

NAVMPS
**JOINT MISSION PLANNING SYSTEM
JMPS-M SERVER LOADING AND
CONFIGURATION INSTRUCTIONS**

Prepared By
SPAWARSYSCEN San Diego, C4I Programs Office, Philadelphia, PA

Prepared For TAMPS PMA-281

Paul Meisinger
NAVMPS Engineering Lead

SPAWARSYSCEN San Diego C4I Programs
Office, Philadelphia

LCDR Joseph L. Gardiner, PMA-281
Assistant Program Manager for System
Engineering
Naval Air Systems Command



SPAWARSYSCEN San Diego C4I Programs Office Philadelphia

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Revision History

Rev	By	Date	ECO/ECP	Description
.01	David A. Bartkus	11/7/02	N/A	<ul style="list-style-type: none"> Initial draft of the JMPS server installation procedures.
1.0	David A. Bartkus	5/13/03	N/A	<ul style="list-style-type: none"> Updated procedures with changes to DNS configuration, new COE segment installation procedures, wiring diagrams, and general updates throughout. Removed DRAFT label, Version 1.0.
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1.8	Eugene Shpitsky	3/8/04	N/A	<ul style="list-style-type: none">• Added extra reboot to VCS SP2 configuration. Added a few more warning messages. Added technical notes. Added SNMP zone configuration. Added brief IAVA instructions.
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Contact Information

Name	Company	Phone Number	E-mail
Paul D. Meisinger	C4I Programs Office	215-214-8039	Meisinge@spawar.navy.mil
Chris LaBohne	C4I Programs Office	215-214-8000	Labohne@spawar.navy.mil
Joseph Mountain	Gnostech Inc	215-214-8000	Mountain@nosc.mil
David Slomeana	Gnostech Inc	215-214-8000	Slomeana@nosc.mil
David A. Bartkus	Gnostech Inc	215-214-8000	Bartkus@nosc.mil
Eugene Shpilsky	Gnostech Inc	215-214-8000	genes@gnostech.com
Max Brodsky	Gnostech Inc	215-214-8000	Brodsky@nosc.mil
Steve Fleeger	Lockheed Martin	215-728-7506	Fleeger@nosc.mil

Applicable Documents

The following documents form a part of this document. In the event of conflict between the referenced documents and the content of this document, the content of this document shall be considered a superseding requirement.

Document	Document No/Version/Date
JMPS Version 1.1 Install Procedures	JC1-A2739-04003 Version 1.1.0.4022sQAa 12 February 2004
Joint Mission Planning System – Combat One Test Environment Preparation – (JC1) 0.3	JC1-A2739-03006 Version 0.51 Draft 12 January 2004

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1 Introduction

The Joint Mission Planning System will be capable of both stand-alone and client / server operation. When deployed in the client / server application, a server must be utilized to provide the functionality required by the Mission Planners. Some of the duties that the JMPS Server will be perform will be to maintain user accounts, store mission data, and provide links to key mission parameters. In order to allow the JMPS server to perform these tasks, it must be configured properly. This document will outline the required steps to configure the JMPS Server.

2 Purpose

The sole purpose of this document is to establish a set of governing procedures that will be followed to load the JMPS Servers. By the establishment of these procedures the intent is to eliminate undocumented installations. In this manner all sites will have a “known” configuration and the guesswork, frustration and waste of time trying to debug problems on differently configured setups will be eliminated.

3 Quick Review of JMPS Server Configuration

There are three possible JMPS server configurations. The one that is delivered to a particular site is determined by the Program Office and upon the requirements of site. There are 3 configurations for the JMPS Server suite, they include JMPS Enterprise, JMPS Enterprise Lite and JMPS PICO Server. Below are diagrams that show each of these configurations for reference.

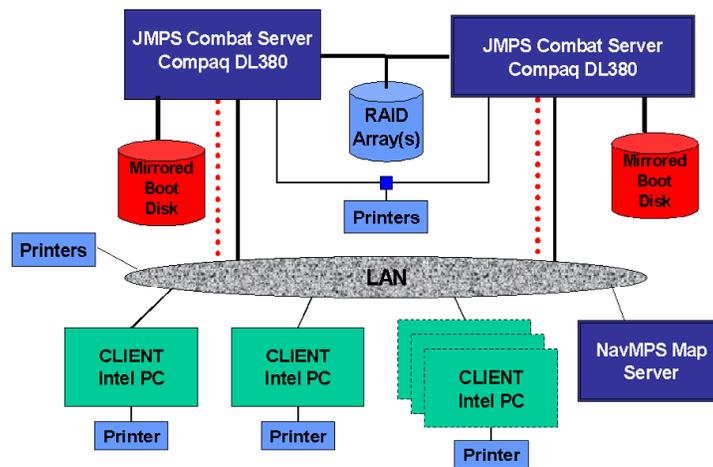


Figure 1 - JMPS Enterprise Server Configuration

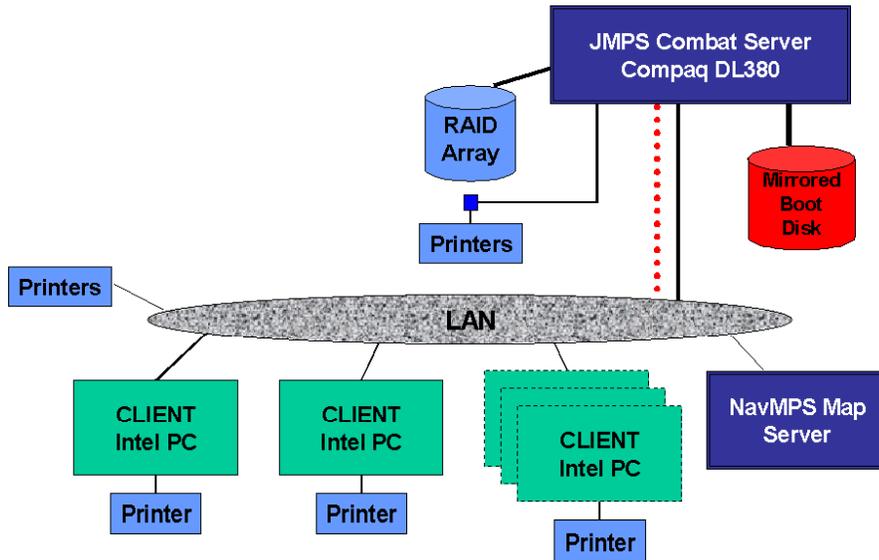


Figure 2 - JMPS Enterprise Lite Server Configuration

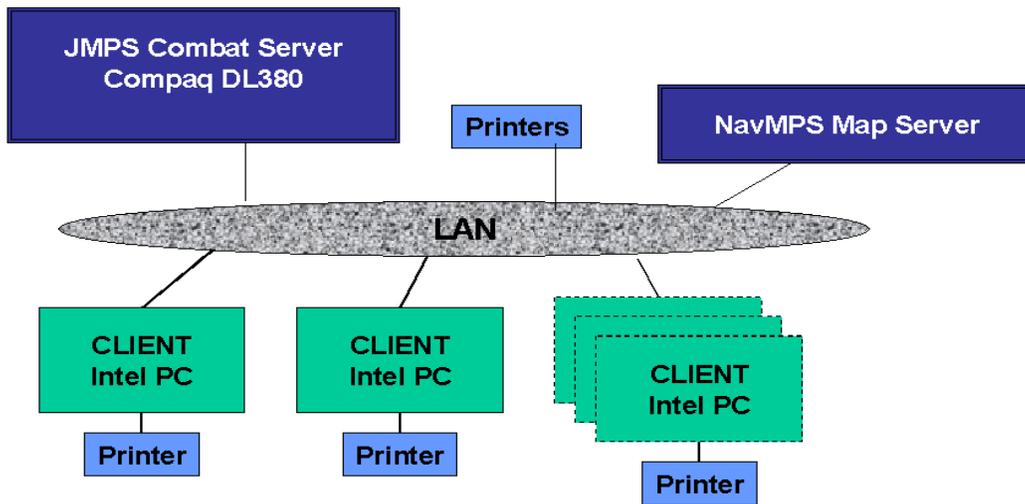


Figure 3 - JMPS PICO Server

4 JMPS System Installation Prerequisites

The following hardware and software items are necessary to accomplish the JMPS server configuration.

4.1 Hardware

4.1.1 JMPS Enterprise Server Hardware

The following list of hardware will be required for the JMPS Enterprise Server suite:

1. 2 - Compaq DL380 Servers, configured for JMPS Enterprise operations.
2. 2 - Ciprico NetArray 1100 Units
3. 2- Brocade SilkWorm 3200 Fibre Switches
4. 4 - SCSI hard drives, 2 for each server. Size should be 73 GB.
5. 2 - TAC 4 racks
6. 2 - Flat Panel displays
7. 2 - Rack Mount Key Boards
8. 2 - UPS Units
9. IOMGEA NAS
10. Fibre Channel Cables (specifics TBD)
11. Ethernet Cables (specifics TBD)
12. OTHERS TBD

4.1.2 JMPS Enterprise Lite Server Hardware

The following list of hardware will be required for the JMPS Enterprise Lite Server suite:

1. 1 - Compaq DL380 Server, configured for JMPS Enterprise Lite operations.
2. 1 - Ciprico NetArray 1100 Unit
3. 2 - SCSI hard drives, Size should be 73 GB.
4. 1 - Rack TBD
5. 1 - Flat Panel display
6. 1 - Rack Mount Key Board
7. 1 - UPS Unit
8. IOMEGA NAS
9. Fibre Channel Cables (specifics TBD)
10. Ethernet Cables (specifics TBD)
11. OTHERS TBD

4.1.3 JMPS PICO Server Hardware

The following list of hardware will be required for the JMPS PICO Server suite:

1. 1 - Compaq DL380 Server, configured for JMPS PICO operations.
2. 5 - SCSI hard drives, Size should be 73 GB.
3. 1 - Rack, Deployment Case, TBD
4. 1 - Display TBD
5. 1 - Key Board TBD
6. 1 - UPS Unit TBD
7. IOMEGA NAS
8. Ethernet Cables (specifics TBD)
9. OTHERS TBD

4.2 Software and Licenses

The following software and licenses will be required for each of the server configurations.

4.2.1 Software

1. Microsoft Windows 2000 Advanced Server
2. Microsoft SQL Server 2000
3. Microsoft SQL Server 2000 Service Pack 3
4. Microsoft Office 2000 (non SP or SP1, or SP2)
5. COE 4205 Kernel Software and JMPS required COE Segments
6. Veritas Cluster Server 2.0 (**only for JMPS Enterprise**)
7. Veritas Cluster Server 2.0 Service Pack 2 (**only for JMPS Enterprise**)
8. Veritas Volume Manager 3.1 (**only for JMPS Enterprise and JMPS Enterprise Lite**)
9. Veritas Volume Manager 3.1 Service Pack 1 (**only for JMPS Enterprise and JMPS Enterprise Lite**)
10. Veritas Cluster Server 2.0 Enterprise Agent for SQL 2000 (**only for JMPS Enterprise**)
11. Veritas Backup Exec 9.0
12. WinZip 8.1 (or later version)
13. Ciprico Storage Manager 3.2
14. ETI UPS Power Monitoring Software (**Shipboard Enterprise Only**)
15. OTHERS TBD...

4.2.2 Licenses

The System Administrator responsible for the setup, configuration and maintenance of the JMPS Server must ensure that the following valid licenses are in place for the site and that the number of licenses is never exceeded. The individual sites will be held responsible for license violations.

1. Microsoft Windows 2000 Advanced Server Client Licenses
2. Microsoft Office 2000 Licenses
3. Microsoft SQL 2000 Server Client Licenses
4. Veritas Cluster Node Licenses
5. Veritas Cluster Server 2.0 Enterprise Agent for SQL 2000 Licenses
6. Veritas Volume Manager Licenses
7. Veritas Backup Exec Licenses
8. WinZip License
9. ETI UPS Power Monitoring Software
10. OTHERS TBD

4.3 Networking Requirements

4.3.1 Enterprise

Each Enterprise system will require four distinct IP addresses – one for the Gigabit Ethernet Adapter in each Compaq DL380 server, one for the virtual SQL server, and one for the virtual file sharing server. All IP addresses, including those necessary for the virtual cluster servers, are valid external IP address, not non-routable IP addresses.

Prior to installation, there must not be any servers on the existing network with names VIRTUALJMPS or JMPSSERVER. These two names are reserved for Veritas Cluster Server.

4.3.2 Enterprise Lite

Each Enterprise Lite system will require two distinct IP addresses - one for the Gigabit Ethernet Adapter in each Compaq DL380 server.

4.3.3 Pico

Each Pico system will require two distinct IP addresses - one for the Gigabit Ethernet Adapter in each Compaq DL380 server.

5 JMPS Server Wiring Diagrams

The basic interconnection diagram for each of the JMPS Server Configurations is presented in the below.

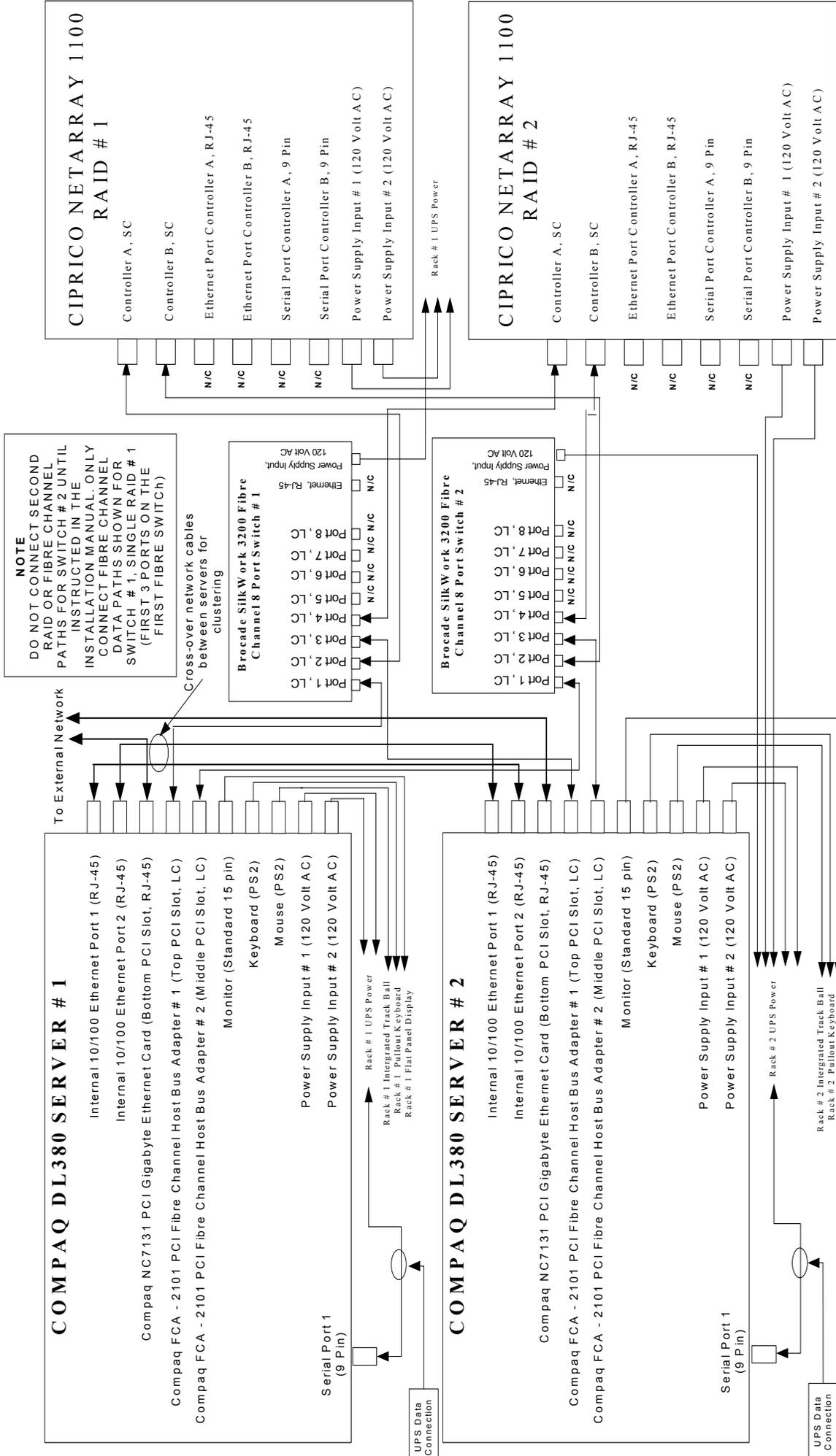


Figure 4 - JMPS Enterprise Server Wiring Diagram

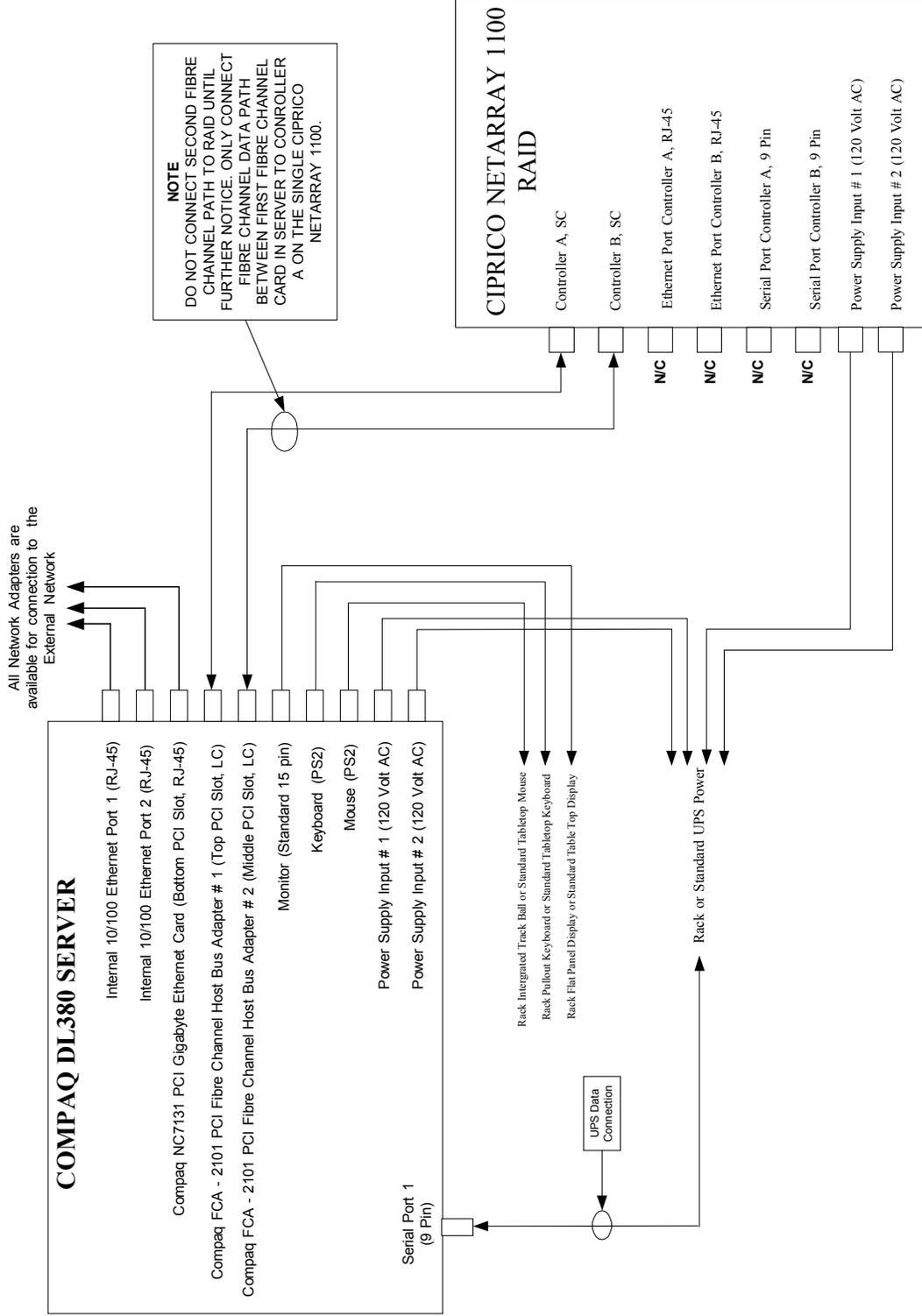


Figure 5 - JMPS Enterprise Lite Server Wiring Diagram

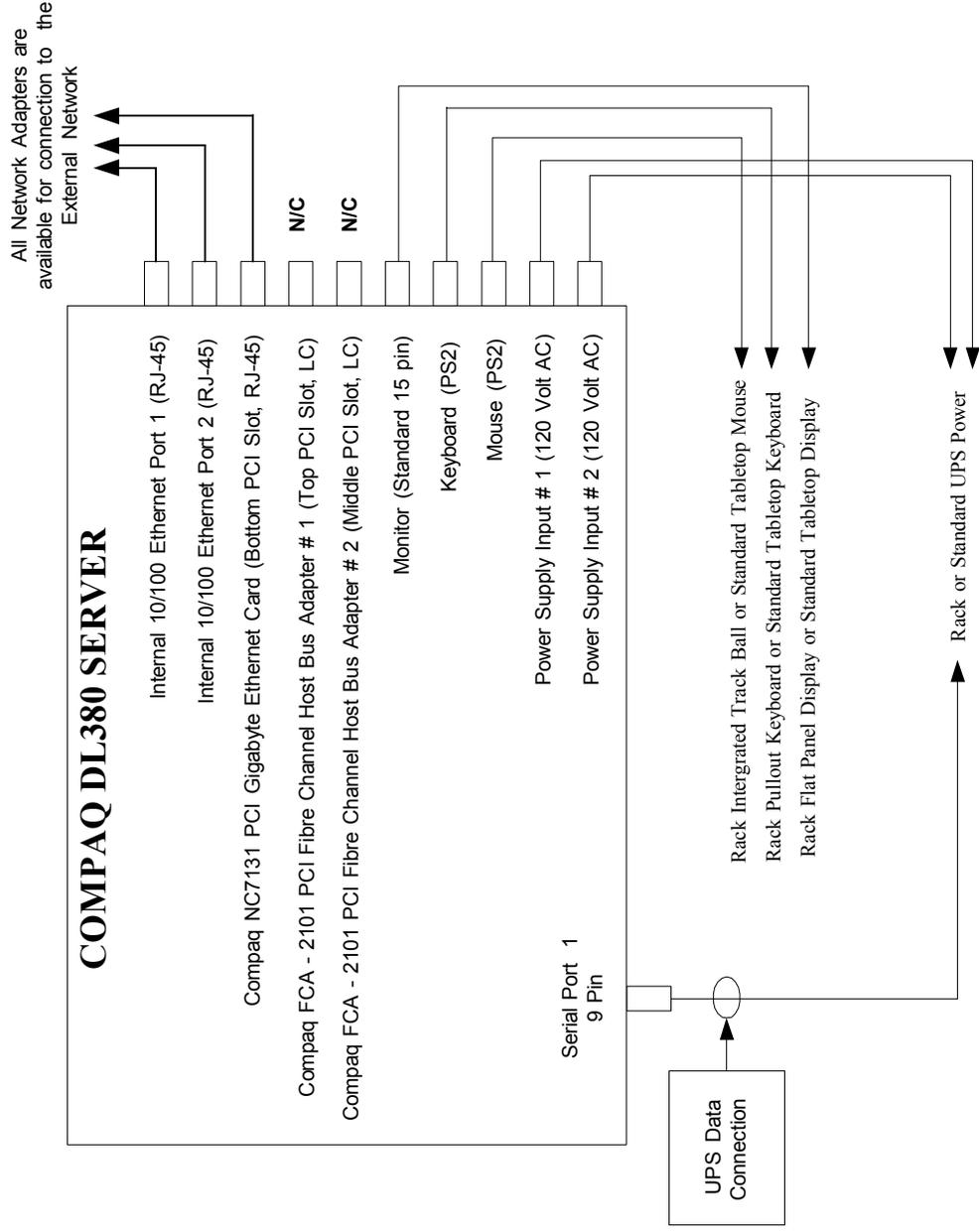


Figure 6 - JMPS PICO Server Wiring Diagram

6 Loading Procedures for JMPS Servers

The following sub-sections outline the various steps to configure the JMPS Server no matter which configuration is being setup. Some sections will not have to be executed for some of the configurations. It is essential that all instructions and notes be carefully reviewed before being executed.

6.1 Procedure: Basic Load of the Windows 2000 Advanced Operating System

NOTE

The Microsoft Windows 2000 Advanced Server media and the Compaq Smart Array5i driver will be required to execute this procedure. The Windows 2000 Advanced server software disk will ship with the server. However it will be necessary to build a Smart Array 5i driver diskette, a floppy disk will be required for this procedure.

NOTE

Instructions below assume possession of Compaq media. HP bought Compaq and has since updated the SmartStart for Servers CD. New HP media is very different from the Compaq media. In order to follow the procedure described below, the same driver for Compaq SmartArray 5i controller has to be downloaded from the following HP website and manually extracted to a floppy. If using the downloaded driver, follow these steps and skip steps 3-14.

- a. Download the driver file from the website shown below.
- b. Double-click on it.
- c. In Compaq Package Setup window that comes up, click on Extract.
- d. A window will come up asking for directory to extract files to.
- e. Place a clean floppy into drive A, select the A: drive from the file browser window, and click OK.
- f. Files will be extracted to the floppy.
- g. Click Close to exit out of Compaq Package Setup Window.

<http://h18004.www1.hp.com/support/files/server/us/download/13437.html>

NOTE

Instructions in sections 6.1 – 6.9 can be executed concurrently on both servers to save time.

- Step 1. Verify the power and network connections to the DL380 server(s).
- Step 2. Power on the Compaq DL380 server
- Step 3. As the server starts insert the Compaq SmartStart for Servers CD found in the Compaq ProLiant Essentials Foundation Pack.
- Step 4. The SmartStart for Servers screen will appear several times and then the System Utilities screen will open. Double click on the “Create Support Software” icon.
- Step 5. The Compaq SmartStart - Diskette Builder screen will then open. Double click on the “Compaq” icon to expand the list of available diskette sets.
- Step 6. Use the scroll bar to locate the “Compaq Support Paq for Microsoft Windows 2000 Supplemental Diskettes version 5.40A” and select this choice by clicking the check box next to it.
- Step 7. Click the “Next” button.
- Step 8. The Diskette Destination Selection screen will then appear, make sure to select the “Create software diskettes to floppy only” choice.
- Step 9. Click the “Next” button.
- Step 10. The Diskette Builder dialog box will open requesting that a diskette be inserted into the floppy drive. Insert a blank diskette into the floppy drive and then click the “OK” button.
- Step 11. The Diskette Builder Information dialog will then open with the status of the build process. When completed click the “Finish” button on the Compaq SmartStart - Diskette Builder screen that appears.
- Step 12. Back on the System Utilities screen, click the “Exit” button.
- Step 13. Click the “OK” button on the exiting SmartStart warning dilaog.
- Step 14. Remove the SmartStart CD from the CD-ROM and the floppy disk created from the floppy drive. Label this disk “Compaq DL380 SmartArray 5I Driver”. Press any key to reboot the server.
- Step 15. Pay close attention to the boot sequence happening, at the *Press <F8> to run the Option ROM Configuration for Arrays Utility* prompt that appears during the boot sequence press “F8” to enter the configuration utility.
- Step 16. The main Option ROM Configuration for Arrays (ORCA) screen will appear. On the Main Menu that appears use the down-arrow key to select the “View Logical Drive” selection (it will be highlighted in dark blue when selected) and press “Enter”.
- Step 17. If the system has been pre-configured or previously loaded, Logical Drives will appear in the list, **in this case and if required** follow the sub-steps below to wipe all the existing logical drives. This option would be the case for a totally clean installation, however, if the server was shipped pre-configured to the site (in special cases this may happen) skip to Step 19. If the system has no logical drives defined, the *There are no available logical drives Press <ESC> to return to the main menu* dialog will appear, press “ESC” and continue at Step 6 in this procedure to create the new logical drives.

- a) Press “ESC” to return the main ORCA screen.
- b) On the Main Menu use the down-arrow key to select the “Delete Logical Drive” selection, press “Enter”.
- c) The Available Logical Drive list will appear. Select the first logical drive in list (the selected drive will be highlighted in dark blue) and press “F8” to delete it.
- d) A red warning dialog box will open with the following message:

“Warning

This will result in complete data loss for this logical drive.

You have selected to delete logical drive # X, RAID X, XXX GB with X physical drive(s).

*Press <F3> to delete the logical drive
Press <ESC> to cancel”*

Press “F3” to delete the logical drive.

- e) The *Saving Configuration...* message will flash and then the *Configuration saved Press <Enter> to continue* dialog will open. Press “Enter”.
- f) Repeat sub-steps (b) to (d) above for each additional logical drive in the Available Logical Drive list. When the *There are no available logical drives. Press <ESC> to return to the main menu* message appears in response to the View Logical Drive command; the delete operation has been completed.
- g) When there are no more drives, press “ESC” to go back to the main ORCA screen.
- h) Proceed to Step 18 to build the new logical drives.

Step 18. The logical drive creation procedure will differ between the JMPS Enterprise, JMPS Enterprise Lite and the JMPS PICO server configurations. Sub-procedures are presented below to handle each case:

JMPS Enterprise and JMPS Enterprise Lite Configurations

- a) In the JMPS Enterprise and JMPS Enterprise Lite configurations the server may only contain 2 drives but could also have the full compliment of 5 drives. In either case the first two drives will have to be configured into a RAID 0+1 (mirrored) configuration to provide the mirrored system boot disk. On the ORCA Main Menu start by selecting the “Create Logical Drive” selection, press “Enter”.
- b) The Available Physical Drives, Raid Configurations and the Spare boxes will open on the ORCA screen. In the Available Physical Drives box make sure both drive ID 0 and drive ID 1 are selected. (If the drives are not selected, use

the down-arrow key to select each one and then click the Space Bar to select them. An “X” will be present in the brackets next to the drive when selected).

NOTE

If for there are more than 2 hard drives present in the system the extra drives must be de-selected for the Enterprise and Enterprise Lite configurations. De-select them by using the arrow key to select each drive and then clicking the Space Bar, the “X” should not be present on any other drives at this point except for drive ID 0 and ID 1.

- c) With drive ID 0 and ID 1 selected, press the “Tab” key to move to the Raid Configurations box.
- d) In the Raid Configurations box select the RAID 1 (1+0) choice by using the arrow key, and then press “Enter” to create the logical drive.
- e) The following message will appear:

“You have selected a logical drive with a total data size of xxx.x GB and RAID 1 fault tolerance.

*Press <F8> to save the configuration
Press <ESC> to cancel”*

Press “F8” to save the configuration.

- f) The *Saving Configuration...* message will flash and then the *Configuration saved Press <Enter> to continue* dialog will open. Press “Enter”.
- g) Using the arrow key select the “View Logical Drive” selection on the ORCA Main Menu, press “Enter”.
- h) The Available Logical Drives list will open. Verify that the new Logical Drive defined appears in the list as Logical Drive # 1 and that it is a RAID 1 configuration.
- i) Press “ESC” to go back to the ORCA main screen.
- j) Press “ESC” to exit the ORCA utility and continue the server boot sequence. Continue the setup at configuration at Step 19.

JMPS PICO Configuration

- a) In the case of the JMPS PICO Configuration a total of 5 hard drives will be present in the DL380 server. Two of the five drives will have to be configured into a RAID 0+1 (mirrored) configuration to provide the mirrored system boot disk. The remaining three drives will be configured

- into a RAID 5 storage area for the JMPS data. On the ORCA Main Menu start by selecting the “Create Logical Drive” selection, press “Enter”.
- b) The Available Physical Drives, Raid Configurations and the Spare boxes will open on the ORCA screen. In the Available Physical Drives box make sure both drive ID 0 and drive ID 1 are selected. (If the drives are not selected, use the down-arrow key to select each one and then click the Space Bar to select them. An “X” will be present in the brackets next to the drive when selected. Unselect all other drives except 0 and 1.)
 - c) With drive ID 0 and ID 1 selected, press the “Tab” key to move to the Raid Configurations box.
 - d) In the Raid Configurations box select the RAID 1 (1+0) choice by using the arrow key, and then press “Enter” to create the logical drive.
 - e) The following message will appear:

“You have selected a logical drive with a total data size of xxx.x GB and RAID 1 fault tolerance.

*Press <F8> to save the configuration
Press <ESC> to cancel”*

Press “F8” to save the configuration.

- f) The *Saving Configuration...* message will flash and then the *Configuration saved Press <Enter> to continue* dialog will open. Press “Enter”.
- g) Using the arrow key select the “View Logical Drive” selection on the ORCA Main Menu, press “Enter”.
- h) The Available Logical Drives list will open. Verify that the new Logical Drive defined appears in the list and is a RAID 1 configuration.
- i) Press “ESC” to exit the Logical Drive display.
- j) Back on the ORCA Main Menu select the “Create Logical Drive” selection, press “Enter”.
- k) The Available Physical Drives, Raid Configurations and the Spare boxes will open on the ORCA screen. In the Available Physical Drives box select the remaining three drives, drive ID 2, drive ID 3 and drive ID 4. (These should be selected by default, if the drives are not selected, use the down-arrow key to select each one and then click the Space Bar to select them. An “X” will be present in the brackets next to the drive when it is selected).
- l) With drive ID 2, 3 and 4 selected, press the “Tab” key to move to the Raid Configurations box.
- m) In the Raid Configurations box select the RAID 5 choice by using the arrow key, and then press “Enter” to create the logical drive.
- n) The following message will appear:

“You have selected a logical drive with a total data size of xxx.x GB and RAID 5 fault tolerance.

*Press <F8> to save the configuration
Press <ESC> to cancel”*

Press “F8” to save the configuration.

- o) The *Saving Configuration...* message will flash and then the *Configuration saved Press <Enter> to continue* dialog will open. Press “Enter”.
- p) Using the arrow key select the “View Logical Drive” selection on the ORCA Main Menu, press “Enter”.
- q) The Available Logical Drives list will open. Verify that the new Logical Drive # 2 defined appears in the list and is a RAID 5 configuration.
- r) Press “ESC” to go back to the ORCA main screen.
- s) Press “ESC” to exit the ORCA utility and continue the server configuration at Step 19.

Step 19. After Step 18 is completed the boot sequence will continue. Carefully watch as the boot sequence executes, when the *Press F9 key for ROM-Based Setup Utility* prompt appears during the boot sequence press “F9” to enter the ROM-Based Setup Utility.

Step 20. Once in the ROM-Based Setup Utility use the down-arrow key to select the “Standard Boot Order (IPL)” selection in the left-hand box (it should be highlighted in dark blue) and then press “Enter”.

Step 21. The boot order list will appear, if the CD-ROM is set as IPL:1 press “ESC” and continue at Step 22. If the CD-ROM is not set to IPL:1 then execute the following sub-steps:

- a) Using the up/down arrow keys select the CD-ROM (the IPL: number will be highlighted in black on the selected item) and then press “Enter”.
- b) From the list that appears, using the up/down arrows keys, select the “Set the IPL Device Boot Order to 1” selection and press “Enter”. This will move the CD-ROM to the top of the boot list (IPL:1 CD-ROM).
- c) Press “ESC” on the boot list to return to the main ROM-Based Setup Utility screen

Step 22. Once the boot order has been verified / changed on the main ROM-Based Setup Utility screen press “ESC” to exit the utility.

Step 23. Place the Microsoft Windows 2000 Advanced Server CD into the CD-ROM drive.

Step 24. Press “F10” to confirm the exit from the ROM-Based Setup Utility and save the
Step 25. The system will reboot.

