Problem Wherein the System Displays a Message Indicating That the Client Installation Packages and Basic Packages Cannot Exist at the Same Time During Decompression

### Question

In a scenario where the U2000 server software is installed by using software packages, software packages are decompressed, the system displays a message indicating that the client installation packages and basic packages cannot exist at the same time. How do I handle this problem?

### Answer

This problem arises because both the server software packages and client software packages are copied and then decompressed at the same time. To resolve this problem, delete client software packages and then decompress them again.

## A.4.12 How to Check Downloaded Software Packages by Using MD5 Software

### Question

How do I check downloaded software packages by using MD5 software?

### Answer

- 1 Download the **MD5\_Code\_English** file from <http://support.huawei.com>. The **MD5\_Code\_English** file contains MD5 code information after all software and document packages are decompressed.

 **NOTE**

Perform the following operations to obtain the **MD5\_Code\_English** file:

1. Access <http://support.huawei.com>.
  2. Choose **Software Center > Version Software > Network OSS&Service > iManager U2000 > iManager U2000 > iManager U2000 V100R002 > iManager U2000 V100R002C01SPC002**.
  3. Download the **MD5\_Code\_English** file in the **Release Document** column.
2. Navigate to <http://www.winmd5.com> and download the WinMD5.
  3. Double-click **WinMD5 1.2.exe** to run the WinMD5.
  4. Drag the downloaded software package to the window for running the WinMD5. The WinMD5 automatically generates MD5 code information about the downloaded software package and then compares the information with the counterpart in the **MD5\_Code\_English** file.
    - The downloaded software package is correct if the information about the software package is consistent with the counterpart in the **MD5\_Code\_English** file.
    - The software package must be re-downloaded if the information about the software package is inconsistent with the counterpart in the **MD5\_Code\_English** file.

----End

## A.4.13 How to Set the Communication Mode on the U2000 Server for the High Availability System (Windows)

### Question

The U2000 server and client can communicate with each other in common or Security Socket Layer (SSL) mode. How to set the common or SSL mode?

 **NOTE**

You need to set the communication mode for the U2000 server and client only on the primary site.

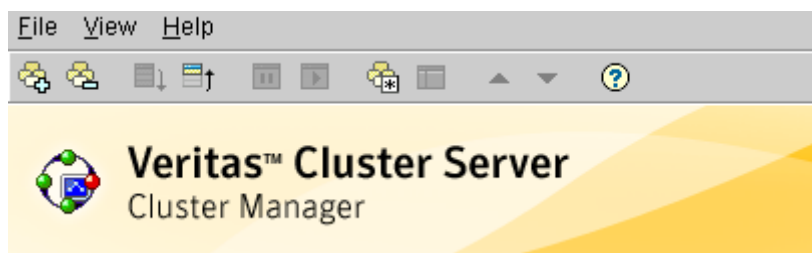
### Answer

1. Log in to the OS on the U2000 server on the primary site as an administrator and do as follows to query the communication mode in use:

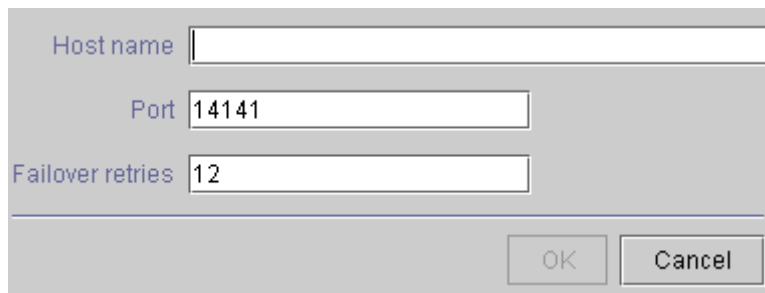
Choose **Start > Run**. In the **Run** dialog box, enter **cmd** to open the command line interface (CLI). Enter **ssl\_adm -cmd query** to query the communication mode that the U2000 server is using.