- Step 26. The blue “Windows 2000 Setup” screen will appear with the message “Setup is loading files...” Allow the file loading process to continue.
- Step 27. At the *Press <F6> if you need to install third party SCSI or RAID driver...* prompt press “F6”. (**Note: This prompt appears only for a few seconds, attention and quick action are required to catch it, if it is missed press CTRL - ALT - DEL to reboot and restart the Windows 2000 Advanced Server installation.**)
- Step 28. Once the files have been loaded the blue Windows 2000 Setup screen will appear with the mass storage specification screen. Press “s” to load the Compaq Smart Array5I SCSI controller driver.
- Step 29. The blue Windows 2000 Setup screen will appear with the instruction:

“Please insert the disk labeled Manufacturer-supplied hardware support disk into Drive A:

Press ENTER when ready.”

Insert the floppy disk containing the Compaq Smart Array5i SCSI controller driver, (the one built from the SmartStart CD at the beginning of these procedures or downloaded from the HP website), into the floppy drive and then press “Enter”. Leave this disk in the floppy drive until instructed to remove it.

- Step 30. The blue Windows 2000 Setup screen will appear with the array type selection screen. Use the arrow keys to select the “Compaq Smart Array 5i, 532, 5312 Controllers” choice (the selection will be highlighted in white) and then press “Enter”.
- Step 31. The dialog Setup is loading files.. will appear briefly on the bottom of the screen and then the mass storage specification screen will reappear. Press “Enter” to continue since no further drivers are required to be loaded. Setup will then to continue to load files.
- Step 32. The Windows 2000 Server Setup blue screen will appear. Press “Enter” to begin the setup of Windows 2000.
- Step 33. The next blue Windows 2000 Server Setup blue screen will appear with the following messages:

“Setup has determined that your computer’s start up hard disk is new or has been erased, or that your computer is running an operating system that is incompatible with Windows 2000.

If the hard disk is new or has been erased, or if you want to discard its current contents, you can choose to continue setup.

If your computer is running an operating system that is incompatible with Windows 2000, continuing Setup may damage or destroy the existing operating system.

- *To Continue Setup press C.*
- *To Quit Setup press F3.*

CAUTION: Any data currently on your computer's startup hard disk will be lost."

Press "C" to continue with Setup.

Step 34. The Microsoft® Windows 2000 Licensing Agreement will appear on the next blue Setup screen. Press "F8 = I agree" to accept the license.

INFORMATION

According to the general DII-COE installation guidelines it suggests that the disk be partitioned into three separate partitions. These include a C: partition for the system files named "System", a D: partition for the COE segments named "Segments" and an E: partition for the user data named "Data". The general rule of thumb used to calculate the sizes of these partitions was to break the drive into 30%, 30%, and 40% slices. The Data partition shall always be the largest since it will hold the user data.

In the JMPS Enterprise and JMPS Enterprise Lite configurations the Data E: partition will be placed on the external Ciprico NetArray 1100 RAID. Therefore, the internal mirrored boot disk should be split into two equal partitions for the System C: and the Segments D: partitions.

In the JMPS PICO server configuration the Data E: partition will be an internal (inside the DL380 server) RAID 5 storage area. The Compaq Smart Array5I controller will control this internal RAID 5 array which was configured in Step 18 above. In the JMPS PICO Server case the internal mirrored boot disk should also be split into two equal partitions for the System C: and the Segments D: partitions. However, for the PICO server the Data E: partition will be placed on the internal RAID 5. The following procedures will detail how this operation is completed.

Step 35. The next Windows 2000 Server Setup blue screen to appear will be the partition information screen. The following messages will appear on the partition screen:

"The following list shows the existing partitions and unpartitioned space on this computer.

Use the UP and DOWN ARROW keys to select an item in the list:

- To setup Windows 2000 on the selected item, press Enter.
- To create a partition in the unpartitioned space, press C.
- To delete the selected partition, press D.”

The following disk summary will be displayed:

```
34728 MB Disk0 at Id4 on bus on cpqcissm
    Unpartitioned space           34728MB
```

(Note: The total drive size may be different, this is the expected size with 36.4 GB hard drives. If larger drives are used in the server, this size will be different. Also note that in the PICO Server there will two drives present, work only with the first at this point.)

Make sure that the Unpartitioned space is selected (highlighted in white). Press “C” to create a new C: partition.

Step 36. The next blue Windows 2000 Server Setup screen will appear with the following message:

“You asked Setup to create a new partition on DDDDD MB Disk 0 at Id3 on Bus 0 on adpu160m (where DDDDD is the actual size of the drive).

- To create the new partition, enter a size below and press Enter
- To go back to the previous screen without creating the partition, press ESC.

The minimum size for the new partition is: 4 megabytes (MB)
The maximum size for the new partition is: 32724 megabytes (MB)
Create a partition of size (in MB): XXXX MB”

Calculate the necessary size for the C: partition using the actual size of the hard drive (an example using a 36.4GB drive, it will roughly be $34724 * .5 = 17364$ MB). Enter this partition size in the white highlighted block and then press “Enter” to create it.

Step 37. The blue Windows 2000 Server Setup screen will reappear with the partition information. The partition display should look similar to the following:

```
34728 MB Disk0 at I4 on bus 0 on cpqcissm
C: New(Unformatted)           17364 MB
Unpartitioned space           17364 MB
```

(Note: The above drive size may be different, these are the expected size with 36.4 GB hard drives. If larger drives are used in the server, the sizes will differ.)

Press “ENTER” to install the partition. At this time do not worry about creating any other partitions; this task will be addressed later after the basic system installation is accomplished via the Windows 2000 Disk Manager.

Step 38. The blue Windows 2000 Server Setup Format Type screen will then appear with the following statements:

“The partition you selected is not formatted. Setup will now format the partition.

Use the UP and DOWN ARROW keys to select the file system you want, and then press ENTER.

If you want to select a different partition for Windows 2000, press ESC”

Select the “Format the partition using the NTFS file system” option by using the arrow keys, this choice should be the default. Press “Enter” to accept the NTFS format type and to start the formatting process.

Step 39. The blue “Windows 2000 Server Setup” screen will appear with the following message:

“Please wait while Setup formats the partition

*C: New(Unformatted) xxxxxMB
On DDDDD MB Disk0 at Id0 on bus 0 on adpu160m.”*

The progress bar will also be displayed:

Setup is formatting...

XX %

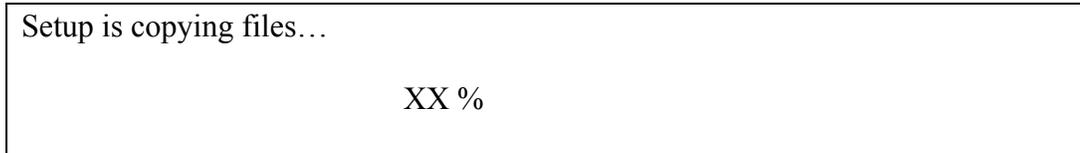
Wait until the formatting operation is completed.

Step 40. The next blue Windows 2000 Server Setup screen will flash by with the “Checking System” notification. No action is required.

Step 41. The Windows 2000 Server Setup screen will reappear at this time displaying the following message:

“Please wait while Setup copies files to the Windows 2000 installation folders. This may take several minutes to complete.”

The progress bar will also be displayed:



Wait until the copy operation finishes.

Step 42. The next blue Windows 2000 Server Setup screen to appear will display the following:

“Setup has completed copying files, the system will now reboot”

Allow the system to reboot, do not remove the Windows 2000 Advanced Server CD from the CD-ROM drive.

Step 43. Once the server reboots the Windows 2000 Server Setup dialog box will appear over the Windows 2000 Advanced Server screen. Wait for the next dialog box to open.

Step 44. The next Windows 2000 Server Setup screen with the “Welcome to the Windows 2000 Setup Wizard” dialog box will appear. Click the “Next” button.

Step 45. The next Windows 2000 Server Screen will appear with the “Installing Devices...” dialog (at this time setup is detecting and installing devices on the server, the screen may flicker during this period). Wait until this process is finished.

Step 46. The Windows 2000 Server Setup screen will appear with the “Regional Settings” dialog box. Accept the default (English, US Keyboard) settings by clicking the “Next” button.

Step 47. The next Windows 2000 Server Setup screen will appear with the “Personalize Your Software” dialog box. On this dialog enter the name of the administrator in the Name box and the name of the organization into the Organization box. When finished click the “Next” button.

Step 48. The next Windows 2000 Server Setup screen will appear with the “Your Product Key” dialog box. In the Product Key boxes enter the 25 alphanumeric license key for the Windows 2000 Advanced Server software package that was shipped with the server. Press the “Next” button to continue. *Note: Some Windows 2000 Advanced Server CDs such as the OEM, MSDN, or the Select License editions may or may not need a serial number. If no serial number is asked for, continue with the next step.*

Step 49. The next Windows 2000 Server Setup screen will appear with the “Licensing Modes” dialog box. Select the first option - “Per Server”. Enter 25 for the number of concurrent connections. Note the statement that appears on this screen:

“To avoid violation of the License Agreement, use Licensing (which is located in Administrative Tools) to record the number of Client Access Licenses purchased.”

Click the “Next” button to continue the installation. *Note: Some Windows 2000 Advanced Server CDs such as the OEM, MSDN, or the Select License editions may or*

may not ask for Licensing Mode. If no Licensing Mode is asked for, continue with the next step.

Step 50. The next Windows 2000 Server Setup screen will appear with the “Computer Name and Administrator Password” dialog box. Enter in the desired computer name in the Computer Name box. Also enter in the desired administrator password in the Administrator password and the Confirm Password boxes. Press the “Next” button to continue with the installation. (Note: If this is the second server in a JMPS Enterprise configuration, be sure to select a unique name, different than the one selected for the first server.)

Step 51. The next Windows 2000 Server Setup screen will appear with the “Windows 2000 Components” dialog box. Double click on the Accessories and Utilities component listed in the Components box to open the subcomponent list. The Accessories and Utilities dialog box will open with the Subcomponents of Accessories and Utilities list. Perform the following operations on the subcomponent list:

- a) Leave the Accessibility Wizard box checked.
- b) Double click the Accessories subcomponent. The Subcomponents of Accessories list will appear. Verify that all components are checked. Click the “OK” button.
- c) Double click the Communications subcomponent. The Subcomponents of Communications list will appear. Uncheck the Chat and Phone Dialer subcomponents. Only the HyperTerminal subcomponent should be installed. Click the “OK” button. The Communications check box will now be gray, this is due to the custom settings that were applied.
- d) Uncheck the Games subcomponent on the Subcomponents of Accessories and Utilities list to exclude it from the load.
- e) Double click the Multimedia subcomponent. The Subcomponents of Multimedia list will appear. Verify that all the subcomponents are checked. Click the “OK” button.
- f) With all the subcomponents now selected, on the Accessories and Utilities dialog box, click the “OK” button.

Step 52. Continuing on the “Windows 2000 Components” dialog box, leave the Certificate Services component unchecked.

Step 53. Continuing on the “Windows 2000 Components” dialog box, leave the Cluster Services component unchecked.

Step 54. Continuing on the “Windows 2000 Components” dialog box, leave the Indexing Services component checked.

Step 55. Continuing on the “Windows 2000 Components” double click on the Internet Information Services (IIS) to open its subcomponent list. The Internet Information Services (IIS) dialog box will open with the Subcomponents of Internet Information Services (IIS) list. Perform the following operations on the subcomponent list:

- a) Leave the Common Files subcomponent checked.
- b) Uncheck the Documentation subcomponent.

- c) Check the File Transfer Protocol (FTP) Server subcomponent selection box to select it.
- d) Uncheck the FrontPage 2000 Server Extensions subcomponent.
- e) Leave the Internet Information Services Snap-In subcomponent checked.
- f) Uncheck the Internet Services Manager (HTML) subcomponent.
- g) Leave the NNTP Service subcomponent unchecked.
- h) Uncheck the SMTP Service subcomponent.
- i) Leave the Visual InterDev RAD Remote Deployment Support subcomponent unchecked.
- j) Uncheck the World Wide Web Server subcomponent.
- g) With all the subcomponents now selected, on the Subcomponents of Internet Information Services (IIS) dialog box, click the “OK” button. On the Windows 2000 Components the Internet Information Services (IIS) check box will show as gray now due to the custom settings selected.

Step 56. Continuing on the “Windows 2000 Components” select the Management and Monitoring Tools component by checking the selection box.

Step 57. Double click on the Management and Monitoring Tools component to open its subcomponent list. The Management and Monitoring Tools dialog box will open with the Subcomponents of Management and Monitoring Tools list. Perform the following operations on the subcomponent list:

- a) Uncheck the Connection Manager Components subcomponent.
- b) Leave the Network Monitor Tools subcomponent checked.
- c) Leave the Simple Network Management Protocol subcomponent checked.
- d) With all the subcomponents now selected, on the Subcomponents of Management and Monitoring Tools dialog box, click the “OK” button. On the Windows 2000 Components the Management and Monitoring Tools check box will show as gray now due to the custom settings selected.

Step 58. Continuing on the Windows 2000 Components dialog box leave the Message Queuing Services component unchecked. The Message Queuing Services will need to be added for JC1 but this step will be performed later in the installation procedure after Active Directory has been configured.

Step 59. Continuing on the “Windows 2000 Components” select the Networking Services component by checking the selection box.

Step 60. Double click on the Networking Services component to open its subcomponent list. The Subcomponents of Networking Services dialog box will open with the Subcomponents of Networking Services list. Perform the following operations on the subcomponent list:

- a) Uncheck the COM Internet Services Proxy subcomponent.
- b) Uncheck the Domain Name System (DNS) subcomponent.
- c) Uncheck the Dynamic Host Configuration Protocol (DHCP) subcomponent.
- d) Uncheck the Internet Authentication Service subcomponent .
- e) Uncheck the QoS Admission Control Service subcomponent.

- f) Uncheck the Simple TCP/IP Services subcomponent.
- g) Leave the Site Server ILS Services subcomponent unselected.
- h) Uncheck the Windows Internet Name Services (WINS) subcomponent.
- h) All components should now be unchecked. On the Subcomponents of Networking Services dialog box, click the “OK” button. On the Windows 2000 Components list the Networking Services check box will show as white now since none of the components are selected.

- Step 61. Continuing on the “Windows 2000 Components” dialog box, leave the Other Network File and Print Services component unselected.
- Step 62. Continuing on the “Windows 2000 Components” dialog box, leave the Remote Installation Services component unselected.
- Step 63. Continuing on the “Windows 2000 Components” dialog box, leave the Remote Storage component unselected.
- Step 64. Continuing on the “Windows 2000 Components” dialog box, leave the Script Debugger component selected.
- Step 65. Continuing on the “Windows 2000 Components” dialog box, leave the Terminal Services component unselected.
- Step 66. Continuing on the “Windows 2000 Components” dialog box, leave the Terminal Services Licensing component unselected.
- Step 67. Continuing on the “Windows 2000 Components” dialog box, leave the Windows Media Services component unselected.
- Step 68. Now that all the Windows 2000 components have been selected on the Windows 2000 Components dialog box, click the “Next” button.
- Step 69. The next Windows 2000 Server Setup screen with the “Date and Time Settings” dialog box will appear. In the Date and Time boxes enter the correct date and the GMT time. In the Time Zone box use the down arrow key and the scroll bar to select the “{GMT} Greenwich Mean Time: Dublin, Edinburgh, Lisbon, London” time zone. Leave the “Automatically adjust clock for daylight saving changes” box checked. Click the “Next” button on the Date and Time Settings dialog box.
- Step 70. After the Network Settings installation runs, the Windows 2000 Server Setup screen with the “Network Settings” dialog box will appear. Select “Custom Settings” and then click the “Next” button.
- Step 71. The next Windows 2000 Server Setup screen with the Networking Components dialog box will appear. The For Device line will display the network card that the settings will apply to, for the Compaq DL380 system it should be the second onboard NIC “Compaq NC3163 Fast Ethernet NIC #2”. The components for this NIC are shown in the *Components checked are used by this connection* box. Perform the following operations on the component list:
- a) Uncheck the Client for Microsoft Networks component.
 - b) Leave the Network Load Balancing component unchecked.
 - c) Uncheck the File and Printer Sharing for Microsoft Networks component.
 - d) Uncheck the Internet Protocol (TCP/IP) component

All components for the second network card should now be unchecked.

On the Networking Components dialog box click the “Next” button.

Step 72. The second “Networking Components” dialog box will appear. The For Device line will display the network card that the settings will apply to, in the case of the Compaq DL380 system it should be the first onboard NIC “Compaq NC3163 Fast Ethernet NIC”.

Uncheck all components according to procedures in the previous step.

With all the necessary components loaded / configured for the first network card, on the Networking Components dialog box click the “Next” button.

Step 73. The next Windows 2000 Server Setup screen will open with the “Workgroup or Computer Domain” dialog box. Accept the default “No, this computer is not on a network, or is on a network without a domain” choice for now, the actual workgroup / domain configurations will be done later in the procedure. Click the “Next” button.

Step 74. The next Windows 2000 Server Setup screen with the Installing Components dialog box will appear with the message:

“Please wait while Setup installs the components. This may take several minutes”.

The Status bar will show the progress of the installation. The “Performing Final Tasks” dialog will appear during the final steps. Wait until the setup completes.

Step 75. The next Windows 2000 Server Setup screen with the “Completing the Windows 2000 Setup Wizard” dialog box will appear with the following message:

“You have successfully completed Windows 2000 Setup.

If there is a CD in your drive, remove it. Then to restart your computer, click Finish”

Remove the Windows 2000 Advanced Server CD from the CD-ROM drive and remove the floppy containing the Compaq Smart Array5i driver if it is still in the floppy drive. Click the “Finish” button. The server will restart.

NOTES

PRIOR TO RESTARTING THE SERVER ENSURE THAT THE NETWORK CARDS ARE CONNECTED TO THE NETWORK AND THAT THE PORTS THEY ARE CONNECTED TO ARE ACTIVE. IF THE NETWORK CARDS ARE NOT CONNECTED, SEVERAL SERVICE CONTROL MANAGER ERRORS RELATED TO NETWORKING SERVICES WILL OCCUR AT BOOT. THIS IS NOT A MJOR

ISSUE BUT CAN BE AVOIDED IF THE NETWORK IS AVAILABLE.

IN THE ENTERPRISE LITE OR PICO CONFIGURATIONS, THE INTERNAL 10/100 NICS WILL NOT BE USED. HOWEVER, FOLLOW THE INSTRUCTIONS ABOVE AND BE SURE TO ASSIGN VALID IP ADDRESSES TO BOTH CARDS. DO NOT ALLOW THE DHCP OPTION TO DEFAULT ON ANY NIC CARD, DHCP SHALL NOT BE INSTALLED ON ANY JMPS SERVER CONFIGURATIONS. FAILURE TO SET VALID IP ADDRESSES ON THE CARDS AT THIS POINT WILL RESULT IN THE AUTOMATIC INSTALLATION OF THE DHCP SERVICE, WHICH IS THE INCORRECT CONFIGURATION.

Step 76. When the system boots, the “Welcome to Windows - Press Ctrl-Alt-Delete to begin” dialog box will appear. Logon to the system via the following steps:

- a) Press “Ctrl-Alt-Delete” at the logon prompt.
- b) The “Log On to Windows” dialog box will appear. By default at this time the User Name will be “Administrator”.
- c) Enter the administrator password.
- d) Press “Enter” or click the “OK” button.

Step 77. Upon boot the Windows 2000 Configure Your Server window will appear. Close this dialog.

NOTE

Monitor resolution can be changed at this point from 640x480 to 1024x768 or higher for convenience.

6.2 Procedure: Configure the Server Hard Drive Partitions

With the basic operating system installed the task of formatting the hard drives can be accomplished. The procedures between the JMPS Enterprise, JMPS Enterprise Lite and the JMPS PICO configurations will differ due to the different server hard drive capacities and the presence or lack of an external Ciprico NetArray 1100 RAID. This section has been broken into sub-sections to handle each case. Select the appropriate one based on the configuration being deployed.

6.2.1 JMPS Enterprise and JMPS Enterprise Lite Configurations

NOTE

IF THE JMPS ENTERPRISE CONFIGURATION IS BEING SETUP PROCEDURES 6.1 – 6.8 WILL HAVE TO BE EXECUTED TWICE, ONE ON THE FIRST SERVER AND THEN REPEATED ON THE SECOND SERVER IN THE JMPS ENTERPRISE SUITE.

IF THE JMPS ENTERPRISE LITE CONFIGURATION IS BEING SETUP, EXECUTE PROCEDURES 6.1 – 6.8 ONCE ON THE SINGLE SERVER.

- Step 1. In the JMPS Enterprise and JMPS Enterprise Lite configurations the server will contain two hard drives that have been setup in a hardware RAID 0+1 configuration via the above procedures. The first partition C: was defined for the basic operating system space. Labeling and formatting operations must now be completed to define the second partition. Select Start->Programs->Administrative Tools->Computer Management.
- Step 2. The Computer Management window will open. In the left-hand box double click on the “Disk Management” folder.
- Step 3. In the right-hand pane of the Computer Management window the volume information will appear for the disk drives in the system. Click on the CDROM 0 drive label box and then right-click.
- Step 4. Select “Change Drive Letter and Path...” from the pop-up menu.
- Step 5. The Change Drive Letter and Paths for (D:) will appear. Click the “Edit” button.
- Step 6. The Edit Drive Letter or Path dialog box will open, on the Assign a drive letter line click the down-arrow key and select the “G:” drive letter from the drop down list. Click the “OK” button to set it.
- Step 7. The Confirm dialog box will then open with the following message:

“Changing the drive letter of a volume may cause programs to no longer run. Are you sure you want to change this drive letter?”

Click the “Yes” button. The drive letter for the CDROM 0 will change to “G:” on the Computer Management window.

- Step 8. On the Disk 0 display click on the C: partition which was built during the basic operating system load and then right-click on it. From the pop-up menu select “Properties”.
- Step 9. The Local Disk (C:) Properties dialog box will open. On the General TAB, in the Label box enter “System” and click the “OK” button. The Local Disk (C:) Properties box will close and the partition display on the Computer Management window will update to show the name of the C: partition, “System”.
- Step 10. Select and then right-click on the Unallocated space on Disk 0. Select “Create Partition” from the pop-up menu.

- Step 11. The Create Partition Wizard dialog box will open with the Welcome to the Create Partition Wizard message. Click the “Next” button.
- Step 12. The Select Partition Type dialog will then appear, select the “Primary partition” choice and click the “Next” button.
- Step 13. The Specify Partition Size dialog will then appear, accept the total amount of disk space for the “Segment” partition. (For the JMPS Enterprise and Enterprise Lite configuration the size will be approximately 1/2 of the RAID 1 area.) Click the “Next” button.
- Step 14. The Assign Drive Letter or Path dialog will then open. On the Assign a drive letter line click the down-arrow button and select “D:” from the drive letter list presented if it is not already the default choice. Click the “Next” button.
- Step 15. The Format Partition dialog box will open. Set the File system to “NTFS”, leave the Allocation unit size at “Default” and enter “Segments” for the Volume label. Check the Perform a Quick Format box and leave the Enable file and folder compression box unchecked. Click the “Next” button.
- Step 16. The Completing the Create Partition Wizard dialog will then appear, click the “Finish” button to start the format process.
- Step 17. The status of the Segments D: partition will be “Formatting: (xx%)” with the format status percentage updating. Wait until the format operation is completed, the drive status will change to “Healthy” when its is completed.
- Step 18. Close the Computer Management window.
- Step 19. Proceed onto Section 6.3.

6.2.2 JMPS PICO Configuration

- Step 1. Logon to the server into the administrator account.
- Step 2. Upon startup the Windows 2000 Configure Your Server window will open. Close this window for now.
- Step 3. In the JMPS PICO Server configuration the server will contain two hard drives that have been setup in a hardware RAID 1 configuration and three drives configured in a RAID 5 configuration via the above procedures. The first partition C: was defined for the basic operating system space. Labeling and formatting operations must now be completed to define the second and third partitions for the JMPS PICO Server. Select Start->Programs->Administrative Tools->Computer Management.
- Step 4. The Computer Management window will open. In the left-hand box double click on the “Disk Management” folder along with a Write Signature and Upgrade Disk Wizard dialog box. On the signature dialog click the “Next” button.
- Step 5. The Select Disk to Write Signature dialog will then open, select Disk 1 by clicking the check box next to it and then click “Next”.
- Step 6. The Select Disks to Upgrade dialog will then open, de-select Disk 1 and click the “Next” button.
- Step 7. The Completing the Write Signature and Upgrade Disk Wizard dialog will open, click the “Finish” button.

- Step 8. In the right-hand pane of the Computer Management window the volume information will appear for the disk drives in the system. Click on the CDRom 0 drive label box and then right-click.
- Step 9. Select “Change Drive Letter and Path...” from the pop-up menu.
- Step 10. The Change Drive Letter and Paths for (D:) will appear. Click the “Edit” button.
- Step 11. The Edit Drive Letter or Path dialog box will open, on the Assign a drive letter line click the down-arrow key and select the “G:” drive letter from the drop down list. Click the “OK” button to set it.
- Step 12. The Confirm dialog box will then open with the following message:

“Changing the drive letter of a volume may cause programs to no longer run. Are you sure you want to change this drive letter?”

Click the “Yes” button. The drive letter for the CDRom0 will change to “G:” on the Computer Management window.

- Step 13. On the Disk 0 display click on the C: partition, which was built during the basic operating system load, and then right-click on it. From the pop-up menu select “Properties”.
- Step 14. The Local Disk (C:) Properties dialog box will open. On the General TAB, in the Label box enter “System” and click the “OK” button. The Local Disk (C:) Properties box will close and the partition display on the Computer Management window will update to show the name of the C: partition, “System”.
- Step 15. Select and then right-click on the Unallocated space on Disk 0. Select “Create Partition” from the pop-up menu.
- Step 16. The Create Partition Wizard dialog box will open with the Welcome to the Create Partition Wizard message. Click the “Next” button.
- Step 17. The Select Partition Type dialog will then appear, select the “Primary partition” choice and click the “Next” button.
- Step 18. The Specify Partition Size dialog will then appear, accept the total amount of disk space for the “Segment” partition. (For the JMPS PICO Server configuration the size of the D: partition will be approximately 1/2 of the RAID 1 area.) Click the “Next” button.
- Step 19. The Assign Drive Letter or Path dialog will then open. On the Assign a drive letter line click the down-arrow button and select “D:” from the drive letter list presented if it is not already the default choice. Click the “Next” button.
- Step 20. The Format Partition dialog box will open. Set the File system to “NTFS”, leave the Allocation unit size at “Default” and enter “Segments” for the Volume label. Check the Perform a Quick Format box and leave the Enable file and folder compression box unchecked. Click the “Next” button.
- Step 21. The Completing the Create Partition Wizard dialog will then appear, click the “Finish” button to start the format process.
- Step 22. The status of the Segments D: partition will be “Formatting: (xx%)” with the format status percentage updating. Wait until the format operation is completed, the drive status will change to “Healthy” when its is completed.

- Step 23. When the formatting operation for D: finishes, select and then right-click on the Unallocated space on Disk 1. Select "Create Partition" from the pop-up menu.
- Step 24. The Create Partition Wizard dialog box will open with the Welcome to the Create Partition Wizard message. Click the "Next" button.
- Step 25. The Select Partition Type dialog will then appear, select the "Primary partition" choice and click the "Next" button.
- Step 26. The Specify Partition Size dialog will then appear, accept the total amount of disk space available on the RAID 5 disk for the "Data" partition. Click the "Next" button.
- Step 27. The Assign Drive Letter or Path dialog will then open. On the Assign a drive letter line click the down-arrow button and select "E:" from the drive letter list presented if it is not already the default choice. Click the "Next" button.
- Step 28. The Format Partition dialog box will open. Set the File system to "NTFS", leave the Allocation unit size at "Default" and enter "Data" for the Volume label. Check the Perform a Quick Format box and leave the Enable file and folder compression box unchecked. Click the "Next" button.
- Step 29. The Completing the Create Partition Wizard dialog will then appear, click the "Finish" button to start the format process.
- Step 30. The status of the Data E: partition will be "Formatting: (xx%)" with the format status percentage updating. Wait until the format operation is completed, the drive status will change to "Healthy" when its is completed.
- Step 31. Close the Computer Management window.
- Step 32. Proceed onto Section 6.3.

6.3 Procedure: Installation of WinZip

NOTE

THE DEMO WINZIP INSTALLATION FILE CAN BE DOWNLOADED FROM THE INTERNET, IT MAY BE NECESSARY TO DOWNLOAD IT AND CREATE A CD CONTAINING THIS FILE FOR THIS PROCEDURE. BE SURE TO OBTAIN AN OFFICIALLY LICENSED VERSION OF THIS PRODUCT.

DURING THE WRITING OF THESE PROCEDURES OFFICIAL VERSIONS OF THE WINZIP 8.1 PROGRAM WERE PURCHASED AND USED TO DEFINE THE PROCEDURES BELOW. IF THE DEMO VERSION OF THE PROGRAM IS USED THE INSTALLATION PROCEDURE MAY DIFFER SLIGHTY HOWEVER THE STEPS BELOW

SHOULD DEFINE THE BASIC REQUIRED PROCEDURE.

DURING THE WRITING OF THIS PROCEDURE WINZIP WAS NOT YET A COE SEGMENT. THIS HOWEVER WILL CHANGE. WHEN THE COE WINZIP SEGMENT IS RELEASED THEN THIS PROCEDURE WILL NOT BE FOLLWED. WINZIP WILL BE ADDED VIA THE COE INSTALLER.

Step 1. Logon to the server into the administrator account. Close the Windows 2000

Configure Your Server dialog.

Step 2. Place the WinZip Version 8.1 CD into the CD-ROM drive.

Step 3. The installation program should auto-start, if it does not execute the following sub-steps:

- a) Select Start->Run.
- b) On the Run dialog box click the "Browse" button.
- c) On the Browse dialog box that appears set the path to the CD-ROM drive and then to the location of the WinZip application installation executable "SETUP.exe", Double click on it to set the path to it in the Run dialog box.
- d) On the Run dialog box click the "OK" button to execute the WinZip setup file.

Step 4. The WinZip 8.1 CD Setup dialog will appear. Click the "Install WinZip" button.

Step 5. The WinZip Setup dialog box will appear with the following message:

"Setup will install WinZip into the following folder, which it will create if necessary.

If you want to install WinZip in a different folder and/or drive, type the name of the folder below:

C:\Program Files\WinZip"

Change the installation path to D:\Program Files\WinZip. Click the "OK" button.

Step 6. The Thank you for installing WinZip! dialog box will appear next, click the "Next" button.

Step 7. The License Agreement and Warranty Disclaimer dialog box will then open, click the "Yes" button to accept the license.

Step 8. The WinZip Quick Start dialog will open next, click the "Next" button to skip viewing / printing the Quick Start Guide.

Step 9. The Select "Wizard" or "Classic" dialog will then appear, select the "Start with WinZip Classic" choice and then click the "Next" button.

Step 10. The Click "Next" to proceed dialog box will then open, leave the default "Express setup (recommended)" choice selected and click the "Next" button.

- Step 11. The WinZip needs to associate itself with your archives dialog box will open. By default all supported archive types will be associated with WinZip, click the “Next” button.
- Step 12. The Installation is complete dialog box will then open, click the “Finish” button.
- Step 13. The WinZip window will open with the WinZip Tip of the Day dialog. On the WinZip Tip of the Day dialog box click the down arrow button and select the “Never show tips at startup” choice from the list and then click the “Close” button on the WinZip Tip of the Day dialog box.
- Step 14. Close the WinZip window and the WinZip 8.1 CD Setup dialog. Notice that the WinZip application symbol will now appear in the right-hand corner of the Start Bar and a WinZip icon will appear on the desktop.
- Step 15. Remove the WinZip CD from the CD-ROM drive.
- Step 16. Continue the loading procedures in Section 6.4.

6.4 Procedure: Load the NC7131 Gigabit Server Adapter Driver

NOTE

ENSURE THAT THE NC7131 NIC IS CONNECTED TO THE NETWORK PRIOR TO EXECUTING THE PROCEDURES IN THIS SECTION.

- Step 1. Logon to the server into the administrator account. Close the Windows 2000 Configure Your Server dialog.
- Step 2. Select Start->Programs->Administrative Tools->Computer Management.
- Step 3. The Computer Management window will open, in the left-hand list double click on the “Device Manager”.
- Step 4. The list of devices will appear in the right-hand side of the Computer Management window. Under the “Other devices” item locate the “Ethernet Controller” device and double click on it (the device will have a yellow question mark on it at this point).
- Step 5. The Ethernet Controller Properties dialog box will open, on the General TAB click the “Reinstall Driver” button.
- Step 6. The Upgrade Device Driver Wizard Welcome dialog box will appear, click the “Next” button.
- Step 7. The Install Hardware Device Drivers dialog box will open. Accept the default “Search for a suitable driver for my device (recommended)” choice and click the “Next” button.
- Step 8. The Locate Driver Files dialog box will open, uncheck the “Floppy disk drives” location and keep the “CD-ROM drives” search location checked. Insert the Compaq Network Server Adapters and Upgrade Modules CD into the CD-ROM drive. (This CD should be in the Compaq DL380 package, in the bag, which contains the NC7131 documentation.) Click the “Next” button.

Step 9. The Driver Files Search Results dialog box will open, a search will be executed and the NC7131 driver will be found on the CD (g:\win2000\netcpqg.inf). A message will be displayed on the dialog box:

“Windows found a driver that is a closer match for this device than your current driver. To install the driver Windows found, click Next.”

Click the Next button to load the driver.

Step 10. The Completing the Upgrade Device Driver Wizard dialog will open with the following information:

“Compaq NC7131 Gigabit Server Adapter

Window has finished installing the software for this device.”

Click the “Finish” button.

Step 11. The Ethernet Controller Properties dialog box title will update to “Compaq NC7131 Gigabit Server Adapter Properties” and the device status will update to “This device is working properly.” Click the “Close” button on the properties dialog box.

Step 12. The Computer Management window will update. The “Other devices” list will no longer have the Ethernet Controller. Now that the driver has been loaded the NC7131 will move to the “Network Adapters” list.

Step 13. In the right-hand list on the Computer Management window double click the Network adapters device if necessary to expand the tree. Verify that the NC7131 now appears in the list. The list should look like:

*“Compaq NC3163 Fast Ethernet NIC
Compaq NC3163 Fast Ethernet NIC #2
Compaq NC7131 Gigabit Server Adapter”*

Step 14. Close the Computer Manager.

Step 15. Select Start-Settings->Network and Dial-up Connections.

Step 16. The Network and Dial-up Connections dialog box will open. A new, Connection 3, will now be present. This is the NC7131 adapter. Double click on this connection to access the properties.

Step 17. The Local Area Connection 3 Properties dialog box will open with the General TAB open. Click the “Properties” button and perform the following operations on the Local Area Connection 3 Properties dialog box:

- a) Leave the Client for Microsoft Networks component checked. Double click on the Client for Microsoft Networks component to open the component properties. The Client for Microsoft Networks Properties dialog box will open, verify that the Name service provider is set to Windows Locator. Click the “OK” button.

- b) Continuing on the Networking Components list leave the Network Load Balancing component unchecked.
- c) Leave the File and Printer Sharing for Microsoft Networks component checked. Double click on the File and Printer Sharing for Microsoft Networks component to open the component properties. The File and Printer Sharing for Microsoft Networks Properties dialog box will open, verify that the “Maximize data throughput for file sharing” choice is selected, if it is not select it. Click the “OK” button.
- d) Leave the Network Monitor Driver component checked.
- e) Leave the Internet Protocol (TCP/IP) component checked. Double click on the Internet Protocol (TCP/IP) component to open the component properties. The Internet Protocol (TCP/IP) Properties dialog box will open. Click the “Use the following IP address” button. Proceed to enter the IP address, Subnet mask and Default gateway. Also enter the Preferred DNS server and the Alternate DNS server IP addresses if available. During the setup, the preferred DNS server for JMPSSERVER1 should be the IP address of its own Gigabit Ethernet adapter. For JMPSSERVER2, it must be the IP address of the Gigabit Ethernet adapter on JMPSSERVER1. Once the addresses are entered click the “OK” button.
- f) On the Local Area Connection 3 Properties dialog box click the “OK” button.
- g) The Local Network dialog box **may** open, with the message:

“You must shut down and restart your computer before the new settings will take effect.”

Do you want to restart your computer now?”

If this message appears, click the “Yes” button to proceed with the reboot.

- h) If the restart message does not appear, force a manual reboot by going to Start->Shutdown. In the Shut Down Windows dialog select “Restart” from the drop down box. Click the “OK” button to perform the system restart.
- i) The system will reboot, leave the Compaq Network Server Adapters and Upgrade Modules CD in the CD-ROM drive.
- j) Once the system restarts, open the Windows Explorer, Start->Programs->Accessories->Windows Explorer.
- k) On the left-hand side of the Explorer window click on the System (C:) partition to select it.
- l) On the Explorer menu select “File” and then “New->Folder” from the drop-down menu that appears.
- m) The new folder will appear in the System C: partition on the right-hand side of Explorer screen. The folder name will be highlighted in dark blue, enter in the name “W2KNC7131 Driver” and press “Enter”.
- n) In the Explore browse out to the Compaq Network Server Adapters and Upgrade Modules CD-ROM, double click on the top level NCDE61(G:) folder to expand the contents of the CD. Select the “WIN2000” subfolder, right click on it and select “Copy” from drop down menu that appears.

- o) Back on the System C: partition click on the newly created W2KNC7131 Driver folder, right click and select "Paste" from the drop down menu. This operation will place a copy of the Compaq NC7131 Gigabit Server Adapter driver onto the System C: partition for future use if required.
- p) Close the Explorer.
- q) Proceed to Section 6.5.

6.5 Procedure: Load the Fibre Channel FCA-2101 Adapter Driver

NOTES

THE FCA-2101 DRIVER MUST BE DOWNLOADED FROM THE COMPAQ WEB SITE. AT THE TIME THIS INSTRUCTION WAS WRITTEN IT COULD BE LOCATED AT THE WEB SITE NOTED BELOW. HOWEVER SINCE HP CONTINUOUSLY UPDATES THEIR SITE, THIS LOCATION MAY CHANGE.

(http://b18000.www1.hp.com/products/storageworks/software/drivers/33mhzpcifibre/kgpsa_cb_482a9.html#200).

THE CURRENT DRIVER AT THE TIME THIS INSTRUCTION WAS WRITTEN WILL BE IN A ZIP FILE CALLED "5-482a9driverkit.zip". IT IS SUGGESTED THAT THIS FILE BE PLACED ON A FLOPPY AND THEN COPIED TO THE SYSTEM C: PARTITION FOR FUTURE AVAILABILITY. AT THE TIME THIS PROCEDURE WAS BEING WRITTEN THE FCA-2101 DRIVERS MAY HAVE BEEN PROVIDED VIA THE NAVY RESELLER ON CD. CHECK THE SERVER SOFTWARE DISTRIBUTION PACK TO DETERMINE IF THIS DISK WAS SENT WITH THE SERVER. IF THE DISK IS AVAIABLE THEN IT CAN BE USED TO EXECUTE THIS PROCEDURE, NO DOWNLOAD WILL BE REQUIRED IN THIS CASE.

THE FCA-2101 LOAD PROCEDURES PRESENTED IN THIS SECTION WILL APPLY TO ALL THE JMPS SERVER CONFIGURATIONS SINCE THE FIBRE CHANEL CARDS ARE IN ALL SERVERS. IN THE CASE OF THE PICO SERVER THE FIBRE CHANNEL CARDS WILL NOT BE USED AT THE PRESENT TIME HOWEVER THIS SECTION

SHOULD BE EXECUTED TO LOAD THE DRIVER FOR THESE CARDS SO THEY ARE OPERATIONAL FOR POSSIBLE FUTURE USE.

AT THIS TIME DO NOT CONNECT FIBRE CHANNEL CARDS TO THE FIBRE SWITCHES OR TO THE CIPRICO NETARRAY 1100s.

- Step 1. Logon to the server into the administrator account. Close the Windows 2000 Configure Your Server dialog.
- Step 1. Select Start->Programs->Accessories->Windows Explorer.
- Step 2. The Windows Explorer window will open, in the left-hand box double click on the "My Computer" item to expand it.
- Step 3. An expanded list will now appear, double click on the System (C:) partition.
- Step 4. The folders in System C: will now be visible in the directory tree. Click on System (C:) to select it and then on the Explorer menu click "File".
- Step 5. On the File drop down menu select "New" and then from the presented list select "Folder".
- Step 6. The New Folder icon will appear in the right-hand Explorer box and the title will be highlighted in blue. Type in the label "FCA2101 Driver" and then press "Enter".
- Step 7. Insert the floppy disk containing the down loaded driver file "5-482a9driverkit.ZIP" into the (A:) floppy drive.
- Step 8. In the Explorer, in the left-hand box, click on the "3 1/2 Floppy (A:)" drive.
- Step 9. The right-hand Explore box will update to show the contents of the drive, select the "5-482a9driverkit.zip" file and then right click. From the pop-up menu that appears select "Copy".
- Step 10. On the left-hand Explorer box re-select the new FCA2101 Driver folder in the tree under System C:. Click in the right-hand Explore box and then right click. From the pop-up menu that appears select "Paste". The 5-482a9driverkit.zip file will be copied to the new FCA2101 Driver folder.
- Step 11. Remove the driver disk from the (A:) Floppy drive.
- Step 12. In the C:\FCA2101 Driver folder double click on the 5-482a9driverkit.zip file to unzip it.
- Step 13. The WinZip 5-482a9driver.zip dialog box will appear, click the "Extract" button.
- Step 14. The Extract dialog box will appear. In the Folders/drivers box set the path to the FCA2101 Driver folder (C:\FCA2101 Driver).
- Step 15. Once the path is set, click the "Extract" button.
- Step 16. When the extraction is completed, close the WinZip - 5-482a9driverkit.zip window.
- Step 17. Close the Windows Explorer.
- Step 18. Select Start->Programs->Administrative Tools->Computer Management.
- Step 19. The Computer Management window will open, in the left-hand list double click on the "Device Manager".
- Step 20. The device list will appear in the right-hand side of the Computer Management window. If required, double click on the "Other devices" item to expand

- the list. In the presented list locate the first “Fibre Channel Controller” device and double click on it (the device will have a yellow question mark on it at this point).
- Step 21. The Fibre Channel Controller Properties dialog box will open, on the General TAB click the “Reinstall Driver” button.
- Step 22. The Upgrade Device Driver Wizard Welcome dialog box will appear, click the “Next” button.
- Step 23. The Install Hardware Device Drivers dialog box will open. Accept the default “Search for a suitable driver for my device (recommended)” choice and click the “Next” button.
- Step 24. The Locate Driver Files dialog box will open. Uncheck the “Floppy disk drives” and the “CD-ROM drives” search locations. Check the “Specify a location” choice and click the “Next” button.
- Step 25. The Upgrade Device Driver Wizard dialog box will open, click the “Browse” button.
- Step 26. In the Locate File dialog box set the path the FCA2101 Driver folder (C:\FCA2101 Driver). Click the “Open” button.
- Step 27. On the Upgrade Device Driver Wizard dialog verify the path in the Copy manufacturer’s files from box has updated to “C:\FCA2101 Driver” and then click the “OK” button.
- Step 28. The Driver Files Search Results dialog box will open, a search will be executed and the FCA2101 driver will be found in the designated folder (C:\fca2101 driver\oemsetup.inf). A message will be displayed on the dialog box:

“Windows found a driver that is a closer match for this device than your current driver. To install the driver Windows found, click Next.”

Click the Next button to load the driver.

- Step 29. The Completing the Upgrade Device Driver Wizard dialog will open with the following information:

“ Compaq KGPSA-xx, PCI-Fibre Channel HBA (with adjunct driver)

Window has finished installing the software for this device.”

Click the “Finish” button.

- Step 30. A window dialog box **may** open, with the message:

“You must shut down and restart your computer before the new settings will take effect.

Do you want to restart your computer now?”

If this message appears, click the “No” button.

Step 31. Device Properties dialog box title will update to “Compaq KGPSA-xx, PCI-Fibre Channel HBA (with adjunct driver)” and the device status will update to “This device is working properly.” Click the “Close” button on the properties dialog box.

Note: If device status does not change immediately to “This device is working properly”, it will change after a reboot.

Step 32. The Computer Management window will update. The “Other devices” list will no longer have the first Fibre Channel Controller. Now that the driver has been loaded the Compaq KGPSA-xx, PCI-Fibre Channel HBA (*with adjunct driver*) will move to the “SCSI and RAID controllers” list.

Step 33. In the right-hand list on the Computer Management window double click on the SCSI and RAID controllers device if required to expand the list. Verify that the Fibre Channel HBA now appears in the list. The list should look like:

*“Compaq KGPSA-xx, PCI-Fibre Channel HBA (with adjunct driver)
Compaq Smart Array 5i”*

Step 34. Close the Computer Management window.

Step 35. Select Start->Shut Down.

Step 36. In the Shut Down Windows dialog select “Restart” from the drop down box. Click the “OK” button.

Step 37. Upon boot the Windows 2000 Configure Your Server window will appear. Close this dialog.

Step 38. A window dialog box **may** open, with the message:

“You must shut down and restart your computer before the new settings will take effect.

Do you want to restart your computer now?”

If this message appears, click the “Yes” button.

Step 39. Allow the server to restart and then log back onto the system into the administrator account. Wait for a few minutes while the second FCA2101 is detected and the driver automatically is loaded. Some New Hardware Found dialog boxes may open briefly and then close during this process.

Step 40. Select Start->Programs->Administrative Tools->Computer Management.

Step 41. The Computer Management window will open, in the left-hand list double click on the “Device Manager”.

Step 42. Double click on the “Other devices” item to inspect the list.

Step 43. The Computer Management window should be updated. The “Other devices” list will no longer have the second Fibre Channel Controller. Now that the driver has been loaded the Compaq KGPSA-xx, PCI-Fibre Channel HBA (*with adjunct driver*) will move to the “SCSI and RAID controllers” list.

Step 44. In the right-hand list on the Computer Management window double click the SCSI and RAID controllers device if required to expand the list. Verify that both Fibre Channel HBAs now appear in the list. The list should now look like:

*“Compaq KGPSA-xx, PCI-Fibre Channel HBA (with adjunct driver)
Compaq KGPSA-xx, PCI-Fibre Channel HBA (with adjunct driver)
Compaq Smart Array 5i”*

- Step 45. Close the Computer Management window.
- Step 46. **(Enterprise Only)** Use Windows Explorer to go to the C:\WINNT\System32 directory.
- Step 47. **(Enterprise Only)** Double-click on lputilnt.exe.
- Step 48. **(Enterprise Only)** In the category drop down menu, select Driver Parameters.
- Step 49. **(Enterprise Only)** Scroll down until the Topology value is visible.
- Step 50. **(Enterprise Only)** Double-click on Topology.
- Step 51. **(Enterprise Only)** Enter 1 for New Value.
- Step 52. **(Enterprise Only)** Check the Permanent box and verify that the Global box is also checked.
- Step 53. **(Enterprise Only)** Click Change.
- Step 54. **(Enterprise Only)** Select File → Exit to quit.
- Step 55. Continue with Section 6.6.

6.6 Procedure: Load the AIT 50 Tape Drive Driver

- Step 1. Logon to the server into the administrator account.
- Step 2. Insert the CD labeled “Storage Works by Compaq Native Drivers” into the CD-ROM drive. If the Storage Works by Compaq window appears, close it.
- Step 3. Select Start->Programs->Administrative Tools->Computer Management.
- Step 4. The Computer Management window will open, in the left-hand list double click on the “Device Manager”.
- Step 5. The device list will appear in the right-hand side of the Computer Management window. Under the “Other devices” item locate the “Compaq SDX-500C SCSI Sequential Device” device and double click on it (the device will have a yellow question mark on it at this point).
- Step 6. The Compaq SDX-500C SCSI Sequential Device Properties dialog box will open, click on the Driver TAB to bring it forward.
- Step 7. On the Driver TAB click the “Update Driver” button.
- Step 8. The Upgrade Device Driver Wizard Welcome dialog box will appear, click the “Next” button.
- Step 9. The Install Hardware Device Drivers dialog box will open. Accept the default “Search for a suitable driver for my device (recommended)” choice and click the “Next” button.
- Step 10. The Locate Driver Files dialog box will open. Check the “CD-ROM drives” search location and uncheck the other search locations. Click the “Next” button.
- Step 11. The Drivers Files Search Results dialog box will appear with the message:

“The wizard found a driver for the following device:

COMPAQ SDX-500C SCSI Sequential Device

Windows found a driver that is a closer match for this device than your current driver. To install the driver Windows found, click Next.

g:\drivers\standalonetapedrives\w2000\ait\caitw2i.inf"

Click the "Next" button.

Step 12. The Completing the Upgrade Device Driver Wizard dialog box will open with the following information:

"Compaq AIT 50 GB Drive

Windows has finished installing the software for this device."

Click the "Finish" button.

Step 13. The Compaq SDX-500C SCSI Sequential Device Properties dialog box title will update to "Compaq AIT 50 GB Drive Properties" and the device status will update to "This device is working properly." Click the "Close" button on the properties dialog box.

Step 14. The Computer Management window will update. The "Other devices" list will no longer exist at this point in the server configuration. Now that the driver has been loaded the Compaq AIT 50 GB drive will move to the "Tape drives" device list.

Step 15. In the right-hand list on the Computer Management window double click the Tape drives device to expand the list if necessary. Verify that the Compaq AIT 50 tape drive now appears in the list. The list should look like:

"Compaq AIT 50 GB Drive"

Step 16. Close the Computer Manager.

Step 17. Open the Windows Explorer, Start->Programs->Accessories->Windows Explorer.

Step 18. On the left-hand side of the Explorer window click on the System (C:) partition to select it.

Step 19. On the Explorer menu select "File" and then "New->Folder" from the drop-down menu that appears.

Step 20. The new folder will appear in the System C: partition on the right-hand side of Explorer screen. The folder name will be highlighted in dark blue, enter in the name "AIT50 Tape Driver" and press "Enter".

Step 21. In the Explorer browse out to the Compaq StorageWorks by Compaq Native Drivers CD. Double click on the top level Native_Drvrs_1.2(G:) folder to expand the contents of the CD. Select the "DRIVERS" subfolder, right click on it and select "Copy" from drop down menu that appears.

- Step 22. Back on the System C: partition click on the newly created AIT50 Tape Driver folder, right click and select "Paste" from the drop down menu. This operation will place a copy of the Compaq AIT 50 Tape driver on onto the System C: partition for future use if required.
- Step 23. Close the Explorer.
- Step 24. Remove the Storage Works by Compaq Native Drivers CD from CD-ROM drive.
- Step 25. Continue with Section 6.7.

6.7 Procedure: Copy I386 Folder and Install Administrator Pack and Windows 2000 Support Tools

- Step 1. Logon to the server into the administrator account. Close the Windows 2000 Configure Your Server dialog.
- Step 2. Place the Windows 2000 Advanced Server CD into the CD-ROM drive.
- Step 3. If the Auto-Start Microsoft Windows 2000 Advanced Server Installation screen appears click the "Exit" button
- Step 4. Start the Windows Explorer, Start->Programs->Accessories->Windows Explorer.
- Step 5. In the Explore browse out to the CD-ROM, to the Windows 2000 Advanced Server CD. Double click on the CD to expand the view to include its subfolders.
- Step 6. In the left-hand pane of the Explorer window, from the directory tree on the CD select the "I386" folder and right click on it.
- Step 7. Select "Copy" from the pop-up menu that appears.
- Step 8. In the Explorer tree select the System C: partition and right click on it.
- Step 9. From the pop-up menu select "Paste". This will place a copy of the I386 folder on the system partition for future use.
- Step 10. Once the I386 folder copy operation completes, in the Explore browse to the new I386 folder on the System C: partition, select it and then double click on it to open it.
- Step 11. In the main I386 folder locate the "ADMINPAK.MSI" installer package, then double click on it to begin the installation of the Windows 2000 Administration Tools.
- Step 12. The Windows 2000 Administration Tools Setup Wizard dialog box will open with the Welcome to the Windows 2000 Administration Tools Setup Wizard dialog. Click the "Next" button to begin the installation.
- Step 13. If the Windows 2000 Administrative Tools Setup Wizard - Setup Options dialog box appears, select the "Install all of the Administrative Tools" choice and click the "Next" button. If this prompt does not appear the full suite of administrative tools will automatically be installed.
- Step 14. When the installation completes, the Completing the Windows 2000 Administration Tools Setup Wizard - You have successfully installed the Windows 2000 Administration Tools dialog will open, click the "Finish" button.
- Step 15. Back in the Windows Explorer, browse back out to the Windows 2000 Advanced Server CD.

- Step 16. Browse to the Tools subfolder on the CD (SUPPORT\TOOLS).
- Step 17. In the Tools folder double click on Setup.exe to begin the installation of the Windows 2000 Resource Kit.
- Step 18. The Windows 2000 Support Tools Setup Wizard Welcome dialog box will open, click the "Next" button.
- Step 19. The User Information dialog will open next, it will be filled in with the information that was entered during the Windows 2000 Advanced Server software installation, click the "Next" button to continue.
- Step 20. The Select An Installation Type dialog box will then open, leave the default "Typical" choice selected and click the "Next" button.
- Step 21. The Begin Installation dialog box will open next, click the "Next" button to begin the installation of the support tools.
- Step 22. The Completing the Windows 2000 Support Tools Setup Wizard dialog box will open when the installation completes, click the "Finish" button.
- Step 23. Close the Windows Explorer.
- Step 24. Remove the Windows 2000 Advanced Server CD from the CD-ROM drive.
- Step 25. Continue with Section 6.8.

6.8 Procedure: Installation of Microsoft Windows 2000 Resource Kit Supplement One

NOTE

THE MICROSOFT WINDOWS 2000 RESOURCE KIT SUPPLEMENT ONE SHOULD BE INCLUDED WITH THE JMPS SERVER. THIS KIT CONTAINS THE FULL DOCUMENTATION LIBRARY AND THE CD CONTAINING THE RESOURCE KIT.

- Step 1. Logon to the server into the administrator account.
- Step 2. Place the Microsoft Windows 2000 Server Resource Kit Supplement One CD into the CD-ROM drive.
- Step 3. The Microsoft Windows 2000 Server Resource Kit Supplement One installation should start automatically, the Microsoft Windows 2000 Resource Kit CD-ROM window should open. If it does not follow the sub-steps below.
 - a) Select Start->Run.
 - b) On the Run dialog box click the "Browse" button.
 - c) On the Browse dialog box that appears set the path to the CD-ROM drive and then to the location of the setup file for the Resource Kit (SUP1RK2000 (G:))
 - d) In the main folder double click on the "Setup.exe" file to set the path to it in the Run dialog box.
 - e) On the Run dialog box click the "OK" button to begin the installation of the Resource Kit.

- Step 4. On Microsoft Windows 2000 Server Resource Kit CD-ROM window, click the “Install Resource Kit” button.
- Step 5. The Welcome to the Microsoft Windows 2000 Resource Kit Setup Wizard dialog box will open, click the “Next” button.
- Step 6. The End User License Agreement dialog box will appear next, click the “I Agree” button and then click the “Next” button to accept the license.
- Step 7. The User Information dialog will open next, it will be filled in with the information that was entered during the Windows 2000 Advanced Server software installation, click the “Next” button to continue.
- Step 8. The Select An Installation Type dialog box will then open. Select the “Custom” choice, verify that all options are selected and click the “Next” button.
- Step 9. The Begin Installation dialog box will open next, click the “Next” button to begin the installation of the Resource Kit.
- Step 10. Warning window about ActivePerl will come up stating that ActivePerl 521 is required. Click Yes to allow ActivePerl to install.
- Step 11. The Progress dialog box will appear to show the status of the installation process, wait until the installation completes.
- Step 12. ActivePerl 521 Setup window will then come up. Click the Next button.
- Step 13. Click Yes to accept the license agreement.
- Step 14. Click Yes to acknowledge installation notes.
- Step 15. Click the Browse button on the Choose Installation Location window.
- Step 16. Type “C:\ActivePerl521” for the installation path.
- Step 17. Click Yes to create the directory.
- Step 18. Click Next to continue with installation.
- Step 19. Click Next on the Select Components window. All components should be selected.
- Step 20. Click Next on the Select Perl Options window. All three options should be checked.
- Step 21. Click Next on the Select IIS Options window. The only option in that window should be automatically selected.
- Step 22. Click Next on the Select Program Folder window.
- Step 23. Click Next to start copying files.
- Step 24. Click No at the dialog box asking about Release Notes.
- Step 25. The Completing the Microsoft Windows 2000 Resource Kit Supplement One Setup Wizard dialog box will open when the installation completes, click the “Finish” button.
- Step 26. On the Microsoft Windows 2000 Resource Kit CD-ROM window click the “<Exit>” button.
- Step 27. Remove the Windows 2000 Server Resource Kit CD from the CD-ROM drive.
- Step 28. Continue the installation with Section 6.9.

6.9 Procedure: Active Directory (AD) and Domain Name Server Configuration (DNS)

6.9.1 JMPS Enterprise

6.9.1.1 First Server in the Cluster

NOTES

FOR THE JMPS ENTERPRISE CONFIGURATION VERIFY THAT THE JMPS SERVERS ARE ISLOATED TOGETHER ON THE NETWORK AT THIS TIME. IF OTHER WINDOWS 2000 DOMAIN CONTROLLERS ARE PRESENT ON THE NETWORK DURING THE ACTIVE DIRECTORY CONFIGURATION ON THE FIRST JMPS SERVER, PROBLEMS MAY RESULT.

ENSURE THAT THE GIGABYTE NICS IN BOTH SERVERS ARE NOW CONNECTED TO THE NETWORK. ALSO VERIFY THAT THE PERFERED DNS ADDRESS IS SET ON BOTH GIGABYTE NICS TO THE IP ADDRESS OF THE GIGABYTE NIC LOCATED IN THE FIRST JMPS SERVER. THE 10/100 NICS WILL BE DEDICATED TO CLUSTERING OPERATIONS FOR THE ENTERPRISE CONFIGURATION LATER IN THE PROCEDURES.

ONCE THE DNS SETTINGS ARE MADE IN THIS SECTION, THE CLIENT MACHINES SHALL BE GIVEN THE ADDRESS OF JMPSSERVER1 AS THE PRIMARY DNS SERVER AND THE ADDRESS OF J MPSSEVER2 AS THE SECONDARY DNS SERVER.

Step 1. Shut down JMPSSERVER2.

Step 2. On JMPSSERVER1 select Start->Shut Down.

Step 3. In the Shut Down Windows dialog select "Restart" from the drop down box.
Click the "OK" button.

Step 4. Logon to the system into the administrator account.

Step 5. The Windows 2000 Configure Your Server windows will appear. On the left-hand side of this window click the "Active Directory" button.

Step 6. The Active Directory dialog will open. Use the scroll bar to go to the bottom of the dialog, locate the "Start the Active Directory wizard" button and click on it.

- Step 7. The Welcome to the Active Directory Installation Wizard dialog will appear, click the “Next” button to continue.
- Step 8. The Domain Controller Type dialog box will then open. Since JMPS will have its own domain, a new one will have to be created. Select the “Domain controller for a new domain” option and then click the “Next” button.
- Step 9. The Create Tree or Child Domain dialog box will open, for JMPSSERVER1 select the “Create a new domain tree” choice and click the “Next” button.
- Step 10. The Create or Join a Forest dialog box will then open. Accept the default “Create a new forest of domain tress” option. Click the “Next” button.
- Step 11. The New Domain Name dialog will appear requesting domain information:

“Type the full DNS name for the new domain.

If your organization already has a DNS domain name registered with an Internet naming authority, you can use that name.”

The Active Directory for JMPS will consist of a single domain for each deployment case. Enter the domain name “JMPS.(SHIP/SITE NAME).NAVY.SMIL.MIL” in the Full DNS name for new domain box (where the “SHIP” name will be the standard form used by GOTS-DELTA and the “SITE” name is a descriptive name for the site, i.e. for SSC-SD C4I Philadelphia it would be “PHILLY”). The Internet registered domain name is “smil.mil”. Click the “Next” button. This may take a few minutes, be patient and wait for the process to complete.

- Step 12. The NetBIOS Domain Name dialog will then open. The Domain NetBIOS name by default will be the first part of the domain name defined above, “JMPS”. Accept the default “JMPS” NetBIOS name and click the “Next” button.
- Step 13. The Database and Log Locations dialog box will open next. Accept the default locations (C:\WINNT\NTDS for the Active Directory database and C:\WINNT\NTDS for the Active Directory log) by clicking the “Next” button.
- Step 14. The Share System Volume dialog box will then open. Accept the default location (C:\WINNT\SYVOL) by clicking the “Next” button. This may take a few minutes, be patient and wait for the process to complete.
- Step 15. If the JMPS system is on an isolated network, which it should be during this setup, the Active Directory Installation Wizard Warning dialog box may appear with the following message:

“The wizard cannot contact the DNS server that handles the name “JMPS.(SHIP/SITE NAME).navy.smil.mil” to determine if it supports dynamic update. Confirm your DNS configuration, or install and configure a DNS server on this computer.

Click the “OK” button to acknowledge this warning.

- Step 16. The Configure DNS dialog box will then open. Select the “No, I will install and configure DNS myself” option, then click the “Next” button.

- Step 17. The Permissions dialog box will then appear. Select the “Permissions compatible only with Windows 2000 servers” button and then click the “Next” button.
- Step 18. The Directory Services Restore Mode Administrator Password dialog box will then open. Enter the password for the administrator account into both the Password and Confirm boxes. Press the “Next” button when finished.
- Step 19. The Summary dialog will then open. Review the choices made, if required press the “Back” key to fix any mistakes, otherwise press the “Next” button to install Active Directory on the server.
- Step 20. Several Windows Component Wizard and Active Directory dialog boxes will open and close as the configuration proceeds. Wait until all these processes complete.
- Step 21. The Completing the Active Directory Installation Wizard dialog will appear. Click the “Finish” button.
- Step 22. The Active Directory Installation Wizard dialog box will open with the following message:

“Windows must be restarted before the changes made by the Active Directory Installation wizard take effect.”

Click the “Restart Now” button.

- Step 23. Upon restart, log back onto the system into the administrator account. When the server restarts it is likely that a “Service Control Manger” error dialog box will appear. If this event occurs, restart the server a second time. (During initial testing it was noted that not all the services may start upon the first boot with Active Directory installed, a second restart appeared to solve these issues.)
- Step 24. After restarting and logon, the Windows 2000 Configure Your Server dialog box will open. Uncheck the “Show this screen at startup” check box and then close the Windows 2000 Configure Your Server dialog box to prevent this screen from appearing each time the server is started.
- Step 25. Go to Start → Run and type “regedit”. Click OK.
- Step 26. In the tree in the left pane, navigate to
HKEY_LOCAL_MACHINE\Software\Microsoft\Windows\CurrentVersion\Setup.
- Step 27. In the right pane, double-click on the SourcePath key.
- Step 28. In the window that comes up, change “D:\” to “C:\”.
- Step 29. Click OK.
- Step 30. Close the Registry Editor window.
- Step 31. On the Start Menu Bar click Start->Settings->Control Panel.
- Step 32. The Control Panel dialog box will then open. Double click on the “Add/Remove Programs” icon.
- Step 33. The Add/Remove Programs dialog box will open. On the left-hand side click on the “Add/Remove Windows Components” button.
- Step 34. The Windows Components Wizard dialog box will open, use the scroll bar, and select the “Networking Services” component. Double click on it to open its subcomponents.

- Step 35. The Networking Services Subcomponents of Networking Service dialog box will open. On the list verify that the “Dynamic Host Configuration Protocol (DHCP)” component is not selected. If it is selected, deselect it. Click the “OK” button. (During the JMPS server operating system configuration this was not selected however this step is taken to ensure that DHCP was not installed by the Active Directory service setup. Since JMPS will run on classified networks, DHCP must be removed or deactivated).
- Step 36. On the Windows Components dialog box use the scroll bar, check the box next to the “Message Queuing Service” component. Click the “Next” button.
- Step 37. The Message Queuing Type dialog box will open, accept the default “Message Queuing server” selection and check the “Enable routing” check box. Click the “Next” button.
- Step 38. The Windows NT 4.0 Message Queuing Clients dialog box **may** then open. Accept the default “No, do not change the permissions” choice, click the “Next” button.
- Note: Depending on the source of the Windows 2000 Advanced Server installation CD, some dialog boxes may or may not show up. MSDN and retail versions of Windows 2000 Advanced Server have slightly different dialog boxes. This will not affect proper operation of the system.*
- Step 39. The Configuring Component dialog box will open, some files will be copied, and the Configuring Components dialog box will begin to update. It may take several minutes for the process to complete. When completed the Completing the Windows Components Wizard dialog box will open, click the “Finish” button.
- Step 40. Close the Add/Remove window, click the “Close” button.
- Step 41. Close the Control Panel window.
- Step 42. Select Start->Shut Down.
- Step 43. In the Shut Down Windows dialog select “Restart” from the drop down box. Click the “OK” button. Allow the server to restart.
- Step 44. Logon back onto the system into the administrator account.
- Step 45. Select Start->Settings->Network and Dial-up Connections.
- Step 46. Double click on the “Local Area Connection 3” connection.
- Step 47. On the Local Area Connection 3 Status box that appears click the “Properties” button.
- Step 48. On the Local Area Connection 3 Properties box that opens verify that the card description is “Compaq NC7131 Gigabit Server Adapter”. If this is not the correct NIC, repeat Steps 41 and 42 on the other Local Area Connections listed in the Network and Dial-up Connections dialog until the one for the NC7131 is located.
- Step 49. Once the Compaq NC7131 Gigabit Server Adapter properties dialog has been located, double click on the “Internet Protocol (TCP/IP)” component.
- Step 50. The Internet Protocol (TCP/IP) Properties dialog box will open. Verify that the address is correct. During the design of the JMPS server it was noted that if the DHCP service was removed the IP address for the Gigabyte NIC changed to 10.10.1.1. If the address has changed repeat Steps 15 and 16 in Section 6.4 to correct this condition. If the IP address is correct, click the “Cancel” button on the Internet Protocol (TCP/IP) Properties box, and on the Local Area Connection Properties

dialog box. Also close the Local Area Connection Status and the Network and Dial-up Connections dialog boxes.

- Step 51. Go to Start->Programs->Administrative Tools->Configure Your Server.
- Step 52. In the left pane, click on Networking and then click on DNS right below Networking.
- Step 53. In the right pane, click on Set Up DNS. Some files will be copied.
- Step 54. Close the Configure Your Server window.
- Step 55. Go to the DNS configuration tool (Start->Programs->Administrative Tools->DNS).
- Step 56. The DNS configuration dialog box will open. In the left-hand pane select the JMWSSERVER1 and right-click. Select "Configure the Server.." from the menu.
- Step 57. The Configure DNS Server Wizard dialog will open, click the "Next" button.
- Step 58. The Collecting Setup Information dialog will open and then the Root Server dialog box will appear.
- Step 59. Accept the default "This is the first DNS server on this network" choice, click the "Next" button.
- Step 60. The Forward Lookup Zone dialog will then open. Select the "Yes, create a forward lookup zone."
- Step 61. The Zone Type dialog box will then open, select the "Active Directory-integrated" type. Click the "Next" button.
- Step 62. The Zone Name dialog will then open. Set the name of the zone to "JMWPS.(SHIP/SITE NAME).NAVY.SMIL.MIL" and click the "Next" button.
- Step 63. The Reverse Lookup Zone dialog box will open. Select the "Yes, create a reverse lookup zone" choice. Click the "Next" button.
- Step 64. The Zone Type dialog box will then open, select the "Active Directory-integrated" type. Click the "Next" button.
- Step 65. The Reverse Lookup Zone dialog box will then open. Leave the Network ID choice selected and enter in the first part of the IP address assigned to the NC7131 NIC on JMWSSERVER1. For example, if the IP address of the NIC is 123.456.789.012, enter 123.456.789. The Reverse lookup zone name box will automatically update as the IP address is filled in. Click the Next button.
- Step 66. The Completing the Configure DNS Server Wizard dialog box will open. Click the "Finish" button.
- Step 67. A DNS warning box **may appear** at this point with the following warning:

"The forward lookup zone cannot be added to the server. The zone already exists."

If this warning appears click the "OK" button to continue.

- Step 68. Select Start->Shut Down.
- Step 69. In the Shut Down Windows dialog select "Restart" from the drop down box. Click the "OK" button. Allow JMWSSERVER1 to restart.

Proceed to Section 6.9.1.2 and start the installation of Active Directory and DNS on JMPSSERVER2 at this point. At the end of that section there will be a note to come back to this point to complete JMPSSERVER1 installation.

- Step 70. Logon to JMPSSERVER1 into the administrator account.
- Step 71. Go to the DNS configuration tool (Start->Programs->Administrator Tools->DNS).
- Step 72. In the left-hand pane select the Forward Lookup Zones and double click on it to expand the sub-tree. Under the Forward Lookup Zones branch select the “.” (root) DNS Zone, then right-click on it.
- Step 73. On the pop-up menu select “Delete” to delete the root DNS Zone from JMPSSERVER1.
- Step 74. The DNS confirm delete dialog will open, click the “OK” button to proceed.
- Step 75. Close all DNS dialogs.
- Step 76. Select Start->Shut Down.
- Step 77. In the Shut Down Windows dialog select “Restart” from the drop down box. Click the “OK” button. Allow JMPSSERVER1 to restart. A warning window about mmc.exe not closing **may** come up. Click End Now to proceed with the reboot.
- Step 78. Logon back onto JMPSSERVER1 into the administrator account.
- Step 79. Go to the DNS configuration tool (Start->Programs->Administrator Tools->DNS).
- Step 80. In the left-hand pane of the DNS dialog select the JMPSSERVER1 server and double click on it to expand the DNS tree.
- Step 81. Right-click on JMPSSERVER1 and select Properties.
- Step 82. The JMPSSERVER1 Properties dialog box will open. Click on the “Forwarders” TAB to bring it to the front.
- Step 83. On the Forwarders TAB for the second server click the “Enable forwarders” check box to enable the forwarding feature.
- Step 84. In the IP Address box enter the first DNS forwarding address to be the address of the shipboard DNS server, and then click the “Add” button to add this address to the forwarder IP list.
- Step 85. Repeat Step 74 for any additional DNS servers that JMPS will require as forwarders, adding each to the Forwarder list.
- Step 86. Once completed, click the “OK” button the JMPSSERVER1 Properties dialog.
- Step 87. Close all DNS dialogs.
- Step 88. On JMPSSERVER1 select Start->Shut Down.
- Step 89. In the Shut Down Windows dialog select “Restart” from the drop down box. Click the “OK” button.
- Step 90. Allow the server to fully restart, logon is not necessary at this time.

Proceed back to Step 70 in Section 6.9.1.2 at this time to complete the DNS setup for the JMPS Enterprise Server configuration.

6.9.1.2 Second Server in the Cluster

NOTES

AT THIS POINT IN THE PROCEDURE, IT IS ASSUMED THAT SECTIONS 6.1 TO 6.8 HAVE BEEN EXECUTED ON JMPSSERVER2 FOR THE JMPS ENTERPRISE CONFIGURATION. IF THESE STEPS HAVE NOT BEEN COMPLETED ON THE SECOND SERVER, EXECUTE THEM NOW BEFORE CONTINUING WITH THIS SECTION.