2. On the primary site, do as follows to stop U2000 processes:

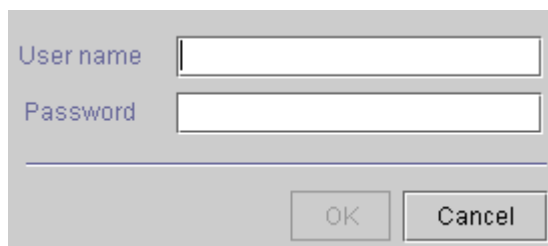
1. Choose **Start > Programs > Symantec > Veritas Cluster Server > Veritas Cluster Manager - Java Console** to start the VCS client.



2. Choose **File > New Cluster**. A dialog box is displayed, as shown in the following figure.



3. Enter an IP address for the system of the primary site. Then, click **OK**.



4. Enter the default user name **admin** and the default password **password** of the VCS client. Then, click **OK**.
5. Right-click **AppService** in the navigation tree and choose **Offline** > **host\_name** from the shortcut menu.
6. In the dialog box that is displayed, click **Yes**.

Wait patiently. If all resources on the **Resources** tab page turn grey, it indicates that U2000 processes have been stopped.

- 3 Perform the following operations on the primary site to start the database:

1. In the navigation tree, right-click **AppService-SQLServer2000**, and then choose **Online** > **host\_name** from the shortcut menu.
2. In the dialog box that is displayed, click **Yes**.

- 4 Set the communication mode for the U2000 server and client.

Choose **Start** > **Run**. In the **Run** dialog box, enter **cmd** to open the CLI. Enter **ssl\_admin -cmd setmode mode parameter** and set the communication mode for the U2000 server and client.

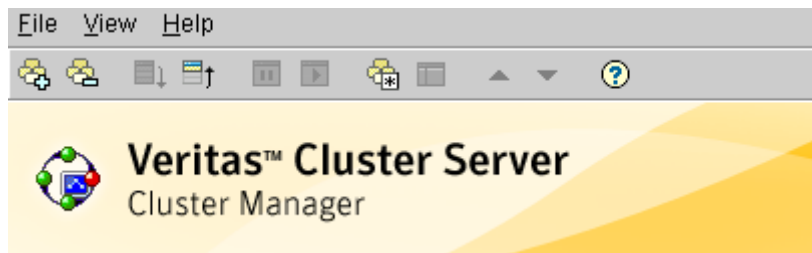
 **NOTE**

The available options for *mode parameter* are **normal**, **ssl**, and **both**.

- **normal**: indicates that the U2000 server and client can communicate with each other only in common mode.
- **ssl**: indicates that the U2000 server and client can communicate with each other only in SSL mode. In this mode, communication security is guaranteed between the U2000 server and client.
- **both**: indicates that the U2000 server and client can communicate with each other in either common or SSL mode.

- 5 To stop U2000 processes, run the following commands on the primary site:

1. Choose **Start** > **Programs** > **Symantec** > **Veritas Cluster Server** > **Veritas Cluster Manager - Java Console** to start the VCS client.



2. Choose **File > New Cluster**. A dialog box is displayed, as shown in the following figure.

3. Enter the IP address of the system of the primary site. Then, click **OK**.

4. Enter the default user name **admin** and the default password **password** of the VCS client. Then, click **OK**.
5. Right-click **AppService** in the navigation tree and choose **Online > host\_name** from the shortcut menu.
6. In the dialog box that is displayed, click **Yes**.

----End

# B Uninstalling the U2000 Server

---

This topic describes how to uninstall the U2000 server.

## [B.1 Uninstalling the U2000 Server](#)

This topic describes how to uninstall the U2000 server in a Veritas HA OS (Windows).

## [B.2 Verifying the U2000 Server Uninstall](#)

This topic describes how to verify the U2000 server uninstall.

## B.1 Uninstalling the U2000 Server

This topic describes how to uninstall the U2000 server in a Veritas HA OS (Windows).

### Context

Uninstalling the database during uninstallation of the U2000 is not recommended. If the database needs to be uninstalled, perform this operation after the U2000 has been uninstalled. Otherwise, certain data files fail to be deleted.