ONCE THE DNS SETTINGS ARE MADE IN THIS SECTION, THE NETWORK CONFIGURATION OF THE CLIENT MACHINES SHALL BE GIVEN THE ADDRESS OF JMPSSERVER1 AS THE PRIMARY DNS SERVER AND THE ADDRESS OF JMPSSERVER2 AS THE SECONDARY DNS SERVER.

- Step 1. Power ON JMPSSERVER2 in the Enterprise suite.
- Step 2. Logon to the local system into the administrator account. The Windows 2000 Configure Your Server windows will appear.
- Step 3. Go to Start → Run and type “regedit”. Click OK.
- Step 4. In the tree in the left pane, navigate to
HKEY_LOCAL_MACHINE\Software\Microsoft\Windows\CurrentVersion\Setup.
- Step 5. In the right pane, double-click on the SourcePath key.
- Step 6. In the window that comes up, change “D:\” to “C:\”.
- Step 7. Click OK.
- Step 8. Close the Registry Editor window.
- Step 9. In the Windows 2000 Configure Your Server window, click the “One or more servers are already running in my network” selection and then click the “Next” button.
- Step 10. The Configure Your Server dialog will then open. A menu of the available services that can be installed will be presented on the left-hand side of the screen. Click the “Active Directory” choice.
- Step 11. The Active Directory dialog will open, use the scroll bar to go to the bottom of the box and click the “Start” link to begin the setup of Active Directory on JMPSSERVER2.
- Step 12. The Active Directory Installation Wizard dialog box will open with the Welcome to the Active Directory Installation Wizard dialog, click the “Next” button.
- Step 13. The Domain Controller Type dialog box will then open. Select the “Additional domain controller for an existing domain” choice and then click the “Next” button.
- Step 14. The Network Credentials dialog box will open, enter in the information for the administrator account (on JMPSSERVER1) where the domain was initially

- configured and the name of the domain in the appropriate boxes. Click the “Next” button to continue.
- Step 15. The Additional Domain Controller dialog box will open. Click Browse.
- Step 16. In the window that opens, single-click on the only domain name listed (JMPS.(SHIP/SITE NAME).NAVY.SMIL.MIL). Click OK. Press the “Next” button to continue when completed.
- Step 17. The Database and Log Locations dialog will then open. Accept the default location of “C:\WINNT\NTDS” for the Active Directory database and the default location of “C:\WINNT\NTDS” for the Active Directory log. Click the “Next” button.
- Step 18. The Shared System Volume dialog box will then open. Accept the default “C:\WINNT\SYSVOL” location and click the “Next” button.
- Step 19. The Directory Services Restore Mode Administrator Password dialog box will open, enter the password for the JMPSSERVER2 administrator account in the Password and Confirm password boxes. Click the “Next” button when finished.
- Step 20. The Summary dialog box will then open with a display of the selected choices for the Active Directory setup on JMPSSERVER2, review the choices and then click the “Next” button.
- Step 21. The Configuring Active Directory dialog will appear, allow the process to complete.
- Step 22. The Completing the Active Directory Installation Wizard dialog will then appear. Click the “Finish” button.
- Step 23. The Active Directory Installation Wizard dialog box will then open with the message:

“Windows must be restarted before the changes made by the Active Directory Installation wizard take effect.”

Click the “Restart Now” button.

- Step 24. Upon restart, log back onto the system into the Administrator account. The password for the Administrator account will now be the same as the one used on JMPSSERVER1. After restarting and logon, the Windows 2000 Configure Your Server dialog box will open, uncheck the “Show this screen at startup” check box and then close the Windows 2000 Configure Your Server dialog box to prevent this screen from appearing each time the server is started.
- Step 25. On the Start Menu Bar click Start->Settings->Control Panel.
- Step 26. The Control Panel dialog box will then open. Double click on the “Add/Remove Programs” icon.
- Step 27. The Add/Remove Programs dialog box will open. On the left-hand side click on the “Add/Remove Windows Components” button.
- Step 28. The Windows Components Wizard dialog box will open, use the scroll bar, and select the “Networking Services” component. Double click on it to open its subcomponents.
- Step 29. The Networking Services Subcomponents of Networking Service dialog box will open. On the list uncheck the “Dynamic Host Configuration Protocol (DHCP)”

component **if** it is selected and click the “OK” button. If it is not selected, click the “Cancel” button and continue at Step 23. (During the JMPS server operating system configuration this was not selected however the Active Directory service setup may re-install it. Since JMPS will run on classified networks, DHCP must be removed or deactivated.)

- Step 30. On the Windows Components dialog box use the scroll bar, check the box next to the “Message Queuing Service” component. Click the “Next” button.
- Step 31. The Message Queuing Type dialog box will open, accept the default “Message Queuing server” selection and check the “Enable routing” check box. Click the “Next” button.
- Step 32. The Configuring Components dialog box will begin to update, it may take several minutes for the process to complete. When completed the Completing the Windows Components Wizard dialog box will open, click the “Finish” button.
- Step 33. Close the Add/Remove window.
- Step 34. Close the Control Panel window.
- Step 35. Select Start->Shut Down.
- Step 36. In the Shut Down Windows dialog select “Restart” from the drop down box. Click the “OK” button, allow JMPSSERVER2 to restart.
- Step 37. Logon to the local system into the administrator account.
- Step 38. Select Start->Settings->Network and Dial-up Connections.
- Step 39. Double click on the “Local Area Connection 3” connection.
- Step 40. On the Local Area Connection 3 Status box that appears click the “Properties” button.
- Step 41. On the Local Area Connection 3 Properties box that opens verify that the card description is “Compaq NC7131 Gigabit Server Adapter”. If this is not the correct NIC, repeat Steps 33 and 34 on the other Local Area Connections listed in the Network and Dial-up Connections dialog until the one for the NC7131 is located.
- Step 42. Once the Compaq NC7131 Gigabit Server Adapter properties dialog has been located, double click on the “Internet Protocol (TCP/IP)” component.
- Step 43. On the Local Area Connection Properties box that opens double click on the “Internet Protocol (TCP/IP)” component.
- Step 44. The Internet Protocol (TCP/IP) Properties dialog box will open. Verify that the address is correct. During the design of the JMPS server it was noted that if the DHCP service was removed the IP address for the Gigabyte NIC changed to 10.10.1.1. If the address has changed repeat Steps 16 and 17 in Section 6.4 to correct this condition. If the IP address is correct, click the “Cancel” button on the Internet Protocol (TCP/IP) Properties box, and on the Local Area Connection 3 Properties dialog box. Also close the Local Area Connection 3 Status and the Network and Dial-up Connections dialog boxes.
- Step 45. Go to Start->Programs->Administrative Tools->Configure Your Server.
- Step 46. In the left pane, click on Networking and then click on DNS right below Networking.
- Step 47. In the right pane, click on Set Up DNS. Some files will be copied.
- Step 48. Close the Configure Your Server window.
- Step 49. Open the DNS configuration tool (Start->Programs->Administrator Tools->DNS).

- Step 50. The DNS configuration dialog box will open. In the left-hand pane select the JMPSSERVER2 and right-click. Select “Configure the Server..” from the menu.
- Step 51. The Configure DNS Server Wizard dialog will open, click the “Next” button.
- Step 52. The Collecting Setup Information dialog will open and then the Root Server dialog box **may** appear. If not, skip the next step and proceed with step 54.
- Step 53. If the Root Server dialog box appears, select the “One or more DNS servers are running on this network” choice. In the IP Address box enter the address of JMPSSERVER1 and click the “Next” button.
- Step 54. The Forward Lookup Zone dialog will then open. Select the “Yes, create a forward lookup zone.”.
- Step 55. The Zone Type dialog box will then open, select the “Active Directory-integrated” type. Click the “Next” button.
- Step 56. The Zone Name dialog will then open. Set the name of the zone to the same one setup for the first JMPS Server in Section 6.9.1.1, “JMPS.(SHIP/SITE NAME).NAVY.SMIL.MIL” and click the “Next” button.
- Step 57. The Reverse Lookup Zone dialog box will open. Select the “Yes, create a reverse lookup zone” choice. Click the “Next” button.
- Step 58. The Zone Type dialog box will then open, select the “Active Directory-integrated” type. Click the “Next” button.
- Step 59. The Reverse Lookup Zone dialog box will then open. Leave the Network ID choice selected and enter in the first part of the IP address assigned to JMPSSERVER2, this should be exactly the same as the address used for the JMPSSERVER1, (the Reverse lookup zone name box will automatically update as the IP address is filled in). Click the “Next” button.
- Step 60. The Completing the Configure DNS Server Wizard dialog box will open. Click the “Finish” button.
- Step 61. A DNS warning box **may** at this point with the following warning:

“The forward lookup zone cannot be added to the server. The zones already exists.”

If this warning appears just click the “OK” button to continue.

- Step 62. The same warning **may** appear regarding reverse lookup zone. Just click “OK” to continue.
- Step 63. In the left-hand pane of the DNS dialog, select JMPSSERVER2 and then right click. On the drop down menu select “Properties”.
- Step 64. The JMPSSERVER2 Properties dialog box will open. Click on the “Forwarders” TAB to bring it to the front.
- Step 65. On the Forwarders TAB click the “Enable forwarders” check box to enable the forwarding feature.
- Step 66. In the IP Address box enter the first DNS forwarding address to be the Gigabyte network card of the **JMPSSERVER1**, and then click the “Add” button to add this address to the forwarder IP list.
- Step 67. Repeat Step 55 and enter the address of the shipboard DNS server.

- Step 68. Repeat Step 55 for any additional DNS servers that JMPS will require as forwarders.
- Step 69. Once completed, click the “OK” button the JMPSSERVER2 Properties dialog.

At this point, return to step 70 in Section 6.9.1.1. At the end of that section there will be a note to return to the step below to complete the installation.

- Step 70. On JMPSSERVER2, select Start->Shut Down.
- Step 71. In the Shut Down Windows dialog select “Restart” from the drop down box. Click the “OK” button.
- Step 72. Allow JMPSSERVER2 to fully restart before continuing with the next procedure.

6.9.2 JMPS Enterprise Lite

NOTES

FOR THE JMPS ENTERPRISE LITE CONFIGURATION VERIFY THAT THE TWO ON-BOARD 10/100 NICS AND THE GIGABYTE NIC ARE CONNECTED TO THE NETWORK FROM THE SINGLE SERVER.

Since the JMPS Enterprise Lite configuration will include only a single server, the procedures outlined in Section 6.9.1 for the first server in the Enterprise configuration should be executed to configure the Active Directory and DNS. Execute all instructions for JMPSSERVER1 and ignore references to JMPSSERVER2.

6.9.3 JMPS PICO

NOTES

FOR THE JMPS PICO CONFIGURATION VERIFY THAT THE TWO ON-BOARD 10/100 NICS AND THE GIGABYTE NIC ARE CONNECTED TO THE NETWORK FROM THE SINGLE SERVER.

Since the JMPS PICO configuration will include only a single server, the procedures outlined in Section 6.9.1 for the first server in the Enterprise configuration should be executed to configure the Active Directory and DNS. Execute all instructions for JMPSSERVER1 and ignore references to JMPSSERVER2.

6.10 Procedure: Configure Ciprico NetArray 1100 RAID

NOTES

THIS SECTION CAN BE SKIPPED FOR THE PICO CONFIGURATION SINCE THIS CONFIGURATION DOES NOT CONTAIN A CIPRICO NETARRAY 1100 RAID ARRAY.

6.10.1 JMPS Enterprise

NOTES

FOR THE JMPS ENTERPRISE CONFIGURATION THERE WILL BE TWO SERVERS. POWER DOWN JMPSSERVER2 AT THIS POINT. LOAD THE CIPRICO STORAGE MANAGEMENT SOFTWARE ON JMPSSERVER1 FOLLOWING THE PROCEDURES PRESENTED BELOW. IN THE PROCEDURE JMPSSERVER2 WILL BE POWERED BACK ON LATER AND THE STORAGE MANAGEMENT SOFTWARE WILL BE INSTALLED ON IT AFTER JMPSSERVER1 HAS BEEN LOADED AND USED TO CONFIGURE THE SHARE DISK RESOURCES (CIPRICO NETARRAY 1100).

! NOTES !

ONLY CONNECT 1 FIBRE CHANNEL CARD FROM EACH SERVER (TOP CARD) TO THE FIRST FIBRE CHANNEL SWITCH ALONG WITH THE CONTROLLER A PORT FROM ONE OF THE TWO CIPRICO NETARRAY 1100s. THEN PROCEED TO STEP 1 BELOW. PROCEDURES FOR CONNECTING THE SECOND RAID ALONG WITH DUAL DATA PATHS TO BOTH ARRAYS ARE PROVIDED AT THE END OF THIS DOCUMENT. LOOK AT Figure 7 ON PAGE 164 FOR MORE INFORMATION. ONLY 3 FIBRE CONNECTIONS (1) TO (3) SHOULD BE MADE RIGHT NOW.

NOTE

THIS SECTION REQUIRES DOWNLOADING CIPRICO STORAGE MANAGER 3.2 FROM THE CIPRICO FTP SITE. THE LINK TO THAT FILE IS LISTED BELOW. UNZIP THE FILE AND PLACE THE CONTENTS ON A CD.

ftp://ftp.ciprico.com/pub/Software/WIN2000/Utility/STORM3.2_W2K.zip

- Step 1. Shut Down the Compaq DL380 servers.
- Step 2. (See “! NOTES !” above before executing this step). On the Compaq DL380 Servers connect one Fibre Channel Card on each server to one of the Fibre Channel switch using LC to LC fiber cables. From each of the servers, connect the Fibre Channel HBA card located in the top PCI slot to the first switch only. Refer to Figure 4.
- Step 3. (See “! NOTES !” above before executing this step). On one of the Ciprico NetArray 1100 connect the Controller A Fibre Channel port to the first Fibre Channel Switch using SC to LC fiber cable. Refer to Figure 4. Figure 7 on page 164 also shows an overview of connections. Fibre connections along with the correct port numbers that should be made up to this point are indicated by blue lines titled “First set of connections.”
- Step 4. Power on the first Silk Worm 3200 Fibre Channel Switch. It takes 5 minutes for the switch to perform all self-testing. Be patient and wait until all lights on the switch stop flashing.
- Step 5. Power on the first NetArray 1100 via the switch on the right rear and left rear of the cabinet (dual power supplies).
- Step 6. Power only the primary server (JMPSSERVER1) back on. Logon to the system into the administrator’s account.
- Step 7. The NetArray 1100 drive LEDs may be blinking Blue-Green at this time and then should be a steady Green. The array is ready to be used when all 10 lights are steady Green.
- Step 8. Insert the CD containing Ciprico Storage Manager 3.2 in to the CD-ROM drive on the server.
- Step 9. Follow these sub-steps:
 - a) Select Start->Run.
 - b) The Run dialog box will open, click the “Browse” button.
 - c) The Browse dialog box will then open. Set the path to the CD-ROM drive.
 - d) Double click on the “windows” folder to open it.
 - e) Select the “StrMan32.exe” file and then double click on it to set the path to it in the Run dialog box.
 - f) On the Run dialog box click the “OK” button to start the Ciprico Storage Manager 3.2 installer.

- Step 10. The Language dialog box will open, click the “OK” button to accept the default “English” choice.
- Step 11. The Store_Manager32 dialog box will open with the Introduction message, click the “Next” button to continue.
- Step 12. The Important Information dialog will then open. Click the “Next” button to continue.
- Step 13. The Choose Product Features dialog box will then open. Select the “Server & Client” choice and then click the “Next” button.
- Step 14. The Choose Install Folder dialog will then open. Accept the default installation location “C:\Program Files\Ciprico”. Click the “Next” button.
- Step 15. The Choose Shortcut Folder dialog will open. Accept the default new Program Group “Ciprico Storage Manager”. Click the “Install” button.
- Step 16. The Install Complete dialog box will open, click the “Done” button.
- Step 17. Remove the Ciprico Storage Manager 3.2 CD from the CD-ROM drive.
- Step 18. Open the Windows Explorer, Start->Programs->Accessories->Windows Explorer.
- Step 19. In the Explorer navigate to the Ciprico folder “C:\Program Files\Ciprico”. Select the “Ciprico” folder and double click on it to open it.
- Step 20. In the Ciprico folder display, on the left-hand side of the Explorer window, select the “startServer.bat” file and right-click on it. Select “Edit” from the pop-up menu.
- Step 21. The “startServer.bat” file will open in the NotePad editor. Find the line in the .bat file that states “set ARGS=” and modify it to “set ARGS= -TRACE - SECURITY” to enable the tracing and security options.
- Step 22. On the startServer.bat - Notepad menu click “File->Exit”.
- Step 23. The Notepad dialog box will then open with the following message:

“The text in the C:\Program Files\Ciprico\startServer.bat file has changed.

Do you want to save the changes?”

Click the “Yes” button to save the changed file.

- Step 24. In the Ciprico folder display, on the right-hand side of the Explorer window, select the “StorageManager.bat” file and right-click on it. Select “Edit” from the pop-up menu.
- Step 25. The “StorageManager.bat” file will open in the NotePad editor. Find the line in the .bat file that states “set ARGS=” and modify it to “set ARGS= -adv” to enable the client security options. This will turn on the login feature of the Storage Manager software so that array configuration permissions can be assigned to the designated personnel.
- Step 26. On the StorageManager.bat - Notepad menu click “File->Exit”.
- Step 27. The Notepad dialog box will then open with the following message:

“The text in the C:\Program Files\Ciprico\StorageManager.bat file has changed.

Do you want to save the changes?"

Click the "Yes" button to save the changed file.

- Step 28. Close the Explorer.
- Step 29. On the Desktop double click on the "Ciprico Storage Manager Server" icon to start the server portion of the Storage Management software.
- Step 30. A DOS window will open and then auto-minimize to the Start Bar with the "cipServer" title.
- Step 31. On the Desktop double click on the "Ciprico Storage Manager" icon to start the client portion of the Storage Management software.
- Step 32. The Storage Manager DOS window will open with the "- advanced options enabled -" line. The Ciprico Storage Manager window will then open with the Ciprico Storage Manager introduction splash screen.
- Step 33. On the Ciprico Storage Manager menu select "File->Select Server".
- Step 34. The Server Selection dialog box will open. In the Enter Server Name box type in the name assigned to the JMPS server followed by ":2004". Use the DNS name, the basic name without the "." extensions. (ex. JMPSSERVER1:2004). Click the "Okay" button when completed.
- Step 35. On the Ciprico Storage Manager menu select "File->Search for Devices".
- Step 36. The "Searching" dialog will open and then the Ciprico Storage Manager will appear with System View TAB open. The server tree will be displayed in the left-hand part of the window and the connected NetArray will be displayed in the right-hand side.
- Step 37. On the menu bar select "File->Server Login".
- Step 38. The Server Login dialog will open, enter "admin" for the Username and leave the Password box empty (these are the default settings to allow entry for the first time configuration). Click the "OK" button to log in. The padlock symbol on the Ciprico Storage Manager menu bar should now be open.
- Step 39. Click on the "Security Setup" TAB located at the bottom right-hand side of the Ciprico Storage Manager window.
- Step 40. The Security TAB will open. Click the "Show Users" button. The user list will appear. (In the Enterprise case, with dual servers, two "Admin" users may appear in the user list.)
- Step 41. In the Username: box enter "Admin", leave the Old Password box blank and then enter a selected password for the Admin account into the New Password and the Confirm New Password boxes. When finished click the "Change Password" button. (Note: This action will only change the password for the local "Admin" account.)
- Step 42. The Password successfully changed message will appear in the lower left-hand corner of the Ciprico Storage Manager window.
- Step 43. With the password on the local Admin account changed, its time to configure the NetArray 1100. Click on the "System View" TAB to bring it forward.
- Step 44. On the System View TAB the connected NetArray 1100 should appear on the right-hand side of the window. Select the NetArray 1100 and double click on it to open the NetArray RAID Array dialog box. (It may be necessary to double click the

title bar on this NetArray RAID Array window to be able to fully view the lower part of the screen with the action buttons.)

Step 45. From the factory the Ciprico NetArray 1100 may be pre-configured into two Logical Units (LUNs). One should contain two 180GB hard drives in a RAID 1 configuration and the other should contain seven 180GB hard drives in a 6 + 1 RAID 5 configuration, one of the drives will be a hot spare. The 10th drive in the NetArray will also be configured as a hot spare. The Controller View TAB display on the left-hand side of the NetArray RAID Array dialog box should reflect this configuration. It should show V0 and V1 disk groupings along with 2 hot spare drives. It is suggested that the configuration of the NetArray be wiped and then rebuilt using the following sub-steps presented below, a new RAID 5 storage area will be built:

- a) On the NetArray RAID Array dialog box, on the Controller Details TAB, click the “Clear Configuration” button. (It may be necessary to double click on the NetArray RAID Array window title bar to make it full-size in order to see the buttons on the near the bottom of the Controller Details dialog.)
- b) The Warning! Dialog box will appear with the following message:

“You are about to clear the configuration.

You may need to reboot the server system for changes to be visible.

Are you sure you want to continue?”

Click the “Yes” button. The system will pause for a few minutes, wait until the operation completes.

- c) Leave the default settings selected on the Controller Details TAB.
- d) At the lower part of the NetArray RAID Array dialog click on the “Logical Unit Creation” TAB. The Create a Logical Unit dialog box will open.
- e) On the Controller View, the left-hand side of the NetArray RAID Array dialog box will have updated from the clear operation. All the drives will now be yellow in color (yellow = drive is free).
- f) In the Available Drive box select Disk #1 and then click the down-arrow button located in the center of the TAB, the drive should then move to the Drives to be included box.

NOTE

THE JMPS APPLICATION HAS A PROBLEM INSTALLING THE DATA TO A DISK DRIVE LARGER THAN 1 TB. UNTIL THIS PROBLEM WITH THE JMPS APPLICATION IS SOLVED THE MAXIMUM DISK SIZE FOR ANY PARTITION IN THE ENTERPRISE RAID WILL BE LIMITED TO 896 GB (6 HARD DRIVES) CONFIGURATION.

**ONLY SELECT DRIVE IDS 1 TO 3 IN STEPS (f-g)
AND ONLY SELECT DRIVE IDS 4 TO 9 IN STEPS
(m-n) BELOW. DEFINE 1 SPARE DRIVE AS
SHOWN IN STEP (t) BELOW.**

- g) Repeat the procedure outlined in Step (f) for Disk #2, 3. All three disks should appear in the Drives to be included box.
- h) On the Create a Logical Unit dialog box click the down-arrow button on the RAID Level box, from the RAID type list select "5".
- i) Ensure that the Write Cache box is not checked.
- j) The Physical Capacity for this RAID 5 LUN using 180 GB drives (3 drives for now) should be 537.59863 GB, and the Usable Capacity should be 358.39908 GB. Click the "Create" button to build this main LUN.
- k) The Notice! dialog will appear with the message:
"After the Logical Unit is created, you may need to reboot the server system for it to be visible."

Click the "OK" button to proceed with the build.

- l) The build will take several minutes to complete, when finished the Controller View, on the left-hand side of the NetArray RAID Array dialog box, will update. The drives selected to be part of the RAID volume will now be green in color (green = Drive is a Member of a Volume) and all will be part of the new V0.
- m) In the Available Drive box select Disk #4 and then click the down-arrow button located in the center of the TAB, the drive should then move to the Drives to be included box.
- n) Repeat the procedure outlined in Step (m) for Disk #5, 6, 7, 8, 9. All six disks should appear in the Drives to be included box.
- o) On the Create a Logical Unit dialog box click the down-arrow button on the RAID Level box, from the RAID type list select "5".
- p) Ensure that the Write Cache box is not checked.
- q) The Physical Capacity for this RAID 5 LUN using 180 GB drives (6 drives for now) should be 1075.1973 GB, and the Usable Capacity should be 895.9977 GB. Click the "Create" button to build this main LUN.
- r) The Notice! dialog will appear with the message:
"After the Logical Unit is created, you may need to reboot the server system for it to be visible."

Click the "OK" button to proceed with the build.

- s) The build will take several minutes to complete, when finished the Controller View, on the left-hand side of the NetArray RAID Array dialog box, will update. The drives selected to be part of the RAID volume will now be green in color (green = Drive is a Member of a Volume) and all will be part of the new V1.

- t) On the Controller View TAB click on Disk # 10 and then right-click. From the pop-up menu select “Designate as a Spare Drive”. The process will take a minute but then the drive color will change to light blue (light blue = Drive is a Spare).
- u) Close the NetArray RAID Array dialog (File->Close).
- v) On the Ciprico Storage Manager dialog select “File->Exit”. The Notice! Dialog will open with the message:

You are about to exit Storage Manager.

Are you sure you wish to exit?

Click the “Yes” button.

- w) Select Start->Shut Down.
- x) In the Shut Down Windows dialog select “Restart” from the drop down box. Click the “OK” button. Allow the server to restart.

Step 46. Power the second server back on at this time. Execute only Steps (8) to (44) above. This will install the Ciprico NetArray Storage Manager on the second server to allow the NetArray to be managed from the second server in the JMPS Enterprise suite if the first server should fail.

Step 47. Continue with the next procedure.

6.10.2 JMPS Enterprise Lite

NOTES

THE JMPS ENTERPRISE LITE CONFIGURATION WILL CONSIST OF A SINGLE SERVER AND A CIPRICO NETARRAY 1100. LOAD THE CIPRICO STORAGE MANAGEMENT SOFTWARE ON THE SINGLE SERVER AND THEN CONFIGURE THE CIPRICO NETARRAY ACCORDING TO THE FOLLOWING PROCEDURES.

! NOTES !

ONLY CONNECT A SINGLE FIBRE CHANNEL CARD FROM THE ENTERPRISE LITE SERVER (TOP CARD) TO THE CONTROLLER A PORT ON THE CIPRICO NETARRAY 1100. THEN PROCEED TO STEP 1 BELOW. INSTRUCTIONS FOR INCLUDING THE SECOND DATA PATH TO THE

**CIPRICO NETARRAY 1100 RAID ARE PROVIDED
AT THE BOTTOM OF THIS DOCUMENT.**

NOTE

**THIS SECTION REQUIRES DOWNLOADING
CIPRICO STORAGE MANAGER 3.2 FROM THE
CIPRICO FTP SITE. THE LINK TO THAT FILE IS
LISTED BELOW. UNZIP THE FILE AND PLACE
THE CONTENTS ON A CD.**

ftp://ftp.ciprico.com/pub/Software/WIN2000/Utility/STORM3.2_W2K.zip

- Step 1. Shut Down the Compaq DL380 server.
- Step 2. (See “! NOTES !” above before executing this step). On the Compaq DL380 Server connect one Fibre Channel Card on the server to Ciprico NetArray 1100 Controller A Fibre Channel port using LC to SC fiber cable. Connect the Fibre Channel HBA card located in the top PCI slot on the server. Refer to Figure 5.
- Step 3. Power the NetArray 1100 on via the switch on the right rear and left rear of the cabinet (dual power supplies).
- Step 4. Power JMPSSERVER1 back on. Logon to the system into the administrator’s account.
- Step 5. The NetArray 1100 drive LEDs may be blinking Blue-Green at this time and then should be a steady Green. The array is ready to be used when all 10 lights are steady Green.
- Step 6. Insert the CD containing Ciprico Storage Manager 3.2 in to the CD-ROM drive on the server.
- Step 7. Follow these sub-steps:
 - a) Select Start->Run.
 - b) The Run dialog box will open, click the “Browse” button.
 - c) The Browse dialog box will then open. Set the path to the CD-ROM drive.
 - d) Double click on the “windows” folder to open it.
 - e) Select the “StrMan32.exe” file and then double click on it to set the path to it in the Run dialog box.
 - f) On the Run dialog box click the “OK” button to start the Ciprico Storage Manager 3.2 installer.
- Step 8. The Language dialog box will open, click the “OK” button to accept the default “English” choice.
- Step 9. The Store_Manager32 dialog box will open with the Introduction message, click the “Next” button to continue.
- Step 10. The Important Information dialog will then open. Click the “Next” button to continue.
- Step 11. The Choose Product Features dialog box will then open. Select the “Server & Client” choice and then click the “Next” button.

- Step 12. The Choose Install Folder dialog will then open. Accept the default installation location “C:\Program Files\Ciprico”. Click the “Next” button.
- Step 13. The Choose Shortcut Folder dialog will open. Accept the default new Program Group “Ciprico Storage Manager”. Click the “Install” button.
- Step 14. The Install Complete dialog box will open, click the “Done” button.
- Step 15. Remove the Ciprico Storage Manager 3.2 CD from the CD-ROM drive.
- Step 16. Open the Windows Explorer, Start->Programs->Accessories->Windows Explorer.
- Step 17. In the Explorer navigate to the Ciprico folder “C:\Program Files\Ciprico”. Select the “Ciprico” folder and double click on it to open it.
- Step 18. In the Ciprico folder display, on the left-hand side of the Explorer window, select the “startServer.bat” file and right-click on it. Select “Edit” from the pop-up menu.
- Step 19. The “startServer.bat” file will open in the NotePad editor. Find the line in the .bat file that states “set ARGS=” and modify it to “set ARGS= -TRACE - SECURITY” to enable the tracing and security options.
- Step 20. On the startServer.bat - Notepad menu click “File->Exit”.
- Step 21. The Notepad dialog box will then open with the following message:

“The text in the C:\Program Files\Ciprico\startServer.bat file has changed.

Do you want to save the changes?”

Click the “Yes” button to save the changed file.

- Step 22. In the Ciprico folder display, on the right-hand side of the Explorer window, select the “StorageManager.bat” file and right-click on it. Select “Edit” from the pop-up menu.
- Step 23. The “StorageManager.bat” file will open in the NotePad editor. Find the line in the .bat file that states “set ARGS=” and modify it to “set ARGS= -adv” to enable the client security options. This will turn on the login feature of the Storage Manager software so that array configuration permissions can be assigned to the designated personnel.
- Step 24. On the StorageManager.bat - Notepad menu click “File->Exit”.
- Step 25. The Notepad dialog box will then open with the following message:

“The text in the C:\Program Files\Ciprico\StorageManager.bat file has changed.

Do you want to save the changes?”

Click the “Yes” button to save the changed file.

- Step 26. Close the Explorer.
- Step 27. On the Desktop double click on the “Ciprico Storage Manager Server” icon to start the server portion of the Storage Management software.

- Step 28. A DOS window will open and then auto-minimize to the Start Bar with the “cipServer” title.
- Step 29. On the Desktop double click on the “Ciprico Storage Manager” icon to start the client portion of the Storage Management software.
- Step 30. The Storage Manager DOS window will open with the “- advanced options enabled - ”line. The Ciprico Storage Manager window will then open with the Ciprico Storage Manager introduction splash screen.
- Step 31. On the Ciprico Storage Manager menu select “File->Select Server”.
- Step 32. The Server Selection dialog box will open. In the Enter Server Name box type in the name assigned to the JMPS server followed by “:2004”. Use the DNS name, the basic name without the “.” extensions. (ex. JMPSSERVER1:2004). Click the “Okay” button when completed.
- Step 33. On the Ciprico Storage Manager menu select “File->Search for Devices”.
- Step 34. The “Searching” dialog will open and then the Ciprico Storage Manager will appear with System View TAB open. The server tree will be displayed in the left-hand part of the window and the connected NetArray will be displayed in the right-hand side.
- Step 35. On the menu bar select “File->Server Login”.
- Step 36. The Server Login dialog will open, enter “admin” for the Username and leave the Password box empty (these are the default settings to allow entry for the first time configuration). Click the “OK” button to log in. The padlock symbol on the Ciprico Storage Manager menu bar should now be open.
- Step 37. Click on the “Security Setup” TAB located at the bottom right-hand side of the Ciprico Storage Manager window.
- Step 38. The Security TAB will open. Click the “Show Users” button. The user list will appear. (In the Enterprise case, with dual servers, two “Admin” users may appear in the user list.)
- Step 39. In the Username: box enter “Admin”, leave the Old Password box blank and then enter a selected password for the Admin account into the New Password and the Confirm New Password boxes. When finished click the “Change Password” button. (Note: This action will only change the password for the local “Admin” account.)
- Step 40. The Password successfully changed message will appear in the lower left-hand corner of the Ciprico Storage Manager window.
- Step 41. With the password on the local Admin account changed, its time to configure the NetArray 1100. Click on the “System View” TAB to bring it forward.
- Step 42. On the System View TAB the connected NetArray 1100 should appear on the right-hand side of the window. Select the NetArray 1100 and double click on it to open the NetArray RAID Array dialog box. (It may be necessary to double click the title bar on this NetArray RAID Array window to be able to fully view the lower part of the screen with the action buttons.)
- Step 43. From the factory the Ciprico NetArray 1100 may be pre-configured into two Logical Units (LUNs). One should contain two 180GB hard drives in a RAID 1 configuration and the other should contain seven 180GB hard drives in a 6 + 1 RAID 5 configuration, one of the drives will be a hot spare. The 10th drive in the NetArray will also be configured as a hot spare. The Controller View TAB display on the left-hand side of the NetArray RAID Array dialog box should reflect this configuration. It

should show V0 and V1 disk groupings along with 2 hot spare drives. It is suggested that the configuration of the NetArray be wiped and then rebuilt using the following sub-steps presented below, a new RAID 5 storage area will be built:

- a) On the NetArray RAID Array dialog box, on the Controller Details TAB, click the “Clear Configuration” button. (It may be necessary to double click on the NetArray RAID Array window title bar to make it full-size in order to see the buttons on the near the bottom of the Controller Details dialog.)
- b) The Warning! Dialog box will appear with the following message:

“You are about to clear the configuration.

You may need to reboot the server system for changes to be visible.

Are you sure you want to continue?”

Click the “Yes” button. The system will pause for a few minutes, wait until the operation completes.

- c) Leave the default settings selected on the Controller Details TAB.
- d) At the lower part of the NetArray RAID Array dialog click on the “Logical Unit Creation” TAB. The Create a Logical Unit dialog box will open.
- e) On the Controller View, the left-hand side of the NetArray RAID Array dialog box will have updated from the clear operation. All the drives will now be yellow in color (yellow = drive is free).
- f) In the Available Drive box select Disk #1 and then click the down-arrow button located in the center of the TAB, the drive should then move to the Drives to be included box.

NOTE

THE JMPS APPLICATION HAS A PROBLEM INSTALLING THE DATA TO A DISK DRIVE LARGER THAN 1 TB. UNTIL THIS PROBLEM WITH THE JMPS APPLICATION IS SOLVED THE MAXIMUM DISK SIZE FOR ANY PARTITION IN THE ENTERPRISE RAID WILL BE LIMITED TO 896 GB (6 HARD DRIVES) CONFIGURATION. ONLY SELECT DRIVE IDS 1 TO 6 IN STEP (g) BELOW UNTIL FURTHER NOTICE. LEAVE THE EXTRA DRIVES FREE, DEFINE THE 2 SPARE DRIVES AS SHOWN IN STEP (m) BELOW.

- g) Repeat the procedure outlined in Step (f) for Disk #2, 3, 4, 5, 6. All six disks should appear in the Drives to be included box.

- h) On the Create a Logical Unit dialog box click the down-arrow button on the RAID Level box, from the RAID type list select “5”.
- i) Ensure that the Write Cache box is not checked.
- j) The Physical Capacity for this RAID 5 LUN using 180 GB drives (3 drives for now) should be 1075.1973 GB, and the Usable Capacity should be 895.9977 GB. Click the “Create” button to build this LUN..
- k) The Notice! dialog will appear with the message:
“After the Logical Unit is created, you may need to reboot the server system for it to be visible.”

Click the “OK” button to proceed with the build.

- l) The build will take several minutes to complete, when finished the Controller View, on the left-hand side of the NetArray RAID Array dialog box, will update. The drives selected to be part of the RAID volume will now be green in color (green = Drive is a Member of a Volume) and all will be part of the new V0.
- m) On the Controller View TAB click on Disk # 9 and then right-click. From the pop-up menu select “Designate as a Spare Drive”. The process will take a minute but then the drive color will change to light blue (light blue = Drive is a Spare).
- n) Repeat Step (m) for Disk # 10.
- o) Close the NetArray RAID Array dialog (File->Close).
- p) On the Ciprico Storage Manager dialog select “File->Exit”. The Notice! Dialog will open with the message:

You are about to exit Storage Manager.

Are you sure you wish to exit?

Click the “Yes” button.

- q) Select Start->Shut Down.
- r) In the Shut Down Windows dialog select “Restart” from the drop down box. Click the “OK” button. Allow the server to restart.

Step 44. Continue with the next procedure.

6.11 Procedure: Veritas Cluster Server 2.0 (VCS) Installation (Enterprise Only)

6.11.1 Sub-procedure: VCS Program Files Installation

NOTES

THIS PROCEDURE SHALL BE SKIPPED IF LOADING THE JMPS ENTERPRISE LITE OR PICO SERVER CONFIGURATIONS, SINCE THESE

CONFIGURATIONS WILL NOT REQUIRE THE CLUSTER SOFTWARE TO BE LOADED.

VERITAS CLUSTER SOFTWARE REQUIRES THAT SERVICE PACK 2 BE LOADED ON THE SERVER. THIS SERVICE PACK WILL BE LOADED AT THE BEGINNING OF THIS PROCEDURE TO ALLOW THE VERITAS SOFTWARE TO BE PROPERLY INSTALLED. LATER IN THE PROCEDURES WHEN COE IS LOADED SERVICE PACK 3 WILL BE LOADED, THIS SHOULD NOT CAUSE ANY PROBLEMS OR ISSUES.

A CD CONTAINING WINDOWS SERVICE PACK 2 WILL BE IN THE SOFTWARE PACKAGE SHIPPED WITH THE SERVER. LOCATE THIS CD FOR THIS PROCEDURE.

LOCATE THE VERITAS CLUSTER SERVER 2.0 CD FOR THIS PROCEDURE.

- Step 1. Logon to the server into the administrator account.
- Step 2. Place the Microsoft Windows 2000 Service Pack 2 CD into the CD-ROM drive.
- Step 3. The Microsoft Windows 2000 Service Pack 2 installation should start automatically, if it does close it.
- Step 4. Select Start->Run.
- Step 5. On the Run dialog box click the "Browse" button.
- Step 6. On the Browse dialog box that appears set the path to the CD-ROM drive and then to the location of the setup file for the Service Pack (W2KSP2_EN (G:)).
- Step 7. In the folder double click on the "W2KSP2.exe" file to set the path to it in the Run dialog box.
- Step 8. On the Run dialog box click the "OK" button to begin the installation of Service Pack 2.
- Step 9. The Windows 2000 Service Pack Setup dialog box will open. Check the "Accept the License Agreement (must accept before installing the Service Pack)" box and uncheck the "Backup files necessary to uninstall this Service Pack at a later time" check box. Then click the "Install" button.
- Step 10. The Microsoft Windows 2000 Service Pack 2 Setup dialog box will then open to show the progress of the installation. Wait for this process to complete.
- Step 11. The Windows 2000 Service Pack Setup dialog box will open with the following message:

"Windows 2000 Service Pack 2 installation is complete. You must restart your computer for the Service Pack update to take effect."

- Click the “Restart” button.
- Step 12. The server will then restart. Remove the Microsoft Windows 2000 Service Pack 2 CD from the CD-ROM drive. Allow JMPSSERVER1 to reboot fully before going to the next step.
- Step 13. Repeat Steps (1) to (12) above on JMPSSERVER2.
- Step 14. Logon into the administrator account on both servers.
- Step 15. Disable auto-negotiation on both private network cards on both servers.
- Start on the first server, JMPSSERVER1.
 - Right-click on My Network Places → Properties.
 - In the Network and Dial-up Connections window, double-click the Local Area Connection icon. This will enable the connection.
 - Double-click on Local Area Connection again.
 - Click on Properties → Configure.
 - Click on the Advanced tab.
 - For the Link Speed & Duplex field, select 10Mbps/Half Duplex. Click OK twice to close both windows.
 - Repeat steps (b) to (g) above for Local Area Connection 2 on JMPSSERVER1.
 - Repeat the same steps for the same two network adapters on JMPSSERVER2.
 - Reboot both servers.
- Step 16. Place the VCS 2.0 CD in the CD-ROM on JMPSSERVER1.
- Step 17. Copy the Cluster Server CD to a temporary directory on JMPSSERVER1. The installation program may start automatically when the CD is inserted. Click “Exit” on the bottom right corner to quit the setup application.
- Step 18. Go to the temp directory containing the VCS files that were just copied and double-click on Setup.exe
- Step 19. Click Cluster Server in the left pane, then click Cluster Server Installation.
- Step 20. In the Welcome screen, read the text and click Next.
- Step 21. In the Installation Options dialog box, click Create a new VCS cluster and click Next.
- Step 22. In the License Agreement click Next.
- Step 23. In the License Key dialog box, select Node Licenses and click Next.
- Step 24. In the Domain Selection dialog box, click Browse for a list of available domains on the network.
- Step 25. Select jmps.xxxx.navy.smil.mil. It should be the only one shown. Click OK.
- Step 26. Click Next.
- Step 27. In the Cluster Identification dialog box, enter “JMPS_Cluster” for the cluster name and “1” for the cluster ID number, then click Next.
- Step 28. In the VCS Administrator Account dialog box, enter a desired user name and password, confirm the password, and click Next. This is a user name and password that is used only to administer the cluster. This user name is not related to any JMPS domain account.
- Step 29. In the Node Selection dialog box, click Browse for a list of available nodes within the selected domain.
- Step 30. Select the two nodes shown – JMPSSERVER1 and JMPSSERVER2. Click OK and click Next.

- Step 31. In the Node License Key dialog box, click a node in the list, JMPSSERVER1, and click Edit, or double-click the node.
- Step 32. Enter the License Key for JMPSSERVER1 and click OK. The License Key displays next to the node.
- Step 33. Enter the License Key for JMPSSERVER2 and click OK. The License Key displays next to the node.
- Step 34. Click Next.
- Step 35. In the Installation Directory dialog box, leave the default directory for both servers and click Next.
- Step 36. In the Private Network dialog box, select the two 10/100 internal network adapters on each node. They are Local Area Connection and Local Area Connection 2. *Note: On some systems, the two adapters are Local Area Connection 2 and Local Area Connection 3. The correct adapter can be confirmed by clicking on the connection name on each server.* Click Next.
- Step 37. In the Cluster Manager (Web Console) Configuration dialog box, clear the check box next to Enable Cluster Manager (Web Console) on this cluster and then click Next.
- Step 38. In the Summary dialog box, review the chosen selections and click Next.
- Step 39. In the Installing VCS on Selected Nodes dialog box, a progress bar shows the status of installation on each node in the new cluster.
- Step 40. In the Reboot Nodes dialog box, leave the check marks next to both servers and click Next to reboot. JMPSSERVER2 will start rebooting immediately.
- Step 41. On JMPSSERVER1, click on Finish on the “Completing VCS Installation Manager Wizard ...” window.
- Step 42. Click Yes on the next window to reboot JMPSSERVER1.
- Step 43. After the servers reboot, continue with the next sub-procedure.

Note: From now on, the servers cannot be rebooted simultaneously. Only reboot one server at a time and wait until the first server comes up fully before rebooting the second one. If this is not followed, VCS will not understand which server has the “authority” and will put itself in a limbo state. Administrator action will then be required to restart VCS. This can be avoided by carefully following instructions in the rest of the document.

6.11.2 Sub-procedure: VCS Cluster Manager installation

- Step 1. On JMPSSERVER1, go to the temp directory containing the VCS files that were copied in the last section and double-click on Setup.exe
- Step 2. Click Cluster Manager in the left pane, then click Cluster Manager (Java Console) Installation.
- Step 3. In the Welcome screen, read the text and click Next.
- Step 4. In the Destination Folder dialog box, click Next to install at the default location.
- Step 5. In the Ready to Install the Program dialog box, click Install, or click Back to make changes. A Setup window displays the status of the installation. The InstallWizard Completed dialog box displays after the installation is complete.
- Step 6. In the Install Wizard Completed dialog box, click Finish.

- Step 7. When the installation is complete, two icons appear on your desktop: one representing the VCS Cluster Manager (Java Console), and one representing the VCS Configuration Editor.
- Step 8. Place the VCS 2.0 CD in the CD-ROM on JMPSSERVER2. The installation program may start automatically when the CD is inserted. Click “Exit” on the bottom right corner to quit the setup application.
- Step 9. Copy the Cluster Server CD to a temporary directory on JMPSSERVER2.
- Step 10. Perform steps 1-7 above on JMPSSERVER2.
- Step 11. Now continue with the next procedure.

6.12 Procedure: Veritas Volume Manager 3.1 (VVM) installation

6.12.1 Sub-procedure: Installing Veritas Volume Manager 3.1

NOTE

IF VERITAS VOLUME MANAGER 3.1 MEDIA FROM VERITAS IS NOT AVAILABLE, THE SOFTWARE DISTRIBUTION PACKAGE HAS TO BE DOWNLOADED FROM THE VERITAS WEBSITE, EXTRACTED (THIS IS A SELF-EXTRACTING EXECUTABLE), AND PLACED ON A CD. THE LINK IS LISTED BELOW.

<http://seer.support.veritas.com/docs/251599.htm> - VVM 3.1

- Step 1. Place the CD containing VVM 3.1 in the CD-ROM on JMPSSERVER1. Copy the VVM CD to a temporary directory on JMPSSERVER1.
- Step 2. To begin the installation, double-click on Launch.exe in the root of the temporary directory created above. There is a delay while Windows Installer prepares to install; then the VERITAS Volume Manager 3.1 InstallShield wizard appears.
- Step 3. In the popup window that appears indicating that the VERITAS Enterprise Administrator (VEA) will be installed before Volume Manager 3.1 is installed, click Yes to continue. Click Next to continue in the installation wizard.
- Step 4. Click OK to confirm that VEA Language Pack will be installed.
- Step 5. The Setup Type screen appears. Choose “Server” as an installation setup type and click Next.
- Step 6. In the Customer Information screen that appears next, enter the relevant information. Also enter the license key. Click Next.
- Step 7. The Custom Setup Screen appears next. By default all the licensed components will be selected for installation. Click on the Drive Symbol next to the Volume Manager 3.1 MSCS Support option. On the drop down menu that appears select the “This feature will not be available” option. A red “X” should appear on this option on the Custom Setup screen. Leave only the following two options: Volume Manager 3.1

VCS Support and Volume Manager 3.1 DMP Support. **Select VCS Support option for Enterprise System Only.**

- Step 8. The Custom Setup Screen also provides the option to change the installation path. Leave the default installation path.
- Step 9. Click Next after selecting the necessary options and installation directory.
- Step 10. Click OK to accept the DMP warning.
- Step 11. The Ready to Install the Program screen appears. Click Install to install the program.
- Step 12. A screen appears indicating that the program is installing. The Online Registration wizard starts. Click Cancel to continue with the installation.
- Step 13. Click Yes to verify that registration will be cancelled.
- Step 14. When the installation finishes, a screen appears, indicating that the installation was successful. Click Finish to exit the installer.
- Step 15. At the dialog box asking to reboot the computer, click Yes to reboot now. Allow JMPSSERVER1 to reboot completely.
- Step 16. Repeat steps 1-15 on JMPSSERVER2. **(Enterprise System Only)**
- Step 17. Now continue with the next sub-procedure.

6.12.2 Sub-procedure: Installing Service Pack 1 for Veritas Volume Manager 3.1

NOTE

SERVICE PACK 1 FOR VERITAS VOLUME MANAGER 3.1 ADDS OFFICIAL SUPPORT FOR CIPRICO NETARRAY AND MUST BE INSTALLED. THE FILE HAS TO BE DOWNLOADED FROM THE VERITAS WEBSITE, EXTRACTED (THIS IS A SELF-EXTRACTING EXECUTABLE), AND PLACED ON A CD. THE LINK IS LISTED BELOW.

<http://seer.support.veritas.com/docs/262081.htm> - Service Pack 1

- Step 1. Place the CD containing Veritas Volume Manager 3.1 Service pack 1 in the CD-ROM on JMPSSERVER1.
- Step 2. Copy all files to a temporary directory on the C: drive.
- Step 3. Navigate to the temporary directory above and double-click on VMW2K31SP01a.msi file to start the installation. The install utility's Welcome screen appears and then a dialog box displays on top.
- Step 4. The dialog box prompts you to close all applications before continuing and informs you that VEA will be installed. Click Yes to continue.
- Step 5. At the install utility's Welcome screen, click Next to continue.
- Step 6. A dialog box requests that you wait while the VEA Language Pack is installed. Click OK to continue.

- Step 7. Click Install to proceed with the installation. The service pack installation runs automatically and will install the files modified by the service pack to the appropriate directories.
- Step 8. In the final screen, click Finish. A message appears prompting you to restart your system.
- Step 9. Click Yes to restart. Wait until the server reboots completely before continuing.
- Step 10. Repeat steps 1-9 on JMPSSERVER2. **(Enterprise System Only)**
- Step 11. Continue with the next procedure.

6.13 Procedure: Adding Disk Signatures in VVM

6.13.1 JMPS Enterprise

- Step 1. Log onto JMPSSERVER1 with administrator privileges.
- Step 2. To start the program: Select Start → Programs → VERITAS Enterprise Administrator. The VERITAS Enterprise Administrator (VEA) console comes up, the Volume Manager program is activated, and the Connection dialog box is displayed.
- Step 3. Click the More button to expand the Connection dialog box. Enter “jmpsserver1” for the hostname of the server to connect to. Enter the administrator user name and password. Select the “Remember password” checkbox to save the user name and password entered. Click OK to connect. This step will need to be performed on JMPSSERVER2 when VEA is used there to save the user name and password for convenience.
- Step 4. Note: Volume Manager and the VEA console can also be started through the Computer Management window. From the Start menu, select Start → Programs → Administrative Tools → Computer Management. The Computer Management window appears. In the tree view of the left pane of the window, click to select VERITAS Enterprise Administrator. It is located under the Volume Management node, which is in the Storage folder.
- Step 5. When VVM is first started, it scans the server for all available hard drives. If the RAID partitions are newly created before the VCS/VVM installation, the two RAID drives will not have a disk signature. There will be two unsigned disks – Harddisk1 and Harddisk2. To see the disks, expand jmpsserver1 in the left pane of the VEA window. Then expand disks. Click on the three disks shown there Harddisk0, Harddisk1, and Harddisk2. The disk will display with the message No Disk Signature in the tree view. The disk type will be No Disk Signature. The signature must be added according to the steps below. Again, this is only necessary if the RAID drives are newly created. This procedure is not necessary if the disk signatures for the RAID partitions have already been setup in Windows using the standard Disk Management tool. If the disk type is Basic, the disks already have signatures. Skip the rest of the steps and continue with the next section below.
- Step 6. To add a signature to a disk right-click on the unsigned disk in the tree view. The Write Signature command appears in the context menu. (The Write Signature command appears only if a disk does not have a signature on it.)

- Step 7. Select Write Signature from the context menu. The Write Disk Signature dialog box will appear. Select the disks that need a signature to be added to them – Harddisk1 and Harddisk2. To select a disk, click on it in the list of available disks and click the Add button.
- Step 8. Once the disks are selected, click the OK button. Once a signature appears on a disk, the disk will display as a basic disk.
- Step 9. Now continue with the next procedure.

6.13.2 JMPS Enterprise Lite

- Step 1. Log onto JMPSSERVER1 with administrator privileges.
- Step 2. To start the program: Select Start → Programs → VERITAS Enterprise Administrator. The VERITAS Enterprise Administrator (VEA) console comes up, the Volume Manager program is activated, and the Connection dialog box is displayed.
- Step 3. Click the More button to expand the Connection dialog box. Enter “jmpsserver1” for the hostname of the server to connect to. Enter the administrator user name and password. Select the “Remember password” checkbox to save the user name and password entered. Click OK to connect.
- Step 4. Note: Volume Manager and the VEA console can also be started through the Computer Management window. From the Start menu, select Start → Programs → Administrative Tools → Computer Management. The Computer Management window appears. In the tree view of the left pane of the window, click to select VERITAS Enterprise Administrator. It is located under the Volume Management node, which is in the Storage folder.
- Step 5. When VVM is first started, it scans the server for all available hard drives. If the RAID partition is newly created before the VVM installation, the RAID drive will not have a disk signature. There will be one unsigned disk – Harddisk1. To see the disks, expand jmpsserver1 in the left pane of the VEA window. Then expand disks. Click on the two disks shown there Harddisk0 and Harddisk1. The disk will display with the message No Disk Signature in the tree view. The disk type will be No Disk Signature. The signature must be added according to the steps below. This is only necessary if the RAID drive is newly created. This procedure is not necessary if the disk signature for the RAID partition has already been setup in Windows using the standard Disk Management tool. If the disk type is Basic, the disk already has a signature. Skip steps 6-8 and continue with step 9.
- Step 6. To add a signature to a disk right-click on the unsigned disk in the tree view. The Write Signature command appears in the context menu. (The Write Signature command appears only if a disk does not have a signature on it.)
- Step 7. Select Write Signature from the context menu. The Write Disk Signature dialog box will appear. Select the disk that needs a signature – Harddisk1. To select a disk, click on it in the list of available disks and click the Add button.
- Step 8. Once the disk is selected, click the OK button. Once a signature appears on a disk, the disk will display as a basic disk.
- Step 9. Expand the Disks folder in VEA tree view on the left side of the screen.

- Step 10. Right-click on Harddisk1 and select New Partition.
- Step 11. New Partition Wizard will come up. Click Next.
- Step 12. Check the Free Space check box in the right pane and click Next.
- Step 13. Make sure partition choice is Primary. That should be the default. Click Next.
- Step 14. Select "E" for the drive letter and click Next.
- Step 15. Enter "Data" for the File System Label and check the Perform a Quick Format box. Click Next.
- Step 16. Click Finish to format the drive. This will take about one minute.
- Step 17. Continue with the next procedure.

6.14 Procedure: Creating Dynamic Cluster Disk Groups in VVM (Enterprise Only)

- Step 1. The work will be performed on JMPSSERVER1 only.
- Step 2. Right-click the Disk Groups folder in VEA tree view on the left side of the screen.
- Step 3. Select New Dynamic Disk Group from the context menu that comes up. The New Dynamic Disk Group wizard screen appears.
- Step 4. Click Next to continue. A screen comes up for defining the attributes of the dynamic disk group.
- Step 5. Enter "JMPS_SQL_GRP" for the dynamic disk group name, and indicate which disks should be included in the group. Do this by selecting Harddisk1 in available disks and clicking Add. Harddisk1 will be moved from Available disks to Selected disks. Click the appropriate check box to Create Cluster Group and click Next.
- Step 6. The next screen confirms the disk that was selected. Choose Next to continue if disk selection is correct. If the wrong disk is accidentally selected, click the Back button to go back to the previous screen in order to modify the disk choice.
- Step 7. Click Yes to confirm upgrade to dynamic disk group.
- Step 8. Click Finish in the final screen.
- Step 9. Perform the steps above to create the second dynamic disk group. The name should be "JMPS_SHARE_GRP". Now there should be two dynamic disk groups.
- Step 10. Continue with the next procedure.

6.15 Procedure: Creating Dynamic Volumes in VVM (Enterprise Only)

- Step 1. The work will be performed on JMPSSERVER1 only.
- Step 2. It is possible that existing unused volumes already exist on the RAID. It would be beneficial to delete them before proceeding.
- Step 3. Expand the Volumes folder in the VEA tree view on the left side of the screen. If other volumes besides C:\ and D:\ are shown, delete them according to the steps below. Do not delete G:\. That is the local CD-ROM. If there are no other volumes, proceed to step 6.
- Step 4. Right-click on the volume shown there. The name could be E:\ or F:\.
- Step 5. Select Delete Volume from the pop-up context menu. Confirm the deletion by clicking Yes on the next window.

- Step 6. Repeat steps 3 and 4 for the other volume if it is there.
- Step 7. Right-click the Volumes folder in VEA tree view on the left side of the screen and select New Volume from the context menu that comes up.
- Step 8. The Create Volume wizard appears. Click Next to continue.
- Step 9. Select the attributes listed below for the volume, and click Next to continue.
- Step 10. A default dynamic disk group will appear in the Group name box. Select JMPS_SQL_GRP from the pull-down list if it is not already there.
- Step 11. Enter "JMPS_SQL_VOL" for the volume name.
- Step 12. Provide a size for the volume by clicking on Max Size button.
- Step 13. Select Concatenated for the layout.
- Step 14. Click Next to continue.
- Step 15. The default selection in the Assign Disks for Volume screen is fine. Harddisk1 will be automatically selected. Click Next to continue.
- Step 16. In the Add Drive Letter and Path screen, assign a drive letter by using the pull-down list. Select "E" if it is not automatically selected. Click Next to continue.
- Step 17. In the Create File System screen that appears next, select the following options:
- Step 18. Check the box next to Format this Volume.
- Step 19. Select NTFS for the file system.
- Step 20. Select default Allocation size.
- Step 21. Enter JMPS_SQL_VOL for the File System Label if it is not automatically entered.
- Step 22. Check the box next to Perform Quick Format.
- Step 23. Click Next to continue.
- Step 24. Check your selections in the final screen and click Finish. By clicking the Back button, the necessary changes can be before clicking Finish. The formatting will take about 2 minutes.
- Step 25. Volume Manager will begin the formatting process. Click the Tasks tab in the bottom left corner of the lower pane to see a text entry indicating the status and progress of the formatting process.
- Step 26. Repeat the above process to create the second dynamic volume. "JMPS_SHARE_GRP" dynamic disk group should be used. The name of the volume should be "JMPS_SHARE_VOL" and the drive letter is "F". The formatting will take about 3 minutes.
- Step 27. There should now be two new drives in Windows Explorer – JMPS_SQL_VOL (E:) and JMPS_SHARE_VOL (F:).
- Step 28. Now unmount the two volumes to proceed with SQL installation.
- Step 29. Right-click on JMPS_SQL_VOL volume in the tree view in VEA, select File System from the context menu, and then select Change Drive Letter and Path from the File System submenu. The Drive Letter and Paths screen appears.
- Step 30. Selected the Remove option and click OK.
- Step 31. Click Yes in the confirmation screen that appears.
- Step 32. Repeat the same steps to unmount JMPS_SHARE_VOL.
- Step 33. Right-click on JMPS_SQL_GRP and select Deport Dynamic Disk Group from the menu that appears.
- Step 34. Click Yes to the warning message asking if the group should be deported.

- Step 35. Repeat the same two steps above to deport JMPS_SHARE_GRP.
Step 36. Continue with the next procedure.

6.16 Procedure: Installation of Microsoft SQL Server 2000 Enterprise Edition

6.16.1 JMPS Enterprise

6.16.1.1 Sub-procedure: Reserving the disks on JMPSSERVER1 for SQL Server 2000 Enterprise Edition installation.

- Step 1. This work is performed on JMPSSERVER1.
Step 2. Start VEA on JMPSSERVER1 (Select Start → Programs → VERITAS Enterprise Administrator). Select JMPSSERVER1 from the drop-down box and click OK.
Step 3. Expand JMPSSERVER1 in the tree view and click on Disk Groups. There should be two dynamic disk groups – JMPS_SHARE_GRP and JMPS_SQL_GRP. Both should be listed as deported.
Step 4. Right-click on the dynamic disk group JMPS_SQL_GRP and select Import Dynamic Disk Group from the menu that appears. A window will come up where a new name for the disk group can be specified. Leave the default name that is listed.
Step 5. Click OK to import the dynamic disk group. The status should change to Imported.
Step 6. Start the Disk Reservation utility by selecting Start → Programs → VERITAS Cluster Server → Tools → Disk Reservation Utility
Step 7. Click Reserve Disks and click Next.
Step 8. The Reserve Disks dialog box displays a list of mounted volumes and their drive letters. Check the box at the bottom of the window that allows reservation of additional volumes. Click Next.
Step 9. In the Unmounted disk group volumes pane, select the volume to be reserved in the Mount column by checking the box to the left of JMPS_SQL_VOL.
Step 10. Select a drive letter for the volume in the Drive Letter column. Use E:
Step 11. Click Next to mount and reserve the volume.
Step 12. In the Completing the Disk Reservation dialog box, select Quit this utility. The Disk Reservation Utility will be restarted later to release the volume after installing SQL Server.
Step 13. Click Finish. The VEA window can now be minimized.
Step 14. Continue with the next sub-procedure.

6.16.1.2 Sub-procedure: Installation of SQL 2000 and Service Pack 3 for SQL on JMPSSERVER1

NOTE

THE SQL SERVER 2000 SERVICE PACK 3 WILL NEED TO BE DOWNLOADED FROM THE MICROSOFT WEB SITE AND PLACED ONTO A CD FOR THIS PROCEDURE.

- Step 1. Place the SQL Server 2000 Enterprise Edition installation CD into the CD-ROM drive of JMPSSERVER1.
- Step 2. If the SQL Server 2000 Enterprise Edition screen does not appear perform steps 3 to 6 below, otherwise skip to Step 7.
- Step 3. Select Start->Run.
- Step 4. On the Run dialog box click the "Browse" button.
- Step 5. On the Browse dialog box that appears set the path to the CD-ROM drive and then to the location of the setup file for SQL Server 2000 Enterprise Edition "Autorun.exe" and double click on it to set the path to it in the Run dialog box.
- Step 6. On the Browse dialog box click the "OK" button.
- Step 7. The Microsoft SQL Server 2000 Enterprise Edition screen will appear, click the "SQL Server 2000 Components choice.
- Step 8. The SQL Server 2000 Enterprise Edition - Install Components screen will then appear. Click on the "Install Database Server" choice.
- Step 9. The Enterprise Edition - Microsoft SQL Server 2000 screen along with the Welcome dialog box will open, click the "Next" button.
- Step 10. The Computer Name dialog box will then appear with the following message:

"Enter the name of the computer on which you want to create a new instance of SQL Server or modify an existing instance of SQL Server"

Accept the default "Local Computer" choice and click the "Next" button.

- Step 11. The Installation Selection - Select one of the following installation options dialog will appear. Accept the default "Create a new instance of SQL Server, or install Client Tools" choice and click the "Next" button.
- Step 12. The User Information dialog box will then appear. It will be filled in with the Name and Company information from the installation of the Windows 2000 Advanced Server. Click the "Next" button to continue.
- Step 13. The Software License Agreement dialog box will then appear, click the "Yes" button to accept the license.
- Step 14. The CD-Key dialog box **may** then open, enter the key from the SQL Server 2000 Enterprise CD sleeve and then click the "Next" button.
- Note: Depending on the source of the SQL Server 2000 installation CD, some dialog boxes may or may not show up. MSDN and retail versions of SQL Server 2000 have slightly different dialog boxes. This will not affect proper operation of the system.*
- Step 15. The Installation Definition dialog box will then open, accept the default "Server and Client Tools" choice, click the "Next" button.
- Step 16. The Instance Name dialog box will then appear. Uncheck the "Default" box and in the Instance name box enter "JMPS_SQL_SERVER". Click the "Next" button.

- Step 17. The Setup Type dialog box will then open. Select the “Typical” installation type. Accept the default location of the Program Files in “D:\Program Files\Microsoft SQL Server”. Click the Browse button next to the Data Files, on the Choose Folder dialog box that opens, set the path for the SQL Data to “E:\Program Files\Microsoft SQL Server”. Click the “OK” button. The Setup Type dialog box should update to the new path. Click the “Next” button to proceed.
- Step 18. The Service Accounts dialog box will open. Click Customize the settings for each service and clear the Auto Start Service check box. SQL Server check box will be selected at this moment.
- Step 19. In the Service Setting box accept the default “Use a Domain User Account” choice. Enter in the password for the administrator account and verify the domain is correct.
- Step 20. Now click on the SQL Server Agent check box and enter the password for the administrator account and verify the domain is correct. Click the “Next” button.
- Step 21. The Authentication Mode dialog box will then open, accept the default “Windows Authentication Mode” choice and click the “Next” button.
- Step 22. The Start Copying Files dialog box will then appear, click the “Next” button.
- Step 23. The Choose Licensing Mode dialog will open next. Select the “Per Seat for” choice and set the devices number to the number of licenses that were shipped with the server for the specific site. Click the “Continue” button.
- Step 24. Setup will start to copy files, several setup dialogs will open then close and then the copying files status bar will open with the installation progress.
- Step 25. The Shutting Down Tasks dialog box **may** appear with the message:

“Setup has detected that the following tasks are using files that setup needs to install. In order to avoid rebooting the machine at the end of setup, it is recommended that you shutdown the following tasks.

TASK

*Nspm.exe
Svchost.exe
Vxsvc.exe”*

Click the “Next” button if this dialog does appear.

- Step 26. The Installing the Software dialog box will then open. Click the “Finish” button to complete the installation of SQL Server.
- Step 27. The Setup Complete dialog box will then appear. Select “No, I will restart my computer later.”
- Step 28. Start the Disk Reservation utility (Start → Programs → VERITAS Cluster Server → Tools → Disk Reservation Utility), click Release Disks in the Welcome to the Disk Reservation Utility dialog box, and then click Next.
- Step 29. In the Release Disks dialog box do the following:

- a. Select the mount path to release by clicking on the E: drive or by clicking on the bar with text “Mount Path” on it. Clicking on the bar selects all listed drives to be released.
 - b. Select the Unassign the drive letter check box to unmount the drive letter before releasing the volume.
 - c. Click Next to release the volume. *Note: If some window or application is accessing drive E:, disk reservation utility will fail to release the disk and will give an error. Make sure Windows Explorer is not showing the contents of the E: drive and no application is accessing it.*
- Step 30. In the Confirmation dialog box, click Finish to exit the utility.
- Step 31. Reboot JMPSSERVER1. Remove the SQL Server 2000 CD from the CD-ROM drive.
- Step 32. Logon back onto JMPSSERVER1 into the administrator account.
- Step 33. Check the SQL server symbol in the lower right-hand corner of the system tray. It should have a red stop sign indicating that SQL server is not running.
- Step 34. Reserve the disk group using the Veritas Cluster Server Disk Reservation Utility. This was described in the section above - Reserving the disks for SQL Server 2000 Enterprise Edition installation.
- Step 35. The E: drive should now be visible in Windows Explorer.
- Step 36. Start SQL Server by right-clicking on the SQL Server icon in the system tray and selecting MSSQL Server – Start.
- Step 37. Verify that the SQL Server is running by checking for the server symbol in the lower right-hand corner of the Start Menu Bar. The server symbol should have a green arrow indicating that it is running.
- Step 38. Place the CD containing the SQL Server 2000 Service Pack 3 into the CD-ROM drive.
- Step 39. Select Start->Run.
- Step 40. On the Run dialog box click the “Browse” button.
- Step 41. On the Browse dialog box that appears set the path to the CD-ROM drive and then to the location of the installation file for SQL Server Service Pack 3 “SQL2KSP3.EXE”. Select the file and double click on it to set the path to it in the Run dialog box.
- Step 42. On the Browse dialog box click the “OK” button.
- Step 43. The Installation Folder dialog box will open, the path to the Installation Folder will be “C:\sql2ksp3”. Accept this default location and click the “Finish” button.
- Step 44. The PackageForTheWeb dialog will open with the following message:

“The specified output folder does not exist. Create it?”

Click the “Yes” button to create the folder and to unpack the SQL patch.

- Step 45. The Reading Package... dialog box will open, then the Unpacking dialogs will appear and close. The PackageForTheWeb dialog will then re-appear with the message:

“The package has been delivered successfully.”

Click the “OK” button.

- Step 46. Select Start->Run
- Step 47. On the Run dialog that appears click the “Browse” button.
- Step 48. On the Browse dialog that opens set the path to the “C:\sql2ksp3” folder. In the “sql2ksp3” folder select the “setup.bat” file and double-click on it to set the path to it in the Run box.
- Step 49. On the Run dialog box click the “OK” button to start the SQL patch installation.
- Step 50. A Warning dialog box **may** then open with the following warning:

“If you have not rebooted since installing SQL Server 2000, please do so at this time.”

Since the server was restarted after the SQL Server was installed, click the “Next” button if this dialog should appear.

- Step 51. The Service Pack 3 screen will open with the Welcome dialog box, click the “Next” button.
- Step 52. The Software License Agreement dialog box will then open. Click the “Yes” button to accept the license.
- Step 53. The Instance Name dialog box will then appear, click the “Next” button to apply the service patch to the default instance of SQL Server 2000.
- Step 54. The Connect to Server dialog box will open, accept the default “The Windows account information I use to log on to my computer with (Windows Authentication)” choice and click the “Next” button.
- Step 55. The SA Password Warning dialog box will appear with the following message:

“Service pack setup has detected that your SA password is set to blank. It is highly recommended that you set a strong password and secure your database server, even if you are using Windows authentication.”

Enter a SA password into the Enter SA Password and Confirm SA Password boxes, click the “OK” button when finished.

- Step 56. The SQL Server 2000 Service Pack 3 Setup Backward Compatibility Checklist dialog box will open. Click the “Upgrade Microsoft Search and apply SQL 2000 SP3 (required)” selection. Click the “Continue” button.
- Step 57. The Error Reporting dialog will then open. Click the “OK” button to continue, do not select the automatic error notification feature.
- Step 58. The Start Copying Files dialog box will then appear. Click the “Next” button.
- Step 59. The Shutting Down Tasks dialog box **may** appear with the message:

“Setup has detected that the following tasks are using files that setup needs to install. In order to avoid rebooting the machine at the end of setup, it is recommended that you shutdown the following tasks.”

TASK

Nspm.exe
Snmp.exe
Svchost.exe”

Click the “Next” button if this dialog does appear. A restart will be executed after the Service Pack is applied.

Step 60. The Installing the Software dialog box will then appear, click the “Finish” button.

Step 61. When the installation completes the Setup dialog box will open with the following message:

“You should now backup your master and msdb databases since this installation has updated their content.”

Click the “OK” button.

Step 62. The Setup Complete dialog box will then appear. Select the “No, I will restart my computer later” choice from the Setup Complete dialog box from the SQL installation and click the “Finish” button.

Step 63. Start the Disk Reservation utility (Start → Programs → VERITAS Cluster Server → Tools → Disk Reservation Utility) and click Release Disks in the Welcome to the Disk Reservation Utility dialog box.

Step 64. In the Release Disks dialog box do the following:

- Select the mount path to release by clicking on E:.
- Select the Unassign the drive letter check box to unmount the drive letter before releasing the volume.
- Click Next to release the volume.

Step 65. In the Confirmation dialog box, click Finish to exit the utility.

Step 66. Remove the CD containing the SQL Server 2000 Service Pack 3 and reboot JMPSSERVER1.

Step 67. Logon back onto JMPSSERVER1 into the administrator account.

Step 68. Check the SQL server symbol in the lower right-hand corner of the system tray. It should have a red stop sign indicating that SQL server is not running.

Step 69. Reserve the disk group using the Veritas Cluster Server Disk Reservation Utility. This was described in the section above - Reserving the disks for SQL Server 2000 Enterprise Edition installation.

Step 70. The E: drive should now be visible in Windows Explorer.

Step 71. Start SQL Server by right-clicking on the SQL Server icon in the system tray and selecting MSSQL Server – Start.