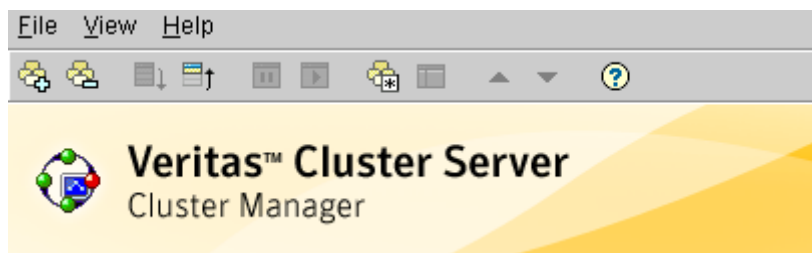
Uninstalling the Veritas software is not recommended. If the Veritas software needs to be uninstalled, you must reinstall the OS.

### Procedure

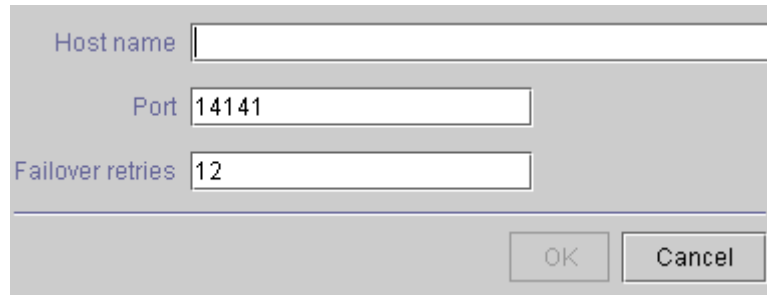
- 1 Separate the primary and secondary sites. Log in to the primary site and then perform the following operations:
  1. double-click the **U2000 MSuite** shortcut icon on the desktop. Wait about one minute. The **Login** dialog box is displayed.
  2. Set the related login parameters.

The login parameters are described as follows:

    - **IP Address**: System IP address for the computer where the MSuite server resides.
    - **Port No.**: The default port number is **12212**. Do not change the default value during login.
    - **User Name and Password**: The default user name is **admin**. The default password is **admin**.
  3. Click **OK**.
  4. Choose **Deploy > Separate Primary Site from Secondary Site**. The **Separate Primary Site from Secondary Site** dialog box is displayed.
  5. Click **OK**. The progress bar is displayed indicating the status of separating the primary and secondary sites. Wait until the dialog box is displayed indicating that the separation is complete.
  6. Click **OK**.
- 2 On the primary site, do as follows to stop U2000 processes:
  1. Choose **Start > Programs > Symantec > Veritas Cluster Server > Veritas Cluster Manager - Java Console** to start the VCS client.

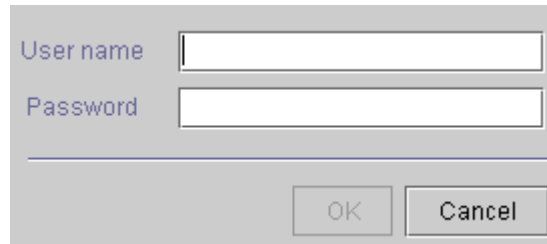


2. Choose **File > New Cluster**. A dialog box is displayed, as shown in the following figure.



A dialog box with a light gray background. It contains three input fields: 'Host name' (empty), 'Port' (containing '14141'), and 'Failover retries' (containing '12'). At the bottom right are two buttons: 'OK' and 'Cancel'.

3. Enter an IP address for the system of the primary site. Then, click **OK**.



A dialog box with a light gray background. It contains two input fields: 'User name' (empty) and 'Password' (empty). At the bottom right are two buttons: 'OK' and 'Cancel'.

4. Enter the default user name **admin** and the default password **password** of the VCS client. Then, click **OK**.
5. Right-click **AppService** in the navigation tree and choose **Offline** > *host\_name* from the shortcut menu.
6. In the dialog box that is displayed, click **Yes**.

Wait patiently. If all resources on the **Resources** tab page turn grey, it indicates that U2000 processes have been stopped.