Step 72. Verify that the SQL Server is running by checking for the server symbol in the lower right-hand corner of the Start Menu Bar. The server symbol should have a green arrow indicating that it is running.

- Step 73. From the Start menu, select Programs → Microsoft SQL Server → Server Network Utility.
- Step 74. In the Instance(s) on this server box, select the appropriate instance from the drop-down list box. Select JMPS_SQL_SERVER.
- Step 75. Select TCP/IP under Enabled protocols and click Properties.
- Step 76. In the Default port box, enter the specific port for the instance in the cluster and click OK. The default value that is shown there (1433) **must** be used. **Write down that port value. It will be needed later.**
For JMPSSERVER2 installation only: When later executing this step on JMPSSERVER2, use the port written down in this step during JMPSSERVER1 setup.
- Step 77. From the Start menu, select Programs → Microsoft SQL Server → Client Network Utility.
- Step 78. Click the Alias tab, then click Add.
- Step 79. In the Add Network Library Configuration dialog box, type the servername\instance in the Server alias box. Type JMPSSERVER1\JMPS_SQL_SERVER.
- Step 80. Click TCP/IP under Network Libraries.
- Step 81. Clear the Dynamically determined port check box.
- Step 82. Enter 1433 in the Port number box and click OK. **For JMPSSERVER2 installation only: When later executing this step on JMPSSERVER2, use the same port, 1433.**
- Step 83. Click Add again.
- Step 84. In the Add Network Library Configuration dialog box, type the servername\instance in the Server alias box. Type VIRTUALJMPS\JMPS_SQL_SERVER.
- Step 85. Click TCP/IP under Network Libraries.
- Step 86. Clear the Dynamically determined port check box.
- Step 87. Enter 1433 in the Port number box and click OK. **For JMPSSERVER2 installation only: When later executing this step on JMPSSERVER2, use the same port, 1433.**
- Step 88. Two aliases will now be shown.
- Step 89. In the SQL Server Client Network Utility dialog box, click OK to accept the changes.
- Step 90. From the Start menu, click Programs → Microsoft SQL Server → Query Analyzer. The Connect to SQL Server dialog box displays.
- Step 91. Click the ellipsis (...). Two server listings may be shown. Click OK. The first JMPSSERVER1\JMPS_SQL_SERVER will be selected automatically.
- Step 92. Click Windows authentication. Click OK to continue.
- Step 93. In the Query dialog box, type “sp_helpserver” (without the double quotes) and press F5 to execute. This command shows the name of the instance needed for the next step. Be careful to type the commands exactly as instructed in this manual. If an error message is displayed, erase the previous text in the query dialog box in the top window pane and type the command again.
- Step 94. If the previous command was successful, erase the previous text (sp_helpserver) in the query dialog box in the top window pane. In the Query dialog

box, now type “sp_dropserver ‘JMPSSERVER1\JMPS_SQL_SERVER’ ” and press F5 to execute. When the command is successful, messages in the lower window pane that say “(1 row(s) affected)” will be displayed. Otherwise an error message will be displayed. If an error message is displayed, erase the previous text in the query dialog box in the top window pane and type the command again.

- Step 95. If the previous command was successful, erase the previous text (sp_dropserver ‘JMPSSERVER1\JMPS_SQL_SERVER’) in the query dialog box in the top window pane. In the Query dialog box now type the following: “sp_addserver ‘VIRTUALJMPS\JMPS_SQL_SERVER’, local” and press F5 to execute. There is a space between the comma and the word “local”. SQL Server is now configured on JMPSSERVER1.
- Step 96. Exit Query Analyzer by going to File → Exit. Click the No to All button at the warning message about saving text.
- Step 97. Stop SQL server by right-clicking on the SQL icon in the system tray and selecting MSSQL Server – Stop. Click Yes to confirm that SQL Server will be stopped.
- Step 98. Release the E: drive using the Disk Reservation Utility as done previously.
- Step 99. Reboot JMPSSERVER1.
- Step 100. Continue with next sub-procedure.

6.16.1.3 Sub-procedure: Reserving the disks on JMPSSERVER2 for SQL Server 2000 Enterprise Edition installation

- Step 1. This work is performed on JMPSSERVER2.
- Step 2. Follow steps 1-3 from section 6.16.1.1 to start VEA and configure VEA on JMPSSERVER2.
- Step 3. Continue with steps 3-14 in section 6.16.1.1 to reserve the E: drive on JMPSSERVER2. The steps are identical to JMPSSERVER1 except for the server names.
- Step 4. When finished, continue with the next sub-procedure.

6.16.1.4 Sub-procedure: Installation of SQL 2000 and Service Pack 3 for SQL on JMPSSERVER2

- Step 1. Open Windows Explorer and find the SQL installation directory on the shared E drive. It should be e:\Program Files\Microsoft SQL Server. Delete that directory. Click Yes if a warning regarding deletion of files appears. If the directory (E:\Program Files\...) is present when you start installing SQL on JMPSSERVER2, the installation will fail.
- Step 2. Close Windows Explorer.
- Step 3. Follow the steps in section 6.16.1.2 to install SQL on JMPSSERVER2. The steps are identical to JMPSSERVER1, except for the server names. Watch for notes specific to JMPSSERVER2 installation in steps 76 and 82.
- Step 4. Continue with the next section when finished.

6.16.2 JMPS Enterprise Lite

NOTE

THE SQL SERVER 2000 SERVICE PACK 3 WILL NEED TO BE DOWNLOADED FROM THE MICROSOFT WEB SITE AND PLACED ONTO A CD FOR THIS PROCEDURE.

- Step 1. Logon to the server into the administrator account.
- Step 2. Place the SQL Server 2000 Enterprise Edition installation CD into the CD-ROM drive.
- Step 3. If the SQL Server 2000 Enterprise Edition screen does not appear perform steps 4 to 6 below, otherwise skip to Step 8.
- Step 4. Select Start->Run.
- Step 5. On the Run dialog box click the "Browse" button.
- Step 6. On the Browse dialog box that appears set the path to the CD-ROM drive and then to the location of the setup file for SQL Server 2000 Enterprise Edition "Autorun.exe" and double click on it to set the path to it in the Run dialog box.
- Step 7. On the Browse dialog box click the "OK" button.
- Step 8. The Microsoft SQL Server 2000 Enterprise Edition screen will appear, click the "SQL Server 2000 Components choice.
- Step 9. The SQL Server 2000 Enterprise Edition - Install Components screen will then appear. Click on the "Install Database Server" choice.
- Step 10. The Enterprise Edition - Microsoft SQL Server 2000 screen along with the Welcome dialog box will open, click the "Next" button.
- Step 11. The Computer Name dialog box will then appear with the following message:

"Enter the name of the computer on which you want to create a new instance of SQL Server or modify an existing instance of SQL Server"

- Accept the default "Local Computer" choice and click the "Next" button.
- Step 12. The Installation Selection - Select one of the following installation options dialog will appear. Accept the default "Create a new instance of SQL Server, or install Client Tools " choice and click the "Next" button.
 - Step 13. The User Information dialog box will then appear. It will be filled in with the Name and Company information from the installation of the Windows 2000 Advanced Server. Click the "Next" button to continue.
 - Step 14. The Software License Agreement dialog box will then appear, click the "Yes" button to accept the license.

- Step 15. The CD-Key dialog box **may** then open, enter the key from the SQL Server 2000 Enterprise CD sleeve and then click the “Next” button.
Note: Depending on the source of the SQL Server 2000 installation CD, some dialog boxes may or may not show up. MSDN and retail versions of SQL Server 2000 have slightly different dialog boxes. This will not affect proper operation of the system.
- Step 16. The Installation Definition dialog box will then open, accept the default “Server and Client Tools” choice, click the “Next” button.
- Step 17. The Instance Name dialog box will then appear. Uncheck the “Default” box and in the Instance name box enter “JMPS_SQL_SERVER”. Click the “Next” button.
- Step 18. The Setup Type dialog box will then open. Select the “Typical” installation type. Accept the default location of the Program Files in “D:\Program Files\Microsoft SQL Server”. Click the Browse button next to the Data Files, on the Choose Folder dialog box that opens set the path for the SQL Data to “E:\Program File\Microsoft SQL Server”. Click the “OK” button. The Setup Type dialog box should update to the new path. Click the “Next” button to proceed.
- Step 19. The Service Accounts dialog box will open. Accept the default Use the same account for each service. Auto start SQL Server Service choice. In the Service Setting box accept the default “Use a Domain User Account” choice. Enter in the password for the administrator account and verify the Domain is correct. Click the “Next” button.
- Step 20. The Authentication Mode dialog box will then open, accept the default “Windows Authentication Mode” choice and click the “Next” button.
- Step 21. The Start Copying Files dialog box will then appear, click the “Next” button.
- Step 22. The Choose Licensing Mode dialog will open next. Select the “Per Seat for” choice and set the devices number to the number of licenses that were shipped with the server for the specific site. Click the “Continue” button.
- Step 23. Setup will start to copy files, several setup dialogs will open then close and then the copying files status bar will open with the installation progress.
- Step 24. The Shutting Down Tasks dialog box **may** appear with the message:

“Setup has detected that the following tasks are using files that setup needs to install. In order to avoid rebooting the machine at the end of setup, it is recommended that you shutdown the following tasks.

TASK

*Nspm.exe
Svchost.exe
Vxsvc.exe ”*

Click the “Next” button if this dialog does appear. A restart will be executed after the SQL Server is installed.

- Step 25. The Installing the Software dialog box will then open. Click the “Finish” button to complete the installation of SQL Server.

- Step 26. The Setup Complete dialog box will then appear, accept the default “Yes, I want to restart my computer now.” choice and click the “Finish” button. The system will then restart. Remove the SQL Server 2000 CD from the CD-ROM drive.
- Step 27. Logon back onto the system into the administrator account.
- Step 28. Upon start verify that the SQL Server is running by checking for the server symbol in the lower right-hand corner of the Start Menu Bar. The server symbol should have a green arrow indicating that it is running.
- Step 29. Place the CD containing the SQL Server 2000 Service Pack 3 into the CD-ROM drive.
- Step 30. Select Start->Run.
- Step 31. On the Run dialog box click the “Browse” button.
- Step 32. On the Browse dialog box that appears set the path to the CD-ROM drive and then to the location of the installation file for SQL Server Service Pack 3 “SQL2KSP3.EXE”. Select the file and double click on it to set the path to it in the Run dialog box.
- Step 33. On the Browse dialog box click the “OK” button.
- Step 34. The Installation Folder dialog box will open, the path to the Installation Folder will be “C:\sql2ksp3”. Accept this default location and click the “Finish” button.
- Step 35. The PackageForTheWeb dialog will open with the following message:

“The specified output folder does not exist. Create it?”

Click the “Yes” button to create the folder and to unpack the SQL patch.

- Step 36. The Reading Package...dialog box will open, then the Unpacking dialogs will appear and close. The PackageForTheWeb dialog will then re-appear with the message:

“The package has been delivered successfully.”

Click the “OK” button.

- Step 37. Select Start->Run
- Step 38. On the Run dialog that appears click the “Browse” button.
- Step 39. On the Browse dialog that opens set the path to the “C:\sql2ksp3” folder. In the “sql2ksp3” folder select the “setup.bat” file and double-click on it to set the path to it in the Run box.
- Step 40. On the Run dialog box click the “OK” button to start the SQL patch installation.
- Step 41. A Warning dialog box **may** then open with the following warning:

“If you have not rebooted since installing SQL Server 2000, please do so at this time.”

Since the server was restarted after the SQL Server was installed, click the “Next” button if this dialog should appear.

- Step 42. The Service Pack 3 screen will open with the Welcome dialog box, click the “Next” button.
- Step 43. The Software License Agreement dialog box will then open. Click the “Yes” button to accept the license.
- Step 44. The Instance Name dialog box will then appear, click the “Next” button to apply the service patch to the default instance of SQL Server 2000.
- Step 45. The Connect to Server dialog box will open, accept the default “The Windows account information I use to log on to my computer with (Windows Authentication)” choice and click the “Next” button.
- Step 46. The SA Password Warning dialog box will appear with the following message:

“Service pack setup has detected that your SA password is set to blank. It is highly recommended that you set a strong password and secure your database server, even if you are using Windows authentication.”

Enter a SA password into the Enter SA Password and Confirm SA Password boxes, click the “OK” button when finished.

- Step 47. The SQL Server 2000 Service Pack 3 Setup Backward Compatibility Checklist dialog box will open. Click the “Upgrade Microsoft Search and apply SQL 2000 SP3 (required)” selection. Click the “Continue” button.
- Step 48. The Error Reporting dialog will then open. Click the “OK” button to continue, do not select the automatic error notification feature.
- Step 49. The Start Copying Files dialog box will then appear. Click the “Next” button.
- Step 50. The Shutting Down Tasks dialog box **may** appear with the message:

“Setup has detected that the following tasks are using files that setup needs to install. In order to avoid rebooting the machine at the end of setup, it is recommended that you shutdown the following tasks.

TASK

*Nspm.exe
Snmpr.exe
Svchost.exe”*

Click the “Next” button if this dialog does appear. A restart will be executed after the Service Pack is applied.

- Step 51. The Installing the Software dialog box will then appear, click the “Finish” button.
- Step 52. When the installation completes the Setup dialog box will open with the following message:

“You should now backup your master and msdb databases since this installation has updated their content.”

Click the “OK” button.

- Step 53. The Setup Complete dialog box will then appear. Accept the “Yes, I want to restart my computer now.” choice, click the “Finish” button. The system will restart.
- Step 54. Remove the CD containing the SQL Server 2000 Service Pack 3.
- Step 55. Continue with the next procedure.

6.16.3 JMPS Pico

SQL Setup for JMPS Pico is identical to Enterprise Lite.

6.17 Procedure: Configuring VCS SQL agent (Enterprise Only)

- Step 1. On JMPSSERVER1, insert the VCS Enterprise Agent for SQL Server 2000 CD.
- Step 2. In the autorun browser, click Install from the left pane, and click VCS Enterprise Agent for SQL Server 2000.
- Step 3. In the Welcome dialog box, read the text and click Next.
- Step 4. Click Next again when the system completes the validation. This may take a few minutes.
- Step 5. In the Agent Installation Manager (AIM) Options dialog box, select the option to Install the enterprise agent and click Next.
- Step 6. In the License Agreement dialog box, select the option to accept the terms and click Next.
- Step 7. In the System Selection dialog box, select the check box next to the nodes on which the agent will be installed and click Next. Click Select All to select both JMPSSERVER1 and JMPSSERVER2. Note: After clicking Next, an error window may come up stating that the configuration is in Read Only mode. Click Yes to change mode to Read/Write.
- Step 8. In the Summary dialog box, review the information and click Next to continue or Back to make changes. Various messages are displayed indicating the status of the installation.
- Step 9. In the Completing the Enterprise Agent Installation dialog box, uncheck the option to Launch the configuration wizard. The configuration wizard will be started manually.
- Step 10. Click Finish to complete the installation. Click Exit to quit VCS SQL agent setup utility.
- Step 11. Use VEA and VCS Disk Reservation utility to mount the E: drive on JMPSSERVER1 according to instructions provided in section 6.16.1.1
- Step 12. Log on to the cluster using Veritas Cluster Manager by double-clicking the VERITAS Cluster Manager (Java Console) icon on the desktop.

- Step 13. After starting Cluster Manager, the first window that appears is Cluster Monitor. This window includes a toolbar, menus, and one or more cluster panels displaying general information about the clusters.
- Step 14. On the Cluster Monitor File menu, click New Cluster.
- Step 15. In the New Cluster - Connectivity Configuration dialog box, enter the relevant information:
- “JMPS_Cluster” for the cluster alias
 - “JMPSSERVER1” for the host name
 - Leave the default port number and number of failover retries. VCS sets the default port number to 14141 and failover retries number to 12.
- Step 16. Click OK. An inactive, gray panel for JMPS_Cluster will appear in Cluster Monitor.
- Step 17. The Login window will also appear automatically.
- Step 18. In the Login window, enter a valid VCS user name and password. This user name and password was created in Step 28 in section 6.11.
- Step 19. Click OK.
- Step 20. In the warning message window that comes up, click No to the warning message regarding creation of service groups.
- Step 21. From JMPSSERVER1, launch the configuration wizard by selecting Start → Programs → VERITAS Cluster Server → SQL Server 2000 Enterprise Agent → Configuration Wizard.
- Step 22. In the Welcome dialog box, click Next.
- Step 23. In the Wizard Options dialog box, click Create Service Group to add a new service group to the node.
- Step 24. Click Next.
- Step 25. The wizard may ask to change configuration to read-write mode. Click on Yes.
- Step 26. In the Service Group Configuration dialog box, enter JMPS_SRV_SQL for the service group name.
- Step 27. Select the nodes in the Available Cluster System list to configure and click the right arrow to add them to the Systems in Priority Order list. Both JMPSSERVER1 and JMPSSERVER2 should be added. The nodes added to the service group system list are listed in priority order. JMPSSERVER1 should be listed first and JMPSSERVER2 second. Note: Use the up and down arrow to change the priority of the clustered nodes on which the service group will run.
- Step 28. Click Next.
- Step 29. In the SQL Server 2000 Instance Selection dialog box, select the instance from the Available Instance list and click Next. Only one instance JMPS_SQL_SERVER should be listed.
- Step 30. In the SQL Server 2000 Service Configuration dialog box, select both of the additional services you want to monitor and click Next.
- Step 31. In the Detail Monitoring Configuration dialog box click Next. Do not select Detailed Monitoring.
- Step 32. In the Virtual Server Configuration dialog box, enter “VIRTUALJMPS” for the virtual server name. Also enter a unique virtual IP address and subnet mask.

Two Gigabit Ethernet adapters (Local Area Connection 3) should be shown below as well.

- Step 33. Click Next.
- Step 34. In the Service Group Summary dialog box, click on a resource to review its attribute information.
- Step 35. Click Next to create the SQL Server 2000 service group.
- Step 36. From the Warning dialog box, click Yes to run the commands to create the service group.
- Step 37. In the Completing the SQL Server 2000 Configuration Wizard dialog box, click the Bring Service Group Online checkbox and then click Finish. Window will close and the SQL service group will come up automatically. In Veritas Cluster Explorer, status will change to Online after 1-2 minutes.
- Step 38. Save your configuration. (File → Close Configuration)
- Step 39. Logon to JMPSSERVER2 as an Administrator.
- Step 40. Log on to the cluster using Veritas Cluster Manager by double-clicking the VERITAS Cluster Manager (Java Console) icon on the desktop.
- Step 41. After starting Cluster Manager, the first window that appears is Cluster Monitor. This window includes a toolbar, menus, and one or more cluster panels displaying general information about the clusters.
- Step 42. On the Cluster Monitor File menu, click New Cluster.
- Step 43. In the New Cluster - Connectivity Configuration dialog box, enter the relevant information:
 - a. "JMPS_Cluster" for the cluster alias
 - b. "JMPSSERVER2" for the host name
 - c. Leave the default port number and number of failover retries. VCS sets the default port number to 14141 and failover retries number to 12.
- Step 44. Click OK. An inactive, gray panel for JMPS_Cluster will appear in Cluster Monitor.
- Step 45. Continue with next procedure.

6.18 Procedure: Configuring VCS File Share agent (Enterprise Only)

- Step 1. The work will be performed on JMPSSERVER1.
- Step 2. The dynamic volume containing the file share (F:) must be mounted on JMPSSERVER1 for VCS File Share agent configuration.
- Step 3. Start VEA on JMPSSERVER1 and click on Disk Groups in the tree view. Two dynamic disk groups will be visible – JMPS_SHARE_GRP and JMPS_SQL_GRP. The status of JMPS_SHARE_GRP should be Deported and the status of JMPS_SQL_GRP should be Imported.

Note: If both dynamic groups are not visible, a rescan of the computer may be necessary. This can be done by right-clicking on the server name (JMPSSERVER1 in this case) in the tree view and selecting Rescan. After a few seconds, select Refresh from the same menu to update the tree view.

- Step 4. Right-click on the dynamic disk group JMPS_SHARE_GRP and select Import Dynamic Disk Group from the menu that appears. A window will come up where a new name for the disk group can be specified. Leave the default name that is listed.
- Step 5. Click OK to import the dynamic disk group. The status should change to Imported.
- Step 6. Now Right-click on JMPS_SHARE_VOL in the volumes tree view, select File System from the context menu, and then select Change Drive Letter and Path from the File System submenu. The Drive Letter and Paths screen appears.
- Step 7. Select Add. Assign a Drive Letter box becomes available. Select F: drive letter from the drop-down list. Click OK.
- Step 8. Wait a few seconds. The file share F: drive should now be visible in Windows Explorer.
- Step 9. Use Windows Explorer to create a directory called “JMPS_Data” on drive F.
- Step 10. Start the FileShare configuration wizard. Click Start → Programs → VERITAS Cluster Server → FileShare Configuration Wizard.
- Step 11. Read the Welcome screen and click Next.
- Step 12. In the Wizard Options dialog box, click the Create service group option and click Next.
- Step 13. In the Service Group Configuration dialog box, enter a name for the service group and click the systems on which to configure the service group.
- In the Service Group Name field, enter “JMPS_SRV_SHARE” for the file share service group.
 - In the Available Cluster Systems box, click the systems on which to configure the service group. Select both JMPSSERVER1 and JMPSSERVER2. Click the right arrow or double-click the system name to include a selected system in the service group’s system list. The selected systems are transferred to the Systems in Priority Order box. To remove a system from the service group’s system list, click the system in the Systems in Priority Order box and click the left arrow.
 - JMPSSERVER1 should be listed at the top and JMPSSERVER2 should be second. To change a system’s priority in the service group’s system list, click the system in the Systems in Priority Order box and click the up and down arrows. System priority defines the order in which service groups are failed over to systems. The system at the top of the list has the highest priority; the system at the bottom has the lowest. JMPSSERVER1 is the system with the higher priority.
- Step 14. Click Next. The wizard may ask to change configuration to read-write mode. Click on Yes.
- Step 15. The wizard then starts validating the configuration. Various messages indicate the status. After the validations are completed, the FileShare Configuration dialog box is displayed.
- Step 16. In the FileShare Configuration dialog box, specify the configuration information for the file share resources to be created.
- In the Virtual Computer Name field, enter a unique virtual computer name by which the server will be known to clients. Enter “JMPSSERVER”.

- b. In the Path column, enter or click the path of the directories to be shared. Click the Edit icon (...) to browse for folders. Browse to F: and select F:\JMPS_Data. The wizard will validate the selected directory FileShare Configuration Wizard.
 - c. In the Share Name column, simply click once on the box that should contain the share name. "JMPS_Data" will automatically be entered in the box.
 - d. Check the Share Subdirs box to share the subdirectories on our file share drive. The other two options, Hide Shares and Hide Child Shares should not be checked.
Click Next. The wizard begins validating your configuration. Various messages indicate the status. After the validations are completed, the *from DNS and DNS database needs to be flushed on both JMPSSERVER1 and JMPSSERVER2. The wizard can then be restarted.*
- Step 17. In the Share Permissions dialog box, click the file share users and assign permissions to them.
- a. In the FileShares drop-down list box, click the file share with which to associate user permissions. JMPS_Data should be shown.
 - b. In the Look In drop-down list box, click the domain, to which the users belong. JMPS should be shown there.
 - c. In the Users drop-down list box, double-click the Everyone user name in the Users list to transfer the user to the Selected Users list.
 - d. In the Selected Users list, click the Everyone user whose default permission you want to change. On the Type Of Access list, select FULL_CONTROL
 - e. Click Next. The Network Configuration dialog box is displayed.
- Step 18. In the Network Configuration dialog box, specify information related to your network.
- a. In the Virtual IP Address field, enter a unique virtual IP address for the virtual server.
 - b. In the Subnet Mask field, enter the subnet to which the virtual server belongs.
 - c. For each system in the cluster, enter or click the public network adapter name. To view the adapters associated with a system, click the Adapter Name field and click the arrow. Note that the wizard displays all TCP/IP enabled adapters on a system, including the private network adapters, if applicable. Verify that the selected adapter is assigned to the public network, not the private. The two gigabit Ethernet adapters should be shown under Adapter Display name. Place the mouse over the connection name and a tool tip will pop up stating that the gigabit card is being used.
 - d. Click Next. The Service Group Summary dialog box is displayed the Cluster Manager.
- Step 19. In the Service Group Summary dialog box, review the configuration and click Next.
- Step 20. Click Yes to create service group.

- Step 21. In the completion dialog box, click the Bring the service group online check box.
- Step 22. Click Finish. The file share service group is created in your configuration.
- Step 23. The file share service group will come up automatically and status will change to Online in Veritas Cluster Explorer. This will take 1-2 minutes.
- Step 24. Continue with the next procedure.

6.19 Procedure: Installing Veritas Backup Exec 9.0 for Windows Servers (BE)

6.19.1 Enterprise

- Step 1. In Veritas Cluster Explorer, expand the configuration tree on the left side until both service groups are visible. A status view will be shown on the right side of the window.
- Step 2. Right-click on the first group, JMPS_SRV_SHARE, select Offline, and click the appropriate system from the menu. Click Yes to confirm the operation. This step will take about 1 minute. Be patient. When the service group is taken offline, the status view will show JMPS_SRV_SHARE as being offline on JMPSSERVER1.
- Step 3. Right-click on the second group, JMPS_SRV_SQL, select Offline, and click the appropriate system from the menu. Click Yes to confirm the operation. This step will take about 1 minute. Be patient. When the service group is taken offline, the status view will show JMPS_SRV_SQL as being offline on JMPSSERVER1.
- Step 4. Exit Cluster Explorer by going to File → Close. Window asking whether to save the configuration may appear. Click Yes to save configuration if the warning window does appear.
- Step 5. Exit Cluster Monitor by going to File → Exit.
- Step 6. Go to Start → Run and type “cmd”.
- Step 7. When the command window appears, type “hastop –all”. *Note: There is a space between “hastop” and “-all”.*
- Step 8. Close command window.
- Step 9. Use VEA and disk reservation utility to mount disks E and F. This was described in section 6.16.1.1. Mount both JMPS_SQL_VOL and JMPS_SHARE_VOL with drive letters E and F respectively.
- Step 10. Start SQL Server by right-clicking on the SQL icon in the system tray and selecting MSSQL Server – Start.
- Step 11. Place the CD containing Veritas Backup Exec 9.0 for Windows Servers in the CD-ROM on JMPSSERVER1.
- Step 12. If the Veritas Backup Exec(TM) 9.0 for Windows Servers screen does not appear, perform steps 13 to 16 below, otherwise skip to Step 17.
- Step 13. Select Start->Run.
- Step 14. On the Run dialog box click the “Browse” button.
- Step 15. On the Browse dialog box that appears set the path to the CD-ROM drive and then to the location of the Veritas “Browser.exe” file and double click on it to set the path to it in the Run dialog box.

- Step 16. On the Browse dialog box click the “OK” button.
- Step 17. A window asking to choose installation language **may** come up. Click OK to select English.
- Step 18. The Veritas Backup Exec(TM) 9.0 for Windows Servers screen will appear.
- Step 19. On the Veritas Backup Exec(TM) 9.0 screen click the “Backup Exec Installation” selection.
- Step 20. The Pre-Installation Information checklist will appear, click the “Start Backup Exec Installation” choice.
- Step 21. The Windows Installer dialog will open then close.
- Step 22. The Veritas Welcome dialog box will then open. Click the “Next” button.
- Step 23. The License Agreement dialog box will then open. Click the “I accept the terms of the license agreement” button and then click “Next”.
- Step 24. The Veritas Backup Exec for Windows Servers Install Menu dialog will then open. Leave the default “Local Install - Install Backup Exec software and options” choice selected, click the “Next” button.
- Step 25. The Use Local SQL with Backup Exec dialog will open. Click the Select an existing SQL instance on which to run Backup Exec choice. Since the SQL Server was installed ahead of Veritas Backup the “JMPS_SQL_SERVER” should appear in the list. Click the “Next” button.
- Step 26. The Backup Exec warning dialog box will appear with the warning to install at least service pack 2 on SQL, this was done during the SQL setup, click the “OK” button. Click the “Next” button.
- Step 27. The Veritas Backup Exec Serial Numbers dialog box will then open. Enter the designated Backup Exec, WIN, SVRS, V9.0, License Product Activation Number from the Veritas Software License Certificate. Click the “Add” button, the activation number should then appear in the “Existing Serial Number” box.
- Step 28. Enter the designated Backup Exec, WIN, MICROSOFT SQL SVR AGENT W/CLIENT ACCESS, V9.0, License Product Activation Number from the Veritas Software License Certificate. Click the “Add” button, the activation number should then appear in the “Existing Serial Number” box.
- Step 29. Enter the designated Backup Exec, WIN, REMOTE AGENT (CAL) FOR WIN SVRS 1 PACK, V9.0, License Product Activation Number from the Veritas Software License Certificate. Click the “Add” button, the activation number should then appear in the “Existing Serial Number” box. *Note: This option is not needed in Enterprise Lite and Pico configurations.*
- Step 30. Enter the designated Backup Exec, WIN, ADVANCED OPEN FILE OPTION WITH CLIENT ACCESS LICENSE FOR WIN SVRS 1 PACK, V9.0, License Product Activation Number from the Veritas Software License Certificate. Click the “Add” button, the activation number should then appear in the “Existing Serial Number” box.
- Step 31. Once the product serial numbers have been entered, click the “Next” button.
- Step 32. The Veritas Backup Exec Local Features review dialog box will then open. Review the options selected.

- Step 33. Click on the “Change” button, change destination folder to D: instead of C:, and click OK. Destination folder will now be D:\Program Files\VERITAS\Backup Exec\NT\.
- Step 34. Click the “Next” button.
- Step 35. The Veritas Backup Exec Services dialog box will then appear. Enter the Administrator password in the Password box and then click the “Next” button.
- Step 36. The Veritas Backup Exec(TM) 9.0 for Windows Servers dialog **may** open with the following message:

“The account JMPS\Administrator has been granted the following rights: Create a token object”.

Click the “OK” button.

- Step 37. The Veritas Tape Device Drivers dialog will then open. Accept the default “Use Veritas device drivers for all tape devices (recommended)” selection, click the “Next” button.
- Step 38. The Ready to Install the Program dialog box will open. Click the “Install” button.
- Step 39. The Installing Veritas Backup Exec for Windows Servers dialog will open as the software is loaded.
- Step 40. The Veritas Volume Software License Program dialog box **may** then open with the following message:

“Thank you for purchasing Veritas Backup Exec for Windows NT using our flexible volume software license program.

We hope you find that using this program makes it easier for you to acquire and deploy Veritas Software Corporation products.”

Click the “OK” button.

- Step 41. The Veritas installation will then proceed. When it finishes the Veritas Install Wizard Completed dialog box will open. Uncheck all options except “Create desktop shortcut”. Click the “Finish” button.
- Step 42. Click Exit to quit the Backup Exec browser.
- Step 43. Click Yes in the confirmation window.
- Step 44. Stop SQL Server by right-clicking on the SQL icon in the system tray and selecting MSSQL Server – Stop. Then click Yes to confirm.
Note: It has been noted that the SQL icon occasionally disappears from the system tray. In that case, go to Start → Programs → Microsoft SQL Server → Service Manager. Click the Stop button. Then click Yes to confirm. The status at the bottom of the window will eventually transition to “Stopped”. Service Manager can be closed at this point.
- Step 45. Unreserve the two disks, E and F, using the disk reservation utility. This process was described in Step 28 through Step 30 in section 6.16.1.2.

- Step 46. Go to Start → Programs → Administrative Tools → Services.
- Step 47. Find Backup Exec Device & Media Service and double-click on it.
- Step 48. In the Startup Type pull-down menu, select Manual instead of Automatic and click OK.
- Step 49. Repeat the same steps for the following two services: Backup Exec Job Engine and Backup Exec Server.
- Step 50. Close the Services Window.
- Step 51. Remove the Veritas Backup Exec v9.0 CD from JMPSSERVER1.
- Step 52. Reboot JMPSSERVER1. Allow it to reboot fully before continuing with the next step.
- Step 53. On JMPSSERVER1, log on to the cluster using Veritas Cluster Manager by double-clicking the VERITAS Cluster Manager (Java Console) icon on the desktop.
- Step 54. After starting Cluster Manager, the first window that appears is Cluster Monitor. An inactive, gray panel for JMPS_Cluster appears in Cluster Monitor.
- Step 55. Click that panel to log on to and monitor the cluster.
- Step 56. In the Login window, enter a valid VCS user name and password. Click OK. Cluster Explorer window will open and the two service groups will be shown in the explorer.
- Step 57. In the configuration tree on the left side, right-click on the first group, JMPS_SRV_SHARE, select Autoenable, and then select JMPSSERVER2.
- Step 58. In the configuration tree on the left side, right-click on the first group, JMPS_SRV_SQL, select Autoenable, and then select JMPSSERVER2.
- Step 59. In the configuration tree on the left side, right-click on the first group, JMPS_SRV_SHARE, select Online, and then select JMPSSERVER1. Click Yes to confirm. This step will take about 1-2 minutes. Be patient. When the service group is online, the status view will show JMPS_SRV_SHARE as being online on JMPSSERVER1 and offline on JMPSSERVER2.
- Step 60. In the configuration tree on the left side, right-click on the second group, JMPS_SRV_SQL, select Online, and then select JMPSSERVER1. Click Yes to confirm. This step will take about 1-2 minutes. Be patient. When the service group is online, the status view will show JMPS_SRV_SQL as being online on JMPSSERVER1 and offline on JMPSSERVER2. SQL Server icon will have a green arrow on it to indicate that SQL is running.
- Note: The following steps to online service group(s) on a server will be used frequently in subsequent software installations. The steps will not be described in detail then. The instruction will be to simply online the service group(s) on a server. It is assumed that the operator will be able to repeat instructions above.*
- Step 61. Double click on the Veritas Backup Exec desktop icon to start the Veritas Backup software for the first time.
- Step 62. Connect to Media Server dialog will come up. Click on Services.
- Step 63. In the Services Manager window that comes up, click on Start All Services.
- Step 64. Click OK to close the status window once all services are started.
- Step 65. Click Close to close the Services Manager window.
- Step 66. Back on Connect to Media Server dialog, enter Administrator password and click OK.

- Step 67. The Welcome to the First Time Startup Wizard dialog box will open. Click the “Next” button.
- Step 68. The Media Management with Media Sets dialog will open. Click the “Next” button.
- Step 69. The Default Media Set Properties dialog box will open. Accept the default choice “Yes, I want to edit this set or create new media sets that will allow Backup Exec to automatically recycle some media for my backups.” Click the “Next” button.
- Step 70. The Welcome to the Media Set Wizard dialog box will open. Click the “Next” button to continue.
- Step 71. The Create or Edit a Media Set dialog will open. Leave the default “Create a new media set” choice selected and click the “Next” button.
- Step 72. The Name the Media Set dialog box will open. Enter in “Daily Incremental” for the media set. Click the “Next” button.
- Step 73. The Set the Overwrite Protection Period dialog box will open. Click on the down arrow button and select “Days”, and the default value of “1”. Click the “Next” button.
- Step 74. The Set Append Period dialog will open. Click on the down arrow button and select “Days”, and the default value of “1”. Click the “Next” button.
- Step 75. The Media Set Summary dialog will open. Verify the choices set, click the “Next” button.
- Step 76. The Completing the Media Set Wizard dialog will open. At this time additional Media Sets could be defined by clicking the “Add or edit another media set after clicking Finish” box. Click the “Finish” box.
- Step 77. The Preferred Overwrite Media Type dialog box will open. Leave the default choice of “Overwrite scratch media before overwriting recyclable media...” selected. Click the “Next” button.
- Step 78. The Overwrite Protection Level dialog box will open. Accept the default “Partial” selection, click the “Finish” button.
- Step 79. The Welcome to the Device Configuration Wizard dialog will open. Click the “Next” button.
- Step 80. The Detected Hardware dialog box will then open. The “COMPAQ 1 (Port: 2, Bus: 0, Target ID: 5, Lun:0) should appear in the Backup device(s) list. Click the “Next” button.
- Step 81. The Detected Backup-to-Disk Folders dialog will open. No Backup-to Disk Folders are defined at this point for JMPS. Click the “Next” button.
- Step 82. The Drive Configuration dialog box will open. The COMPAQ 1 drive should be listed under the “Stand-alone Drives”. Click the “Next” button.
- Step 83. The Completing the Device Configuration Wizard dialog will then open. Click the “Finish” button.
- Step 84. The Welcome to the Logon Account Wizard dialog will open. Click the “Next” button.
- Step 85. The Setup Your Default Logon Account dialog box will open. Select the “Select an existing logon account” choice and then click the “Next” button.
- Step 86. The Select a Logon Account dialog box will open. Accept the default “System Logon Account (JMPS\Administrator)” account. Click the “Next” button.

- Step 87. The Completing the Logon Account Wizard dialog box will open. Click the “Finish” button.
- Step 88. Exit Backup Exec by selecting File → Exit.
- Step 89. Using Windows Explorer go to the D:\Program Files\Veritas\Backup Exec\NT and double-click on ServicesMgr.exe.
- Step 90. Click on Stop All Services and then click Yes to confirm.
- Step 91. Click OK to close the status window.
- Step 92. Click Close to close Services Manager.
- Step 93. Offline the two service groups (JMPS_SRV_SQL and JMPS_SRV_SHARE) from JMPSSERVER1 according to the following steps:
- In Veritas Cluster Explorer, in the configuration tree on the left side, single-click on the first group, JMPS_SRV_SHARE. A status view will be shown on the right side of the window.
 - Right-click the service group in the configuration tree, click on Offline, and click the appropriate system from the menu. Click Yes to confirm the operation. This step will take about 1-2 minutes. Be patient. When the service group is offline, the status view will show JMPS_SRV_SHARE as being offline on JMPSSERVER1.
 - Perform steps a and b above to offline the second service group, JMPS_SRV_SQL, from JMPSSERVER1.
- Note: The following steps to offline service group(s) from a server will be used frequently in subsequent software installations. The steps will not be described in detail then. The instruction will be to simply offline the service group(s) from a server. It is assumed that the operator will be able to repeat instructions above.*
- Step 94. On JMPSSERVER2, use VEA and disk reservation utility to mount disks E and F. This was described in section 6.16.1.1. Mount both JMPS_SQL_VOL and JMPS_SHARE_VOL with drive letters E and F respectively.
- Step 95. Start SQL Server by right-clicking on the SQL icon in the system tray and selecting MSSQL Server – Start.
- Step 96. Place the CD containing Veritas Backup Exec 9.0 for Windows Servers in the CD-ROM on JMPSSERVER2.
- Step 97. If the Veritas Backup Exec(TM) 9.0 for Windows Servers screen does not appear, perform steps 98 to 101 below, otherwise skip to Step 102.
- Step 98. Select Start->Run.
- Step 99. On the Run dialog box click the “Browse” button.
- Step 100. On the Browse dialog box that appears set the path to the CD-ROM drive and then to the location of the Veritas “Browser.exe” file and double click on it to set the path to it in the Run dialog box.
- Step 101. On the Browse dialog box click the “OK” button.
- Step 102. A window asking to choose installation language **may** come up. Click OK to select English.
- Step 103. The Veritas Backup Exec(TM) 9.0 for Windows Servers screen will appear.
- Step 104. On the Veritas Backup Exec(TM) 9.0 screen click the “Backup Exec Installation” selection.

- Step 105. The Pre-Installation Information checklist will appear, click the “Start Backup Exec Installation” choice.
- Step 106. The Windows Installer dialog will open then close.
- Step 107. The Veritas Welcome dialog box will then open. Click the “Next” button.
- Step 108. The License Agreement dialog box will then open. Click the “I accept the terms of the license agreement” button and then click “Next”.
- Step 109. The Veritas Backup Exec for Windows Servers Install Menu dialog will then open. Leave the default “Local Install - Install Backup Exec software and options” choice selected, click the “Next” button.
- Step 110. The Use Local SQL with Backup Exec dialog will open. Take the Select and existing SQL instance on which to run Backup Exec choice. Since the SQL Server was installed ahead of Veritas Backup the “JMPS_SQL_SERVER” should appear in the list. Click the “Next” button.
- Step 111. The Backup Exec warning dialog box will appear with the warning to install at least service pack 2 on SQL, this was done during the SQL setup, click the “OK” button. Click the “Next” button.
- Step 112. The Veritas Backup Exec Serial Numbers dialog box will then open. Enter the designated Backup Exec, WIN, SVRS, V9.0, License Product Activation Number from the Veritas Software License Certificate. Click the “Add” button, the activation number should then appear in the “Existing Serial Number” box.
- Step 113. Enter the designated Backup Exec, WIN, MICROSOFT SQL SVR AGENT W/CLIENT ACCESS, V9.0, License Product Activation Number from the Veritas Software License Certificate. Click the “Add” button, the activation number should then appear in the “Existing Serial Number” box.
- Step 114. Enter the designated Backup Exec, WIN, REMOTE AGENT (CAL) FOR WIN SVRS 1 PACK, V9.0, License Product Activation Number from the Veritas Software License Certificate. Click the “Add” button, the activation number should then appear in the “Existing Serial Number” box.
- Step 115. Enter the designated Backup Exec, WIN, ADVANCED OPEN FILE OPTION WITH CLIENT ACCESS LICENSE FOR WIN SVRS 1 PACK, V9.0, License Product Activation Number from the Veritas Software License Certificate. Click the “Add” button, the activation number should then appear in the “Existing Serial Number” box.
- Step 116. Once the product serial numbers have been entered, click the “Next” button.
- Step 117. The Veritas Backup Exec Local Features review dialog box will then open. Review the options selected. Click the “Next” button.
- Step 118. The Veritas Backup Exec Services dialog box will then appear. Enter the Administrator password in the Password box and then click the “Next” button.
- Step 119. The Veritas Backup Exec(TM) 9.0 for Windows Servers dialog **may** open with the following message:

“The account JMPS\Administrator has been granted the following rights: Create a token object”.

Click the “OK” button.

- Step 120. The Veritas Tape Device Drivers dialog will then open. Accept the default “Use Veritas device drivers for all tape devices (recommended)” selection, click the “Next” button.
- Step 121. The Ready to Install the Program dialog box will open. Click the “Install” button.
- Step 122. The Installing Veritas Backup Exec for Windows Servers dialog will open as the software is loaded.
- Step 123. The Veritas Volume Software License Program dialog box **may** then open with the following message:

“Thank you for purchasing Veritas Backup Exec for Windows NT using our flexible volume software license program.

We hope you find that using this program makes it easier for you to acquire and deploy Veritas Software Corporation products.”

Click the “OK” button.

- Step 124. The Veritas installation will then proceed. When it finishes the Veritas Install Wizard Completed dialog box will open. Uncheck all options except “Create desktop shortcut”. Click the “Finish” button.
- Step 125. Click Exit to quit the Backup Exec browser.
- Step 126. Click Yes in the confirmation window.
- Step 127. Stop SQL Server by right-clicking on the SQL icon in the system tray and selecting MSSQL Server – Stop. Then click Yes to confirm.
Note: It has been noted that the SQL icon occasionally disappears from the system tray. In that case, go to Start → Programs → Microsoft SQL Server → Service Manager. Click the Stop button. Then click Yes to confirm. The status at the bottom of the window will eventually transition to “Stopped”. Service Manager can be closed at this point.
- Step 128. Unreserve the two disks, E and F, using the disk reservation utility. This process was described in Step 28 through Step 30 in section 6.16.1.2.
- Step 129. Go to Start → Programs → Administrative Tools → Services.
- Step 130. Find Backup Exec Device & Media Service and double-click on it.
- Step 131. In the Startup Type pull-down menu, select Manual instead of Automatic and click OK.
- Step 132. Repeat the same steps for the following two services: Backup Exec Job Engine and Backup Exec Server.
- Step 133. Close the Services Window.
- Step 134. Remove the Veritas Backup Exec v9.0 CD from JMPSSERVER2.
- Step 135. Reboot JMPSSERVER2. Allow it to reboot fully before continuing with the next step.
- Step 136. On JMPSSERVER2, log on to the cluster using Veritas Cluster Manager by double-clicking the VERITAS Cluster Manager (Java Console) icon on the desktop.
- Step 137. After starting Cluster Manager, the first window that appears is Cluster Monitor. An inactive, gray panel for JMPS_Cluster appears in Cluster Monitor.

- Step 138. Click that panel to log on to and monitor the cluster.
- Step 139. In the Login window, enter a valid VCS user name and password. Click OK. Cluster Explorer window will open and the two service groups will be shown in the explorer.
- Step 140. Online both service groups, JMPS_SRV_SQL and JMPS_SRV_SHARE, on JMPSSERVER2.
- Step 141. Double click on the Veritas Backup Exec desktop icon to start the Veritas Backup software for the first time.
- Step 142. Connect to Media Server dialog will come up. Click on Services.
- Step 143. In the Services Manager window that comes up, click on Start All Services.
- Step 144. Click OK to close the status window once all services are started.
- Step 145. Click Close to close the Services Manager window.
- Step 146. Back on Connect to Media Server dialog, enter Administrator password and click OK.
- Step 147. The Welcome to the First Time Startup Wizard dialog box will open. Click the “Next” button.
- Step 148. The Media Management with Media Sets dialog will open. Click the “Next” button.
- Step 149. The Default Media Set Properties dialog box will open. Accept the default choice “Yes, I want to edit this set or create new media sets that will allow Backup Exec to automatically recycle some media for my backups.” Click the “Next” button.
- Step 150. The Welcome to the Media Set Wizard dialog box will open. Click the “Next” button to continue.
- Step 151. The Create or Edit a Media Set dialog will open. Leave the default “Create a new media set” choice selected and click the “Next” button.
- Step 152. The Name the Media Set dialog box will open. Enter in “Daily Incremental” for the media set. Click the “Next” button.
- Step 153. The Set the Overwrite Protection Period dialog box will open. Click on the down arrow button and select “Days”, and the default value of “1”. Click the “Next” button.
- Step 154. The Set Append Period dialog will open. Click on the down arrow button and select “Days”, and the default value of “1”. Click the “Next” button.
- Step 155. The Media Set Summary dialog will open. Verify the choices set, click the “Next” button.
- Step 156. The Completing the Media Set Wizard dialog will open. At this time additional Media Sets could be defined by clicking the “Add or edit another media set after clicking Finish” box. Click the “Finish” box.
- Step 157. The Preferred Overwrite Media Type dialog box will open. Leave the default choice of “Overwrite scratch media before overwriting recyclable media...” selected. Click the “Next” button.
- Step 158. The Overwrite Protection Level dialog box will open. Accept the default “Partial” selection, click the “Finish” button.
- Step 159. The Welcome to the Device Configuration Wizard dialog will open. Click the “Next” button.

- Step 160. The Detected Hardware dialog box will then open. The “COMPAQ 1 (Port: 2, Bus: 0, Target ID: 5, Lun:0) should appear in the Backup device(s) list. Click the “Next” button.
- Step 161. The Detected Backup-to-Disk Folders dialog will open. No Backup-to Disk Folders are defined at this point for JMPS. Click the “Next” button.
- Step 162. The Drive Configuration dialog box will open. The COMPAQ 1 drive should be listed under the “Stand-alone Drives”. Click the “Next” button.
- Step 163. The Completing the Device Configuration Wizard dialog will then open. Click the “Finish” button.
- Step 164. The Welcome to the Logon Account Wizard dialog will open. Click the “Next” button.
- Step 165. The Setup Your Default Logon Account dialog box will open. Select the “Select an existing logon account” choice and then click the “Next” button.
- Step 166. The Select a Logon Account dialog box will open. Accept the default “System Logon Account (JMPS\Administrator)” account. Click the “Next” button.
- Step 167. The Completing the Logon Account Wizard dialog box will open. Click the “Finish” button.
- Step 168. Exit Backup Exec by selecting File → Exit.
- Step 169. Using Windows Explorer go to the D:\Program Files\Veritas\Backup Exec\NT and double-click on ServicesMgr.exe.
- Step 170. Click on Stop All Services and then click Yes to confirm.
- Step 171. Click OK to close the status window.
- Step 172. Click Close to close Services Manager.
- Step 173. Transfer the two service groups (JMPS_SRV_SQL and JMPS_SRV_SHARE) from JMPSSERVER2 to JMPSSERVER1 according to the following steps:
- In Veritas Cluster Explorer, in the configuration tree on the left side, single-click on the first group, JMPS_SRV_SHARE. A status view will be shown on the right side of the window.
 - Right-click the service group in the configuration tree, click on Switch To, and click the appropriate system from the menu. This step will take about 1-2 minutes. Be patient. When the service group is transferred, the status view will show JMPS_SRV_SHARE as being offline on JMPSSERVER2 and online on JMPSSERVER1.
 - Perform steps a and b above to transfer the second service group, JMPS_SRV_SQL, from JMPSSERVER2 to JMPSSERVER1.
- Note: The following steps to transfer service groups from one server to another will be used frequently in subsequent software installations. The steps will not be described in detail then. The instruction will be to simply transfer the service groups from one server to another. It is assumed that the operator will be able to repeat instructions above.*
- Step 174. Backup Exec is now installed and configured on both servers. Continue with the next procedure.

6.19.2 JMPS Enterprise Lite

- Step 1. If SQL Server is not running, start SQL Server by right-clicking on the SQL icon in the system tray and selecting MSSQL Server – Start.
- Step 2. Place the CD containing Veritas Backup Exec 9.0 for Windows Servers in the CD-ROM on JMPSSERVER1.
- Step 3. If the Veritas Backup Exec(TM) 9.0 for Windows Servers screen does not appear, perform steps 13 to 16 below, otherwise skip to Step 17.
- Step 4. Select Start->Run.
- Step 5. On the Run dialog box click the “Browse” button.
- Step 6. On the Browse dialog box that appears set the path to the CD-ROM drive and then to the location of the Veritas “Browser.exe” file and double click on it to set the path to it in the Run dialog box.
- Step 7. On the Browse dialog box click the “OK” button.
- Step 8. A window asking to choose installation language **may** come up. Click OK to select English.
- Step 9. The Veritas Backup Exec(TM) 9.0 for Windows Servers screen will appear.
- Step 10. On the Veritas Backup Exec(TM) 9.0 screen click the “Backup Exec Installation” selection.
- Step 11. The Pre-Installation Information checklist will appear, click the “Start Backup Exec Installation” choice.
- Step 12. The Windows Installer dialog will open then close.
- Step 13. The Veritas Welcome dialog box will then open. Click the “Next” button.
- Step 14. The License Agreement dialog box will then open. Click the “I accept the terms of the license agreement” button and then click “Next”.
- Step 15. The Veritas Backup Exec for Windows Servers Install Menu dialog will then open. Leave the default “Local Install - Install Backup Exec software and options” choice selected, click the “Next” button.
- Step 16. The Use Local SQL with Backup Exec dialog will open. Take the Select and existing SQL instance on which to run Backup Exec choice. Since the SQL Server was installed ahead of Veritas Backup the “JMPS_SQL_SERVER” should appear in the list. Click the “Next” button.
- Step 17. The Backup Exec warning dialog box will appear with the warning to install at least service pack 2 on SQL, this was done during the SQL setup, click the “OK” button. Click the “Next” button.
- Step 18. The Veritas Backup Exec Serial Numbers dialog box will then open. Enter the designated Backup Exec, WIN, SVRS, V9.0, License Product Activation Number from the Veritas Software License Certificate. Click the “Add” button, the activation number should then appear in the “Existing Serial Number” box.
- Step 19. Enter the designated Backup Exec, WIN, MICROSOFT SQL SVR AGENT W/CLIENT ACCESS, V9.0, License Product Activation Number from the Veritas Software License Certificate. Click the “Add” button, the activation number should then appear in the “Existing Serial Number” box.
- Step 20. Enter the designated Backup Exec, WIN, REMOTE AGENT (CAL) FOR WIN SVRS 1 PACK, V9.0, License Product Activation Number from the Veritas Software License Certificate. Click the “Add” button, the activation number should then appear in the “Existing Serial Number” box.

- Step 21. Enter the designated Backup Exec, WIN, ADVANCED OPEN FILE OPTION WITH CLIENT ACCESS LICENSE FOR WIN SVRS 1 PACK, V9.0, License Product Activation Number from the Veritas Software License Certificate. Click the “Add” button, the activation number should then appear in the “Existing Serial Number” box.
- Step 22. Once the product serial numbers have been entered, click the “Next” button.
- Step 23. The Veritas Backup Exec Local Features review dialog box will then open. Review the options selected.
- Step 24. Click on the “Change” button, change destination folder to D: instead of C:, and click OK. Destination folder will now be D:\Program Files\VERITAS\Backup Exec\NT\.
- Step 25. Click the “Next” button.
- Step 26. The Veritas Backup Exec Services dialog box will then appear. Enter the Administrator password in the Password box and then click the “Next” button.
- Step 27. The Veritas Backup Exec(TM) 9.0 for Windows Servers dialog **may** open with the following message:

“The account JMPS\Administrator has been granted the following rights: Create a token object”.

Click the “OK” button.

- Step 28. The Veritas Tape Device Drivers dialog will then open. Accept the default “Use Veritas device drivers for all tape devices (recommended)” selection, click the “Next” button.
- Step 29. The Ready to Install the Program dialog box will open. Click the “Install” button.
- Step 30. The Installing Veritas Backup Exec for Windows Servers dialog will open as the software is loaded.
- Step 31. The Veritas Volume Software License Program dialog box **may** then open with the following message:

“Thank you for purchasing Veritas Backup Exec for Windows NT using our flexible volume software license program.

We hope you find that using this program makes it easier for you to acquire and deploy Veritas Software Corporation products.”

Click the “OK” button.

- Step 32. The Veritas installation will then proceed. When it finishes the Veritas Install Wizard Completed dialog box will open. Uncheck all options except “Create desktop short” and “Restart System”. Click the “Finish” button.
- Step 33. Remove the Veritas Backup Exec v9.0 CD for the server CD-ROM drive.
- Step 34. The server will restart.
- Step 35. Once the server restarts, logon to the server into the administrator account.

- Step 36. Double click on the Veritas Backup Exec desktop icon to start the Veritas Backup software for the first time.
- Step 37. Connect to Media Server dialog **may** come up. If it does not, skip to Step 42 below.
- Step 38. Click on Services. In the Services Manager window that comes up, click on Start All Services.
- Step 39. Click OK to close the status window once all services are started.
- Step 40. Click Close to close the Services Manager window.
- Step 41. Back on Connect to Media Server dialog, enter Administrator password and click OK.
- Step 42. The Welcome to the First Time Startup Wizard dialog box will open. Click the “Next” button.
- Step 43. The Media Management with Media Sets dialog will open. Click the “Next” button.
- Step 44. The Default Media Set Properties dialog box will open. Accept the default choice “Yes, I want to edit this set or create new media sets that will allow Backup Exec to automatically recycle some media for my backups.” Click the “Next” button.
- Step 45. The Welcome to the Media Set Wizard dialog box will open. Click the “Next” button to continue.
- Step 46. The Create or Edit a Media Set dialog will open. Leave the default “Create a new media set” choice selected and click the “Next” button.
- Step 47. The Name the Media Set dialog box will open. Enter in “Daily Incremental” for the media set. Click the “Next” button.
- Step 48. The Set the Overwrite Protection Period dialog box will open. Click on the down arrow button and select “Days”, and the default value of “1”. Click the “Next” button.
- Step 49. The Set Append Period dialog will open. Click on the down arrow button and select “Days”, and the default value of “1”. Click the “Next” button.
- Step 50. The Media Set Summary dialog will open. Verify the choices set, click the “Next” button.
- Step 51. The Completing the Media Set Wizard dialog will open. At this time additional Media Sets could be defined by clicking the “Add or edit another media set after clicking Finish” box. Click the “Finish” box.
- Step 52. The Preferred Overwrite Media Type dialog box will open. Leave the default choice of “Overwrite scratch media before overwriting recyclable media...” selected. Click the “Next” button.
- Step 53. The Overwrite Protection Level dialog box will open. Accept the default “Partial” selection, click the “Finish” button.
- Step 54. The Welcome to the Device Configuration Wizard dialog will open. Click the “Next” button.
- Step 55. The Detected Hardware dialog box will then open. The “COMPAQ 1 (Port: 2, Bus: 0, Target ID: 5, Lun:0) should appear in the Backup device(s) list. Click the “Next” button.
- Step 56. The Detected Backup-to-Disk Folders dialog will open. No Backup-to-Disk Folders are defined at this point for JMPS. Click the “Next” button.

- Step 57. The Drive Configuration dialog box will open. The COMPAQ 1 drive should be listed under the "Stand-alone Drives". Click the "Next" button.
- Step 58. The Completing the Device Configuration Wizard dialog will then open. Click the "Finish" button.
- Step 59. The Welcome to the Logon Account Wizard dialog will open. Click the "Next" button.
- Step 60. The Setup Your Default Logon Account dialog box will open. Select the "Select an existing logon account" choice and then click the "Next" button.
- Step 61. The Select a Logon Account dialog box will open. Accept the default "System Logon Account (JMPS\Administrator)" account. Click the "Next" button.
- Step 62. The Completing the Logon Account Wizard dialog box will open. Click the "Finish" button.
- Step 63. Exit Backup Exec by selecting File → Exit.
- Step 64. Continue with the next procedure.

6.19.3 JMPS Pico

Veritas Backup Exec setup for JMPS Pico is identical to JMPS Enterprise Lite.

6.20 Procedure: Installation of Common Operating Environment (COE)

NOTES

THE COE KERNEL SOFTWARE MUST BE OBTAINED FROM YOUR DESIGNATED COE SOURCE. IT MAY BE NECESSARY TO MANUALLY CREATE A CD WHICH CONTAINS THE COE KERNEL AND THE NECESSARY COE SEGMENTS.

IT IS RECOMMENDED THAT ALL NON-COE COMPONENTS BE LOADED BEFORE COE, INCLUDING ANY NECESSARY DEVICE DRIVERS.

AFTER INSTALLATION OF THE COE KERNEL A LONGER BOOT UP TIME WILL BE NOTED, THIS IS NORMAL.

THE INSTALLATION PROCEDURES FOR THE COE KERNEL AND SEGMENTS IN THE FOLOWING SECTIONS MAY BE SLIGHTLY DIFFERENT THEN THE ACTUAL PROCEDURE. THE EXACT PATH TO THE KERNEL AND

SEGMENTS MAY DIFFER DUE TO THE WAY THE COE SOURCE CD WAS BUILT. FOR EXAMPLE, IF THE SEGMENTS ARE EACH IN THEIR OWN DIRECTORY THEN THE PATH WILL HAVE TO BE SET AS OUTLINED BELOW AND AN INDIVIDUAL “READ TABLE OF CONTENTS” OPERATION WILL HAVE TO BE DONE FOR EACH SEGMENT. HOWEVER IF THE COE CD SUPPLIED HAS THE SEGMENTS GROUPED INTO A SINGLE DIRECTORY THEN DOING A SINGLE “READ TABLE OF CONTENTS” WILL DISPLAY ALL THE AVAILABLE SEGMENTS AT ONE TIME. THE PROCEDURES OUTLINED BELOW MAY HAVE TO BE ADJUSTED BY THE INSTALLER ACCORDING TO HOW THE COE CD IS BUILT, THE ONES PROVIDED ASSUME THAT EACH SEGMENT IS LOCATED IN ITS OWN SUB-FOLDER. THESE INSTRUCTIONS, HOWEVER, PROVIDE THE OVERALL STEPS REQUIRED TO LOAD THE COE KERNEL AND SEGMENTS ON THE JMPS SERVERS.

THE STEPS BELOW IN ALL SUB-PROCEDURES IN THIS PROCEDURE WILL HAVE TO BE REPEATED FOR BOTH SERVERS.

JMPS will operate under the Common Operating Environment (COE). This environment consists of a kernel package and various segments. Table 1 below outlines the current COE components that must be loaded on the JMPS servers, no matter which configuration is being setup. The detailed steps to load each of the COE components / segments are presented in the following sub-sections.

COE Segment Name	Version	Partition Installed
COE Kernel Windows 2000	4.2.0.5	C:
COE Kernel 4.2 Patch (K42PXB)	4.2.0.0P8	C:
Windows 2000 Patch Update (W2KPTH)	4.6.0.0	C:
Java Platform 2 (JAVA2)	4.7.0.0	D:
COE Update System Security Level (UPDTSL)	4.6.0.0	C:
COE Security Banner (SECBNR)	4.6.0.0	C:
JMTK Utilities Segment (JMU)	4.6.0.1	D:

Microsoft Office 2000 Pro (OFFICE)	4.6.0.0	D:
Netscape Web Browser (NSWEB)	4.7.0.0	D:
Adobe Acrobat Reader (ACRORD)	4.5.1.0	D:
Norton Anti Virus (NAV)	4.5.3.0	D:
Perl	1.0.0.4	D:
J2SE JRE 1.4 (Includes Web Start) (JAVA 1.4)	4.7.0.0	D:
Microsoft Security Configuration Templates (W2KCET)	4.6.0.1	C:
MissionBinder Repository	1.0.0.7	D:

Table 1 - JMPS Server COE Components List

6.20.1 Sub-procedure: Taking VCS service groups offline (Enterprise Only)

Note: This sub-procedure is performed on JMPSSERVER1 only. All other sub-procedures will be performed on both JMPSSERVER1 and JMPSSERVER2.

- Step 1. On JMPSSERVER1, log on to the cluster using Veritas Cluster Manager by double-clicking the VERITAS Cluster Manager (Java Console) icon on the desktop.
- Step 2. After starting Cluster Manager, the first window that appears is Cluster Monitor. An inactive, gray panel for JMPS_Cluster appears in Cluster Monitor.
- Step 3. Click that panel to log on to and monitor the cluster.
- Step 4. In the Login window, enter a valid VCS user name and password. Click OK. Cluster Explorer window will open and the two service groups will be shown in the explorer.
- Step 5. In the configuration tree on the left side, single-click on the first group, JMPS_SRV_SHARE. A status view will be shown on the right side of the window.
- Step 6. Right-click the service group in the configuration tree, click on Offline, and click the appropriate system from the menu. This step will take about 1 minute. Be patient. When the service group is transferred, the status view will show JMPS_SRV_SHARE as being offline on JMPSSERVER1.
- Step 7. Save your cluster configuration by going to File → Save Configuration in Cluster Explorer.
- Step 8. Close the configuration file by going to File → Close Configuration.
- Step 9. Exit Cluster Explorer by going to File → Close.
- Step 10. Exit Cluster Monitor by going to File → Exit.
- Step 11. Go to Start → Run and type "cmd".

- Step 12. When the command window appears, type “hastop –all”. *Note: There is a space between “hastop” and “-all”.*
- Step 13. Close command window.
- Step 14. Use VEA and disk reservation utility to mount disks E and F. This was described in section 6.16.1.1. Mount both JMPS_SQL_VOL and JMPS_SHARE_VOL with drive letters E and F respectively.
- Step 15. Continue with the next sub-procedure on JMPSSERVER1.

6.20.2 Sub-procedure: Installation of COE Kernel

- Step 1. Place the CD containing the COE 4205 Kernel installation program into the CD-ROM drive.
- Step 2. Select Start->Run.
- Step 3. On the Run dialog box click the “Browse” button.
- Step 4. On the Browse dialog box click the “Files of Type” down-arrow and select “All Files” from the list, this will enable the “kernel.msi” file to be seen.
- Step 5. Continuing on the Browse dialog box set the path to the CD-ROM drive and then to the location of the setup file for the COE 4205 Kernel, the path to the “kernel.msi” file may look like something like “COE 4.6(G:)\Kernel 4.2.0.5”. Once in the proper subfolder double click the “kernel.msi” file to set the path to it in the Run dialog box.
- Step 6. On the Run dialog box click the “OK” button to begin the installation of the COE kernel.
- Step 7. The DII COE Kernel Setup dialog box will open with the Welcome to the DII COE Kernel Installation Wizard message:

“It is strongly recommended that you exit all Windows programs before running this setup program.

Click Cancel to quit the setup program, then close any programs you have running. Click Next to continue the installation.

WARNING: This program is protected by copyright law and international treaties.

Unauthorized reproduction or distribution of this program, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under law.”

If required cancel the COE installation and stop any programs that are running, otherwise click the “Next” button to begin the COE Kernel installation.

- Step 8. The Destination Folder dialog box will open next, click the Browse button to change the destination folder.

- Step 9. The DII COE Kernel Setup dialog box will then open, in the “Folder name:” box enter **“C:\” to direct the COE Kernel installation to the System C: partition.**
Click the “OK” button.
- Step 10. Back on the Destination Folder dialog box verify that the path has changed to “C:\”, click the “Next” button to proceed.
- Step 11. The Ready to Install the Application dialog box will open, click the “Next” button to begin the installation.
- Step 12. The Updating System dialog box will open, the status of the installation will be shown. The Installation Status dialog box will open. Then the first Please Enter a New Password dialog box will open. Enter in the desired **Secman** password in the Password and Confirm Password boxes. This password must be 8 characters in length. Click the “OK” button when finished.
- Step 13. The second Please Enter a New Password dialog box will open. Enter in the desired **keyman** password in the Password and Confirm Password boxes. This password must be 8 characters in length. Click the “OK” button when finished.
- Step 14. The Please Reply dialog will open in the back ground as the installation proceeds. It may be necessary to click on Please Reply button on the Start Bar to access this dialog. The dialog message asks the question Enable APM Authentication? Click the “No” button; do not enable APM.
- Step 15. The Installation Status dialog will begin to update. Wait as the installation continues.
- Step 16. The DII COE Kernel has been successfully installed dialog will appear when the installation completes. Click the “Finish” button.
- Step 17. The Installer Information dialog box will then open with the following message:

“You must restart your system for the configuration changes made to DII COE Kernel to take effect. Click Yes to restart now or No if you plan to manually restart later.”

Click the “No” button. System will be restarted later.

- Step 18. **(This step for Enterprise Only)** Unreserve the two disks, E and F, using the disk reservation utility. This process was described in Step 28 through Step 30 in section 6.16.1.2.
- Step 19. Reboot the server by going to Start->Shut Down.
- Step 20. In the Shut Down Windows dialog select “Restart” from the drop down box. Click the “OK” button.

NOTES

THE COE KERNEL SOFTWARE WILL CHANGE THE LOGON PROCESS. STEPS 20 TO 25 BELOW WILL NEED TO BE FOLLOWED FROM THIS POINT FORWARD FOR LOGON WITH COE INSTALLED.

IF THE “PLEASE WAIT RUN_ONCE IN PROGRESS” DIALOG BOX SHOULD APPEAR DURING THE LOGON PROCESS, ALLOW IT TO COMPLETE, DO NOT CLICK THE OK BUTTON ON THIS DIALOG. WAIT UNTIL THE “COE LOGIN PROCESSING IS COMPLETE” DIALOG APPEARS (SEE STEP 24 BELOW).

- Step 21. COE will change the logon process. The blue Defense Information Systems Agency banner will now appear on the screen at boot. Wait for the logon box to appear. It is normal for this process to take several minutes.
- Step 22. The Welcome to Windows dialog will open, press “CTRL-ALT-DEL” as usual to logon to the system.
- Step 23. The United States Department of Defense Warning Statement dialog box will open, click the “OK” button to acknowledge it.
- Step 24. The Log On to Windows dialog box will then appear, but the User name box will now be empty due to the security settings applied by the COE Kernel. It will now be required to enter in the user name and password each time. Enter in “administrator” for the User name along with the administrator password to log back onto the system. Click the “OK” button.
- Step 25. At logon the Please wait run_once in progress dialog box **may** appear. If it does WAIT until this process completes.
- Step 26. The COE login processing is complete dialog will appear, click the “OK” button to acknowledge it, logon is now complete.
- Step 27. At the first logon after COE is installed a Service Control Manager error dialog **may** appear with the following message:

“At least one service or driver failed during system startup. Use Event Viewer to examine the event log for details.”

This startup failure is an expected problem. Since the SQL Server used during this initial loading procedure development was not a COE segment, COE modifies the user account information for the startup permissions of the SQL Server. This modification prevents the SQL Server services from starting. The logon password must be reset so that the SQL Server services are permitted to start. The following sub-steps must be executed to reset the SQL Server logon information:

- a) Select Start->Programs->Administrative Tools->Computer Management.
- b) The Computer Management window will open, in the left-hand list double click on “Services and Applications”.
- c) The Service and Applications list will appear in the right-hand side of the Computer Management window. Double click on the Services item.
- d) In the right-hand box the services will appear. On the Computer Management menu select “View” and from the drop-down list that appears click the “Detail”

choice. This will change the service display from Icons to a list format so that the necessary SQL services can be easily located.

- e) In the right-hand box all the services should be displayed. Use the scroll bar to locate the “MSSQL\$JMPS_SQL_SERVER” service, select it and then double click on it to open the MSSQL\$JMPS_SQL_SERVER Properties box.
- f) On the properties box click the “Log On” TAB to bring it forward.
- g) In the “This Account” box, delete the Password and Confirm password boxes content, re-enter the administrator password in both boxes. (Note: Leave the account set to the domain account, it should be “%domainname%\Administrator”).
- h) On the MSSQL\$JMPS_SQL_SERVER Properties dialog box click the “OK” button. The Microsoft Management Console dialog box will open with the following message:

“The account %administrator%\Administrator has been granted the Log On As A Service right.”

Click the “OK” button.

- i) Back on the Computer Management window, in the right-hand box, use the scroll bar to locate the “SQLAgent\$JMPS_SQL_SERVER” service, select it and then double click on it to open the SQLAgent\$JMPS_SQL_SERVER Properties box.
- j) On the properties box click the “Log On” TAB to bring it forward.
- k) In the “This Account” box, delete the Password and Confirm password boxes content, re-enter the administrator password in both boxes. (Note: Leave the account set to the domain account, it should be “%domainname%\Administrator”).
- l) On the SQLAgent\$JMPS_SQL_SERVER Properties dialog box click the “OK” button.
- m) Close the Computer Manager.
- n) On the Start Menu Bar select Start->Shut Down.
- o) On the Shut Down Windows dialog box that appears use the down-arrow key and select the “Restart” option. Click the “OK” button to restart the system.

Step 28. Continue with the next sub-procedure.