- 3 Perform the following operations on the primary site to start the database:
  1. In the navigation tree, right-click **AppService-SQLServer2000**, and then choose **Online** > *host\_name* from the shortcut menu.
  2. In the dialog box that is displayed, click **Yes**.
- 4 Log in to a Windows OS as an OS user with administrator rights. Choose **start** > **Programs** > **Network Management System** > **Uninstall U2000**.
- 5 Click **Next**. The **Confirm** dialog box will be displayed.
- 6 After the uninstall is complete, the **Uninstallation Completed** dialog box will be displayed.
- 7 Click **Finish**. The **Restart the operating system** dialog box will be displayed.
- 8 Click **Yes** to restart the OS.
- 9 After the OS is restarted, double-click the **stopserver.bat** file in the **C:\HWENGR\engineering** path to shut down the U2000 MSuite server. Then, delete the **C:\HWENGR** and **C:\HWNMSJRE** paths.
- 10 Restart the VCS client by referring to Step 2.
- 11 Right-click **ClusterService** in the navigation tree and choose **Offline** > *host\_name* from the shortcut menu. In the dialog box that is displayed, click **Yes**.
- 12 Right-click **AppService** in the navigation tree and choose **Unlink** from the shortcut menu. In the dialog box that is displayed, click **Yes**.

- 13 Right-click **AppService** and choose **Delete** from the shortcut menu to delete the AppService resource group.
- 14 Right-click **VVRService** and choose **Delete** from the shortcut menu to delete the VVRService resource groups.

----End

## B.2 Verifying the U2000 Server Uninstall

This topic describes how to verify the U2000 server uninstall.

### Procedure

- 1 Ensure that the following shortcut icons are deleted from the Windows desktop: **U2000 Client**, **U2000 Server**, **U2000 MSuite**, **NE Software Management**, and **U2000 System Monitor**. In addition, ensure that the U2000 menu item has been deleted from the **Start > Programs** menu.
- 2 Ensure that the installation path of the U2000 server, such as the **D:\U2000** path, is deleted.
- 3 Ensure that the environment variables of the U2000 have been deleted.
  1. Right-click **My Computer** on the desktop and choose **Properties** from the shortcut menu.
  2. Click the **Advanced** tab.
  3. Click **Environment Variables**. In the **Environment Variables** dialog box, verify that U2000 environment variables have been deleted. For details, see [12 Checking Environment Variables](#).
- 4 Ensure that U2000 database files have been deleted.
  1. Choose **start > Programs > Microsoft SQL Server > Enterprise Manager**. The **SQL Server Enterprise Manager** window will be displayed.
  2. Choose **Databases** for the local server from the navigation tree. Ensure that all databases have been deleted, except **master**, **model**, **msdb**, **pubs**, **tempdb**, and **Northwind**.

----End

# C Powering Off the High Availability System (Windows)

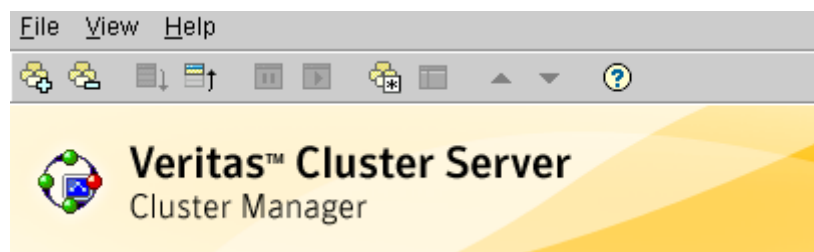
This topic describes how to power off the system. Do not power off the U2000 when it is properly managing NEs. The U2000 only needs to be shut down in special circumstances (such as switching the power supply).

## Context

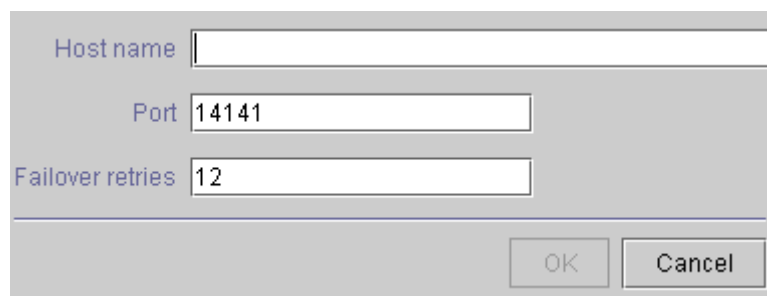
Do not perform this operation when the U2000 is managing NEs normally. You need to shut down the U2000 only in special cases, such as power supply switching.

## Procedure

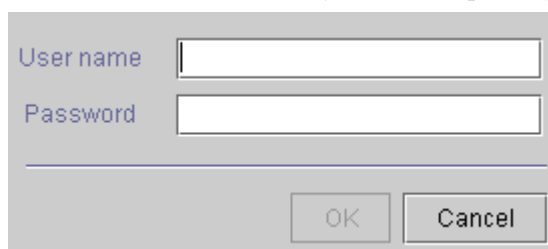
- 1 Exit all running U2000 clients.
- 2 On the primary site, do as follows to stop the U2000 processes:
  1. Choose **Start > Programs > Symantec > Veritas Cluster Server > Veritas Cluster Manager - Java Console** to start the VCS client.



2. Choose **File > New Cluster**. A dialog box is displayed, as shown in the following figure.



3. Enter the IP address of the system of the primary site. Then, click **OK**.



The image shows a standard Windows-style login dialog box. It has a light gray background. At the top, there are two text input fields. The first field is labeled 'User name' in a blue font. The second field is labeled 'Password' in a blue font. Below these fields, there are two buttons: 'OK' and 'Cancel', both in a standard gray button style.

4. Enter the default user name **admin** and the default password **password** of the VCS client. Then, click **OK**.
  5. Right-click **AppService** in the navigation tree and choose **Offline > host\_name** from the shortcut menu.
  6. In the dialog box that is displayed, click **Yes**.  
Wait patiently. If all the resources on the **Resources** tab page turn grey, it indicates that the NMS processes are stopped.
- 3** Log in to the server of the active site and run the following commands to stop the VCS service:
- ```
C : \> hastop -all -force
```
- In the Task Manager, check whether the **had.exe** process exists. If yes, right-click the process and stop it.
- 4** Log in to the server of the standby site and perform the preceding step to stop the VCS service on the server of the standby site.
 - 5** Shut down the OS of the standby site.
 1. Choose **Start > Shut Down**.
 2. In the dialog box that is displayed, select **Shut Down**. Then, click **OK**.
 - 6** Shut down the OS of the active site.
 1. Choose **Start > Shut Down**.
 2. In the dialog box that is displayed, select **Shut Down**. Then, click **OK**.
- End**

D Acronyms and Abbreviations

A

ACL	access control list
ASCII	American standard code for information interchange

C

CD-ROM	compact disc-read only memory
CPU	central processing unit

D

DC	data center
DCN	data communication network
DHCP	Dynamic Host Configuration Protocol

E

ESN	equipment serial number
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F

Ftp	File Transfer Protocol
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I

ID	identity
iMAP	integrated management application platform
IP	Internet Protocol

IPMP	IP network multipathing
L	
LCT	local craft terminal
LAN	local area network
M	
MML	human-machine language (formerly man-machine language)
MPLS	multi-protocol label switching
MA	media service access
MAC	media access control
MAN	metropolitan area network
MAU	medium attachment unit
N	
NBI	northbound interface
NE	network element
NIC	network information center
NMS	network management system
NTP	Network Time Protocol
O	
OEM	original equipment manufacturer
OS	operating system
OSS	operations support system
P	
PC	personal computer
PPP	Peer-Peer Protocol
PSTN	public switched telephone network
PVC	permanent virtual circuit

S

SCSI	small computer systems interface
SDH	synchronous digital hierarchy
SNMP	Simple Network Management Protocol
SQL	structured query language
SSH	secure shell

T

Tcp	transport control protocol
Tftp	trivial file transfer protocol

U

UDP	User Datagram Protocol
UPS	uninterrupted power supply

X

XML	extensible markup language
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