6.20.3 Sub-procedure: Installation of COE Kernel Patch P8 COE Segment

- Step 1. Logon to the server into the administrator account, following the logon procedures outlined in COE Kernel installation procedure found in Section 6.27.1
- Step 2. Place the CD containing the COE segments into the CD-ROM drive.
- Step 3. Select Start->DII Installer. (Note: The Installer Icon may not appear in the Start Menu, in this case it will be necessary to Browse to C:\h\COE\Comp\COEInstaller\bin\ and set a Desktop shortcut to the COE Installer (COEInstaller.exe) or add a shortcut to the Start Menu. It will happen after loading

- the COE P8 patch, the shortcut will have to be defined so that the administrator can access the COEInstaller easily.)
- Step 4. On the COEInstaller main menu select “File” and then “Select Target drive” from the pop-up menu.
- Step 5. The Disk Drive Selection dialog box will then open. If it is set to C: click the “Cancel” button. If it is not set to C:\ click the down-arrow button and select the C:\ partition as the install location for the COE Kernel patch (the kernel patch must be placed on the same partition as the kernel). Then click the “OK” button on the Disk Drive Selection dialog box. The COEInstaller main title bar should update to reflect the new target “COEInstaller - Installed software - target is C:\”.
- Step 6. On the COEInstaller main menu select “File” and then “Select Source drive”. Double-click on the CD-ROM drive, the Browse for Folder dialog box will open.
- Step 7. On the Browse for Folder dialog box set the path to the CD drive and then to the folder location of the COE Kernel Patch Segment. The path may be similar to the following: COE4.6(G:)\K42PX_4.2.0.0P8. Select the folder and then click the “OK” button on the Browse for Folder dialog box.
- Step 8. On the COEInstaller main menu select “File” and then “Read Table of Contents” from the pop-up menu. The Reading TOC Header Information... dialog will appear briefly then close.
- Step 9. The bottom Available Software window inside the main COEInstaller window will update to show the “DII COE Kernel 4.2 Patch (4.2.0.0P8)” segment. Select this segment by clicking the check box next to it (the selection will then be highlighted in dark blue).
- Step 10. On the main COEInstaller menu select “Available Software” and then select “Install” from the pop-up menu to proceed with the installation of the COE Kernel Patch segment.
- Step 11. The Segment Installation Status dialog box and the COEInstaller Console window will open to show the segment installation progress. Wait until this process completes.
- Step 12. When completed, the COEInstaller dialog box will pop-up with the “Install was successful” message. Click the “OK” button to acknowledge it.
- Step 13. The COEInstaller dialog will then appear with the following message:

“In order for segment installation(s) to be complete the system must be rebooted. Do you wish to reboot now?”

Click the “Yes” button to proceed with the reboot and to finish the installation of the COE Kernel patch segment.

- Step 14. The System Shutdown dialog will briefly appear on the screen and then the system will restart.
- Step 15. Continue with the next sub-procedure.

6.20.4 Sub-procedure: Installation of Java Platform 2 COE Segment

- Step 1. Logon to the server into the administrator account, following the logon procedures outlined in COE Kernel installation procedure found in Section 6.27.1
- Step 2. Place the CD containing the COE segments into the CD-ROM drive.
- Step 3. Select Start->DII Installer, or double-click the desktop icon defined in Step 6.27.2.
- Step 4. On the COEInstaller main menu select “File” and then “Select Target drive” from the pop-up menu.
- Step 5. The Disk Drive Selection dialog box will then open. If the destination is set to D: click the “Cancel” button. If not, click the down-arrow button and select the D:\ partition as the install location. Then click the “OK” button on the Disk Drive Selection dialog box. The COEInstaller main title bar should update to reflect the new target “COEInstaller - Installed software - target is D:\”.
- Step 6. On the COEInstaller main menu select “File” and then “Select Source drive”. Double-click on the CD-ROM drive, the Browse for Folder dialog box will open.
- Step 7. On the Browse for Folder dialog box set the path to the CD drive and then to the location of the Java Platform 2 COE segment. The path may look like something like COE 4.6(G:)\JAVA2_4.7.0.0. Select the folder and then click the “OK” button on the Browse for Folder dialog box.
- Step 8. On the COEInstaller main menu select “File” and then “Read Table of Contents” from the pop-up menu. The Reading TOC Header Information... dialog will appear briefly then close.
- Step 9. The bottom Available Software window inside the main COEInstaller window will update to show the “Java Platform 2” (4.7.0.0) segment. Select this segment by clicking the check box next to it (the selection will then be highlighted in dark blue).
- Step 10. On the main COEInstaller menu select “Available Software” and then select “Install” from the pop-up menu to proceed with the installation of the Java 2 COE segment.
- Step 11. The Segment Installation Status dialog box and the COEInstaller Console window will open to show the segment installation progress. Do not panic if the progress appears to stop at 97% for a long period of time, wait until the process completes.
- Step 12. When completed the COEInstaller dialog box will pop-up with the “Install was successful” message. Click the “OK” button to acknowledge it.
- Step 13. The COEInstaller dialog **may** appear with the following message:

“In order for segment installation(s) to be complete the system must be rebooted. Do you wish to reboot now?”

Click the “Yes” button to proceed with the reboot and to finish the installation of the Java 2 COE segment. *Note: If the dialog box does not appear, reboot manually.*

- Step 14. The System Shutdown dialog will briefly appear on the screen and then the system will restart.
- Step 15. Continue with the next sub-procedure.

6.20.5 Sub-procedure: Installation of COE Update System Security Level Segment

- Step 1. Logon to the server into the administrator account, following the logon procedures outlined in COE Kernel installation procedure found in Section 6.27.1.
- Step 2. Place the CD containing the COE segments into the CD-ROM drive.
- Step 3. Select Start->DII Installer, or double-click the desktop icon defined in Step 6.27.2.
- Step 4. On the COEInstaller main menu select "File" and then "Select Target drive" from the pop-up menu.
- Step 5. The Disk Drive Selection dialog box will then open. If it is set to C: click the "Cancel" button. If it is not set to C:\ click the down-arrow button and select the C:\ partition as the install location. Then click the "OK" button on the Disk Drive Selection dialog box. The COEInstaller main title bar should update to reflect the new target "COEInstaller - Installed software - target is C:\".
- Step 6. On the COEInstaller main menu select "File" and then "Select Source drive". Double-click on the CD-ROM drive, the Browse for Folder dialog box will open.
- Step 7. On the Browse for Folder dialog box set the path to the CD drive and then to the location of the COE Update System Security Level segment. The path may look like something like COE 4.6(G:)\UPDTSL 4.6.0.0. Select the folder and then click the "OK" button on the Browse for Folder dialog box.
- Step 8. On the COEInstaller main menu select "File" and then "Read Table of Contents" from the pop-up menu. The Reading TOC Header Information... dialog will appear briefly then close.
- Step 9. The bottom Available Software window inside the main COEInstaller window will update to show the "COE Update System Security Level" (4.6.0.0) segment. Select this segment by clicking the check box next to it (the selection will then be highlighted in dark blue).
- Step 10. On the main COEInstaller menu select "Available Software" and then select "Install" from the pop-up menu to proceed with the installation of the Update System Security Level COE segment. The Segment Installation Status dialog box and the COEInstaller Console window will open to show the segment installation progress. The progress will appear to stop at 97%.
- Step 11. The Local Security Level Manager dialog box will open. On this dialog click the Classification Level down-arrow key and select "UNCLASSIFIED" for the security level, leave the Security Server Type set to "Local".
- Step 12. On the Local Security Level Manager dialog select "OK".
- Step 13. When completed the COEInstaller dialog box will pop-up with the "Install was successful" message. Click the "OK" button to acknowledge it
- Step 14. On the main COEInstaller menu select "File->Exit".
- Step 15. The COEInstaller dialog box will open with the question:

"Are you sure that you want to exit the DII COE Installer?"

Click the "Yes" button.

Step 16. Continue with the next sub-procedure.

6.20.6 Sub-procedure: Installation of COE Security Banner Segment

- Step 1. Logon to the server into the administrator account, following the logon procedures outlined in COE Kernel installation procedure found in Section 6.27.1.
- Step 2. Place the CD containing the COE segments into the CD-ROM drive.
- Step 3. Select Start->DII Installer, or double-click the desktop icon defined in Step 6.27.2.
- Step 4. On the COEInstaller main menu select “File” and then “Select Target drive” from the pop-up menu.
- Step 5. The Disk Drive Selection dialog box will then open. If it is set to C: click the “Cancel” button. If it is not set to C:\ click the down-arrow button and select the C:\ partition as the install location. Then click the “OK” button on the Disk Drive Selection dialog box. The COEInstaller main title bar should update to reflect the new target “COEInstaller - Installed software - target is C:\”.
- Step 6. On the COEInstaller main menu select “File” and then “Select Source drive. Double-click on the CD-ROM drive, the Browse for Folder dialog box will open.
- Step 7. On the Browse for Folder dialog box set the path to the CD drive and then to the location of the COE Security Banner Data Template segment. The path may look like something like COE 4.6(G:)\SECBNR 4.6.0.0. Select the folder and then click the “OK” button on the Browse for Folder dialog box.
- Step 8. On the COEInstaller main menu select “File” and then “Read Table of Contents” from the pop-up menu. The Reading TOC Header Information... dialog will appear briefly then close.
- Step 9. The bottom Available Software window inside the main COEInstaller window will update to show the “Security Banner Data” segment. Select this segment by clicking the check box next to it (the selection will then be highlighted in dark blue).
- Step 10. On the main COEInstaller menu select “Available Software” and then select “Install” from the pop-up menu to proceed with the installation of the Security Banner Data COE segment.
- Step 11. The Segment Installation Status dialog box and the COEInstaller Console window will open to show the segment installation progress. Do not panic if the progress appears to stop at 97% for a long period of time, wait until the process completes.
- Step 12. When completed the COEInstaller dialog box will pop-up with the “Install was successful” message. Click the “OK” button to acknowledge it.
- Step 13. The green “UNCLASSIFIED” box will appear in the center of the screen, select it and hold the right mouse button, slide it off to the side of the screen.
- Step 14. On the main COEInstaller menu select “File->Exit”.
- Step 15. The COEInstaller dialog box will open with the question:

“Are you sure that you want to exit the DII COE Installer?”

Click the “Yes” button.

Step 16. Continue with the next sub-procedure.

6.20.7 Sub-procedure: Installation of JMTK Utilities COE Segment

- Step 1. Logon to the server into the administrator account, following the logon procedures outlined in COE Kernel installation procedure found in Section 6.27.1.
- Step 2. Place the CD containing the COE segments into the CD-ROM drive.
- Step 3. Select Start->DII Installer, or double-click the desktop icon defined in Step 6.27.2.
- Step 4. On the COEInstaller main menu select “File” and then “Select Target drive” from the pop-up menu.
- Step 5. The Disk Drive Selection dialog box will then open. If it is set to D: click the “Cancel” button. If it is not set to D:\ click the down-arrow button and select the D:\ partition as the install location. Then click the “OK” button on the Disk Drive Selection dialog box. The COEInstaller main title bar should update to reflect the new target “COEInstaller - Installed software - target is D:\”.
- Step 6. On the COEInstaller main menu select “File” and then “Select Source drive. Double-click on the CD-ROM drive, the Browse for Folder dialog box will open.
- Step 7. On the Browse for Folder dialog box set the path to the CD drive and then to the location of the JMTK Utilities Segment (JMU) segment. The path may look like something like COE 4.6(G:)\JMTK 4.6.0.1. Select the folder and then click the “OK” button on the Browse for Folder dialog box.
- Step 8. On the COEInstaller main menu select “File” and then “Read Table of Contents” from the pop-up menu. The Reading TOC Header Information... dialog will appear briefly then close.
- Step 9. The bottom Available Software window inside the main COEInstaller window will update to show the “JMTK Analysis”, JMTK SDBM” and the JMTK Utilities Segment” segments. Select only the JMTK Utilities Segment by clicking the check box next to it (the selection will then be highlighted in dark blue).
- Step 10. On the main COEInstaller menu select “Available Software” and then select “Install” from the pop-up menu to proceed with the installation of the JMTK Utilities segment.
- Step 11. The Segment Installation Status dialog box and the COEInstaller Console window will open to show the segment installation progress. Do not panic if the progress appears to stop at 97% for a long period of time, wait until the process completes.
- Step 12. When completed the COEInstaller dialog box will pop-up with the “Install was successful” message. Click the “OK” button to acknowledge it.
- Step 13. On the main COEInstaller menu select “File->Exit”.
- Step 14. The COEInstaller dialog box will open with the question:

“Are you sure that you want to exit the DII COE Installer?”

Click the “Yes” button.

Step 15. Continue with the next sub-procedure..

6.20.8 Sub-procedure: Installation of Microsoft Office 2000 Professional COE Segment

- Step 1. Logon to the server into the administrator account, following the logon procedures outlined in COE Kernel installation procedure found in Section 6.27.1.
- Step 2. Place the CD containing the COE segments into the CD-ROM drive.
- Step 3. Select Start->DII Installer, or double-click the desktop icon defined in Step 6.27.2.
- Step 4. On the COEInstaller main menu select “File” and then “Select Target drive” from the pop-up menu.
- Step 5. The Disk Drive Selection dialog box will then open. If it is set to D: click the “Cancel” button. If it is not set to D:\ click the down-arrow button and select the D:\ partition as the install location. Then click the “OK” button on the Disk Drive Selection dialog box. The COEInstaller main title bar should update to reflect the new target “COEInstaller - Installed software - target is D:\”.
- Step 6. On the COEInstaller main menu select “File” and then “Select Source drive. Double-click on the CD-ROM drive, the Browse for Folder dialog box will open.
- Step 7. On the Browse for Folder dialog box set the path to the CD drive and then to the location of the COE Microsoft Office 2000 Professional segment. The path may look like something like: COE 4.6(G:)\Office 4.6.0.0. Select the folder and then click the “OK” button on the Browse for Folder dialog box.
- Step 8. On the COEInstaller main menu select “File” and then “Read Table of Contents” from the pop-up menu. The Reading TOC Header Information... dialog will appear briefly then close.
- Step 9. The bottom Available Software window inside the main COEInstaller window will update to show the “Microsoft Office 2000 Pro” segment. Select this segment by clicking the check box next to it (the selection will then be highlighted in dark blue).
- Step 10. On the main COEInstaller menu select “Available Software” and then select “Install” from the pop-up menu to proceed with the installation of the Microsoft Office 2000 Pro COE segment.
- Step 11. The Please Reply dialog box will then open with the message:

“Installation of this segment required the Microsoft Office 2000 CD-ROM

Do you wan to continue?”

Click the “Yes” button.

- Step 12. The Segment Installation Status dialog box and the COEInstaller Console window will open to show the segment installation progress. Do not panic if the progress appears to stop at 97% for a long period of time, wait until the process completes.

Step 13. The following dialog will appear:

“This computer must now be rebooted. Software installation will automatically resume when you log in again.”

Click the “OK” button, the server will restart automatically.

Step 14. The COEInstaller dialog will appear with message “Install was successful”.

Click the “OK” button to acknowledge it.

Step 15. The COEInstaller dialog will appear with the reboot necessary message, click the “Yes” button. The System Shutdown warning will appear briefly. The system will then restart.

Step 16. Logon to the server into the administrator account, following the logon procedures outlined in COE Kernel installation procedure found in Section 6.27.1.

Step 17. The Office 2000 Setup dialog will appear at logon with the message:

“Please insert the Microsoft Office CD 1 into the CD-ROM drive. Once the CD-ROM drive light goes out, click OK.”

Place the Microsoft Office CD 1 into the CD-ROM and click the “OK” button after the CD has been recognized by the system.

Step 18. The IMPORTANT!! Dialog box will open with the following message:

“Wait for the CD Setup program to finish before clicking OK to this message. Respond NO to any prompts by Microsoft setup program which request a reboot.”

Click the “OK” button to proceed.

Step 19. A dialog asking about Service Release 1 **may** come up. Click Yes and continue with the next step. Ignore the rest of the dialog boxes that may come up in the background, including the Clip Art Gallery dialog box. Instructions regarding the Clip Art Gallery dialog box will be provided later.

Step 20. The Welcome to Microsoft Office 2000 window will open atop of the message box in Step 18 above with the Please enter your customer information dialog. The User Name and Organization boxes will contain the information entered during the Windows 2000 Advanced Server setup. In the CD Key box enter the 25-character alphanumeric key. Click the “Next” button when completed.

Step 21. The Microsoft Office 2000 License and Support Information dialog will open. Click the “I accept the terms in the License Agreement” choice and then click the “Next” button.

Step 22. The Setup is ready to install Microsoft Office 2000 SR-1 Professional dialog will open, click the “Customize...” button.

Step 23. The Install Office 2000 at: dialog will then open, direct the installation to the Segment D: partition by setting the path to “D:\Microsoft Office\”. Click the “Next” button.

Step 24. The SETUP dialog box will then open. In the right-hand pane of the window click the down arrow next to the drive box symbol on the “Microsoft Office” label. From the drop down menu that appears click the “Run all from My Computer” choice. All the drive boxes on the SETUP dialog should all turn clear indicating that all the components are selected.

Step 25. On the SETUP dialog box click the “Install Now” button.

Step 26. The Installing Microsoft Office 2000 dialog will open with the message:

“Please wait while Windows configures Microsoft Office 2000.”

Wait until the process completes.

Step 27. The Microsoft Office 2000 Setup dialog will then open with the message:

“Microsoft Office 2000 SR-1 Professional setup completed successfully.”

Click the “OK” button on this dialog.

Step 28. The Clip Gallery Live File Transfer Manager Update dialog will be open with the following message:

“Do you want to install the update to the Clip Gallery Live File Transfer Manager?”

Click the “Yes” button.

Step 29. The Clip Gallery Live File Transfer Manager Update license agreement will then open. Click the “Yes” button to accept it.

Step 30. The Clip Gallery Live File Transfer Manager Update dialog will then open with the message:

“The update to the Clip Gallery Live File Transfer Manager was installed successfully.”

Click the “OK” button.

Step 31. The Microsoft Office UA Control Security Update dialog box will then open with the message:

“This program will install the Microsoft Office UA Control Security Update. Do you want to continue?”

Click the “Yes” button.

Step 32. The Microsoft Office UA Control Security Update license dialog box will then open. Click the “Yes” button to accept it.

Step 33. The Microsoft Office UA Control Security Update dialog box will open with the message:

“Microsoft Office UA Control Security Update completed successfully.”

Click the “OK” button.

Step 34. The Microsoft Office 2000 Service Pack 2 dialog will open with the following message:

“This program will install SP-2. Do you want to continue?”

Click the “Yes” button.

Step 35. The Microsoft Office 2000 Service Pack 2 license agreement dialog will open. Click the “Yes” button to accept it and start the installation of SP-2.

Step 36. The Microsoft Office SP-2 dialog will open stating that the update was applied successfully, click the “OK” button.

Step 37. The Microsoft FrontPage Web Client Security Update dialog box will then open with the following message:

“This program will install the Microsoft FrontPage Web Client Security Update. Do you want to continue?”

Click the “Yes” button.

Step 38. The Microsoft FrontPage Web Client Security Update license dialog box will then open. Click the “Yes” button to accept it.

Step 39. The Microsoft FrontPage Web Client Security Update dialog box will then open with the message:

“The update was applied successfully.”

Click the “OK” button to acknowledge it.

Step 40. The Microsoft PowerPoint 2000 SR-1 Security Update dialog box will then open with the message:

“This program will install the PowerPoint 2000 SR-1 Security Update. Do you want to continue?”

Click the “Yes” button (the headings will show as SP-1 when actually SP-2 is being applied, this is a known problem).

Step 41. The Microsoft PowerPoint 2000 SR-1 Security Update license dialog box will then open, click the “Yes” button to accept it.

Step 42. The PowerPoint 2000 SR-1 Security Update dialog box will then appear with the message:

“The upgrade was applied successfully.”

Click the “OK” button.

- Step 43. The Excel 2000 SR-1 Macro Modification Security Update - April 2002 dialog box will open, click the “Yes” button to apply it.
- Step 44. The Excel 2000 SR-1 Macro Modification Security Update license dialog will then open. Click the “Yes” button to accept it.
- Step 45. The Excel 2000 SR-1 Macro Modification Security Update - April 2002 dialog will appear stating that the update was successfully applied. Click the “OK” button.
- Step 46. The PowerPoint 2000 SR-1 Macro Security Update dialog will open, click the “Yes” button to apply this update.
- Step 47. The PowerPoint 2000 SR-1 Macro Security Update license agreement dialog will then open. Click the “Yes” button to accept it.
- Step 48. The PowerPoint 2000 SR-1 Macro Security Update dialog will appear stating that the update was successfully applied. Click the “OK” button.
- Step 49. The Excel 2000 Update: June 19 2002 dialog will open. Click the “Yes” button to apply this update.
- Step 50. The Excel 2000 Update: June 10 2002 license dialog box will then appear, click the “Yes” button to accept it.
- Step 51. The Excel 2000 Update: June 19 2002 dialog box will appear stating that the update was applied successfully. Click the “OK” button.
- Step 52. The Office Web Components Security Update dialog box will open, click the “Yes” button to apply the update.
- Step 53. The Office Web Components Security Update license dialog box will open, click the “Yes” button to accept it.
- Step 54. The Office Web Components Security Update dialog box will open stating that the update was installed successfully, click the “OK” button.
- Step 55. The Word 2000 SR-1a Macro Security Update dialog will appear, click the “Yes” button to apply the update.
- Step 56. The Word 2000 SR-1a Macro Security Update license dialog box will open, click the “Yes” button to accept it.
- Step 57. The Word 2000 SR-1a Macro Security Update dialog box will open stating that the update was applied successfully, click the “OK” button.
- Step 58. The Word 2000 SR-1 Update: April 25th 2002 dialog box will open, click the “Yes” button to apply it.
- Step 59. The Word 2000 SR-1 Update: April 25th 2002 license dialog box will open, click the “Yes” button to accept the license.
- Step 60. The Word 2000 SR-1 Update: April 25th 2002 dialog box will open stating that the update was applied successfully, click the “OK” button.
- Step 61. The Word 2000 Update: October 16, 2002 dialog box will open, click the “Yes” button to apply it.
- Step 62. The Word 2000 Update: October 16, 2002 license dialog box will open, click the “Yes” button to accept it.
- Step 63. The Word 2000 Update: October 16, 2002 dialog box will appear stating that the update was applied successfully, click the “OK” button.
- Step 64. The System SHUTDOWN warning dialog will appear briefly and the system will then restart.

- Step 65. Remove the Microsoft Office 2000 CD from the CD-ROM drive and allow the system to restart.
- Step 66. Continue with the next sub-procedure.

6.20.9 Procedure: Fixing Microsoft Outlook Warning Message at Boot up

After installing the Microsoft Office 2000 segment, the following warning message **may** pop-up:

Either there is no default mail client or the current mail client cannot fulfill the messaging request. Please run Microsoft Outlook and set it as the default mail client.

To fix this problem, follow the steps below:

- Step 1. Start the Registry editor by going to Start → Run and typing “regedit”
- Step 2. Within Registry editor, navigate to
HKEY_LOCAL_MACHINE\SOFTWARE\Clients\Mail hive.
- Step 3. Keeping Mail key highlighted, click Registry menu.
- Step 4. Select Export Registry File.
- Step 5. Provide the path to save the selected registry key (Ex.
C:\registry_backup\backup.reg). This will provide a backup of the original registry key.
- Step 6. Right-click on a registry key called PreFirstRun from the
HKEY_LOCAL_MACHINE\SOFTWARE\Clients\Mail registry hive and click Rename.
- Step 7. Enter “PreFirstRun_no_longer_being_used” for the value and hit Enter.
- Step 8. Close the Registry editor.
- Step 9. Continue with the next sub-procedure.

6.20.10 Sub-procedure: Installation of Netscape Web Browser COE Segment

- Step 1. Logon to the server into the administrator account, following the logon procedures outlined in COE Kernel installation procedure found in Section 6.27.1
- Step 2. Place the CD containing the COE segments into the CD-ROM drive.
- Step 3. Select Start->DII Installer, or double-click the desktop icon defined in Step 6.27.2.
- Step 4. On the COEInstaller main menu select “File” and then “Select Target drive” from the pop-up menu.
- Step 5. The Disk Drive Selection dialog box will then open. If it is set to D: click the “Cancel” button. If it is not set to D:\ click the down-arrow button and select the D:\ partition as the install location. Then click the “OK” button on the Disk Drive Selection dialog box. The COEInstaller main title bar should update to reflect the new target “COEInstaller - Installed software - target is D:\”.

- Step 6. On the COEInstaller main menu select “File” and then “Select Source drive. Double-click on the CD-ROM drive, the Browse for Folder dialog box will open.
- Step 7. On the Browse for Folder dialog box set the path to the CD drive and then to the location of the Netscape Web Browser segment. The path may look like something like COE 4.6 (G:) \NSWEB 4.7.0.0. Select the folder and then click the “OK” button on the Browse for Folder dialog box.
- Step 8. On the COEInstaller main menu select “File” and then “Read Table of Contents” from the pop-up menu. The Reading TOC Header Information... dialog will appear briefly then close.
- Step 9. The bottom Available Software window inside the main COEInstaller window will update to show the “Netscape Browser” segment. Select this segment by clicking the check box next to it (the selection will then be highlighted in dark blue).
- Step 10. On the main COEInstaller menu select “Available Software” and then select “Install” from the pop-up menu to proceed with the installation of the Netscape Web Browser COE segment.
- Step 11. The Segment Installation Status dialog box and the COEInstaller Console window will open to show the segment installation progress. Do not panic if the progress appears to stop at 97% for a long period of time, wait until the process completes.
- Step 12. The Netscape Communicator 7.0 Setup dialog box will open, and then close. The Netscape question box **may** appear with the question:

Netscape is not currently set as the default browser, would you like to set it as the default?

Click the “Yes” button to set Netscape as the default browser. The Netscape boxes will then automatically close.

- Step 13. When the installation completes the COEInstaller dialog box will pop-up with the “Install was successful” message. Click the “OK” button to acknowledge it.
- Step 14. The next COEInstaller dialog box **may** open with the message:

“In order for segment installation(s) to be complete the system must be rebooted. Do you wish to reboot now?”

Click the “Yes” button to proceed with the restart.

Note: If the dialog box does not come up, reboot the server manually.

- Step 15. The System SHUTDOWN warning dialog will appear briefly and the system will then restart.
- Step 16. Logon back onto the server into the administrator account, following the logon procedures outlined in COE Kernel installation procedure found in Section 6.27.1.

- Step 17. The Netscape Register dialog box will open automatically upon logon asking to define an AOL Instant Messenger screen name. On the Register menu click on “Edit” and then “Preferences...” choice in the presented drop down menu.
- Step 18. The Preferences dialog box will open, under the Instant Messenger settings, uncheck the “Launch automatically at system start” box. Click the “OK” button.
- Step 19. Close the Register dialog box.
- Step 20. Right-click on the blue RealPlayer icon in the system tray and select Preferences
- Step 21. Click Cancel to close the Personalize your RealPlayer window.
- Step 22. Click Exit to confirm.
- Step 23. In the Preferences window, click on the Settings button.
- Step 24. Uncheck Enable StartCenter.
- Step 25. Click Yes to confirm.
- Step 26. Click OK to close StartCenter Settings window.
- Step 27. Click OK to close Preferences window.
- Step 28. Close RealPlayer window.
- Step 29. Continue with the next sub-procedure.

6.20.11 Sub-procedure: Installation of Adobe Acrobat Reader COE Segment

- Step 1. Logon to the server into the administrator account, following the logon procedures outlined in COE Kernel installation procedure found in Section 6.27.1.
- Step 2. Place the CD containing the COE segments into the CD-ROM drive.
- Step 3. Select Start->DII Installer, or double-click the desktop icon defined in Step 6.27.2.
- Step 4. On the COEInstaller main menu select “File” and then “Select Target drive” from the pop-up menu.
- Step 5. The Disk Drive Selection dialog box will then open. If it is set to D: click the “Cancel” button. If it is not set to D:\ click the down-arrow button and select the D:\ partition as the install location. Then click the “OK” button on the Disk Drive Selection dialog box. The COEInstaller main title bar should update to reflect the new target “COEInstaller - Installed software - target is D:\”.
- Step 6. On the COEInstaller main menu select “File” and then “Select Source drive. Double-click on the CD-ROM drive, the Browse for Folder dialog box will open.
- Step 7. On the Browse for Folder dialog box set the path to the CD drive and then to the location of the Adobe Acrobat Reader segment. The path may look like something like COE 4.6 (G:)\ACRORD 4.5.1.0. Select the folder and then click the “OK” button on the Browse for Folder dialog box.
- Step 8. On the COEInstaller main menu select “File” and then “Read Table of Contents” from the pop-up menu. The Reading TOC Header Information... dialog will appear briefly then close.
- Step 9. The bottom Available Software window inside the main COEInstaller window will update to show the “Adobe Acrobat Reader” (4.5.1.0) segment. Select this

segment by clicking the check box next to it (the selection will then be highlighted in dark blue).

- Step 10. On the main COEInstaller menu select “Available Software” and then select “Install” from the pop-up menu to proceed with the installation of the Adobe Acrobat Reader COE segment.
- Step 11. The Segment Installation Status dialog box and the COEInstaller Console window will open to show the segment installation progress. The Usage dialog box will open with Microsoft Setup information, click the “OK” button to acknowledge it. Do not panic if the progress appears to stop at 97% for a long period of time, wait until the process completes.
- Step 12. When completed the COEInstaller dialog box will pop-up with the “Install was successful” message. Click the “OK” button to acknowledge it.
- Step 13. The Installer Information dialog box will then open with the following message:

“In order for segment installation(s) to be complete the system must be rebooted.”

Do you wish to reboot now?

Click the “Yes” button to restart the system.

- Step 14. The System Shutdown dialog will briefly appear on the screen and then the system will restart. The Adobe Acrobat Read 5.0 Icon will now be present on the desktop.
- Step 15. Continue with the next sub-procedure.

6.20.12 Sub-procedure: Installation of Norton Anti Virus COE Segment

- Step 1. Logon to the server into the administrator account, following the logon procedures outlined in COE Kernel installation procedure found in Section 6.27.1
- Step 2. Place the CD containing the COE segments into the CD-ROM drive.
- Step 3. Select Start->DII Installer, or double-click the desktop icon defined in Step 6.27.2.
- Step 4. On the COEInstaller main menu select “File” and then “Select Target drive” from the pop-up menu.
- Step 5. The Disk Drive Selection dialog box will then open. If it is set to D: click the “Cancel” button. If it is not set to D:\ click the down-arrow button and select the D:\ partition as the install location. Then click the “OK” button on the Disk Drive Selection dialog box. The COEInstaller main title bar should update to reflect the new target “COEInstaller - Installed software - target is D:\”.
- Step 6. On the COEInstaller main menu select “File” and then “Select Source drive. Double-click on the CD-ROM drive, the Browse for Folder dialog box will open.
- Step 7. On the Browse for Folder dialog box set the path to the CD drive and then to the location of the Norton Anti Virus. The path may look like something like: “COE 4.6

- (G:)\\NAV 4.5.3.0". Select the folder and then click the "OK" button on the Browse for Folder dialog box.
- Step 8. On the COEInstaller main menu select "File" and then "Read Table of Contents" from the pop-up menu. The Reading TOC Header Information... dialog will appear briefly then close.
- Step 9. The bottom Available Software window inside the main COEInstaller window will update to show the "Norton Anti-Virus" (4.5.3.0) segment. Select this segment by clicking the check box next to it (the selection will then be highlighted in dark blue).
- Step 10. On the main COEInstaller menu select "Available Software" and then select "Install" from the pop-up menu to proceed with the installation of the Norton Anti-Virus COE segment.
- Step 11. The Segment Installation Status dialog box and the COEInstaller Console window will open to show the segment installation progress. Do not panic if the progress appears to stop at 97% for a long period of time, wait until the process completes.
- Step 12. When completed the COEInstaller dialog box will pop-up with the "Install was successful" message. Click the "OK" button to acknowledge it.
- Step 13. The Installer Information dialog box will then open with the following message:

"In order for segment installation(s) to be complete the system must be rebooted."

Do you wish to reboot now?

Click the "Yes" button to restart the system.

- Step 14. The System Shutdown dialog will briefly appear on the screen and then the system will restart.
- Step 15. Upon restart, logon to the server into the administrator account, following the logon procedures outlined in COE Kernel installation procedure found in Section 6.27.1.

NOTE

THE VIRUS DEFINITION FILES MUST BE UPDATED. THE CURRENT NAV VIRUS DEFINITION FILE WILL HAVE TO BE DOWNLOADED FROM THE INFOSEC WEB SITE AND PLACED ON A CD FOR USE IN THE NAV DEFINITION FILE UPDATE PROCEDURES OUTLINED IN STEPS 23 TO BELOW. OPTIONALLY, IF THE SERVER IS CONNECTED TO A NETWORK WITH ACCESS TO THE NIPERNET THE LIVE UPDATE VIA NORTON CAN BE EXECUTED. IF THE SERVER IS ON A NETWORK CONNECTED TO THE SIPRNET, THE

**SIPRNET ACCESS FILE WILL HAVE TO BE
DOWNLOADED AND THEN INSTALLED PRIOR
TO RUNNING LIVE UPDATE VIA THE SIPRNET.**

- Step 16. Insert the CD containing the latest Norton Anti Virus definition files into the CD ROM. Select Start->Run.
- Step 17. On the Run dialog box click the “Browse” button.
- Step 18. On the Browse dialog box that appears set the path to the CD-ROM drive and to the location of the Norton Anti-Virus update definition file. Double click on the file to set the path to it in the Run dialog box.
- Step 19. On the Run dialog box click the “OK” button to execute the update.
- Step 20. The SARC Intelligent Updater dialog will open, click the “Yes” button to proceed with the update.
- Step 21. The SARC Intelligent Update box will open briefly and then close. Another SARC Intelligent Updater dialog box will open with the message:

*“SARC Intelligent Updater
Version 4.01.08A
Copyright (c) 1997-2000 by Symantec Corporation*

*The Symantec virus definition files are used to detect viruses.
Intelligent Updater updates the virus definition files to the latest version
automatically.*

For program options, type the name of this program and /?.

Do you want to update your virus definition files?”

Click the “Yes” button to proceed with the updates.

- Step 22. The SARC Intelligent Updater will run and apply the updates, afterward it will pop-up the following message:

“A Symantec product containing virus protection was found and was updated. This product uses the latest engine and virus definition system available. However, if you have other older Symantec products, in addition to those detected, you must run Intelligent Updater version 2 to update their virus protection.”

Click the “OK” button.

- Step 23. Remove the CD containing the NAV definition update file from the CD-ROM drive.
- Step 24. Continue with the next sub-procedure.

6.20.13 Sub-procedure: Installation of Perl COE Segment

- Step 1. Logon to the server into the administrator account, following the logon procedures outlined in COE Kernel installation procedure found in Section 6.27.1
- Step 2. Place the CD containing the COE segments into the CD-ROM drive.
- Step 25. Select Start->DII Installer, or double-click the desktop icon defined in Step 6.27.2.
- Step 3. On the COEInstaller main menu select “File” and then “Select Target drive” from the pop-up menu.
- Step 4. The Disk Drive Selection dialog box will then open. If it is set to D: click the “Cancel” button. If it is not set to D:\ click the down-arrow button and select the D:\ partition as the install location. Then click the “OK” button on the Disk Drive Selection dialog box. The COEInstaller main title bar should update to reflect the new target “COEInstaller - Installed software - target is D:\”.
- Step 5. On the COEInstaller main menu select “File” and then “Select Source drive. Double-click on the CD-ROM drive, the Browse for Folder dialog box will open.
- Step 6. On the Browse for Folder dialog box set the path to the CD drive and then to the location of the Perl COE segment. The path may look like something like “COE 4.6 (G:)\Perl_1.0.0.4”. Select the folder and then click the “OK” button on the Browse for Folder dialog box.
- Step 7. On the COEInstaller main menu select “File” and then “Read Table of Contents” from the pop-up menu. The Reading TOC Header Information... dialog will appear briefly then close.
- Step 8. The bottom Available Software window inside the main COEInstaller window will update to show the “Perl” segment (1.0.0.4). Select this segment by clicking the check box next to it (the selection will then be highlighted in dark blue).
- Step 9. On the main COEInstaller menu select “Available Software” and then select “Install” from the pop-up menu to proceed with the installation of the Perl COE segment.
- Step 10. The Segment Installation Status dialog box and the COEInstaller Console window will open to show the segment installation progress. Do not panic if the progress appears to stop at 97% for a long period of time, wait until the process completes.
- Step 11. When completed the COEInstaller dialog box will pop-up with the “Install was successful” message. Click the “OK” button to acknowledge it.
- Step 12. Continue with the next sub-procedure.

6.20.14 Sub-procedure: Installation of Java 1.4 and Java Web Start COE Segment

- Step 1. Logon to the server into the administrator account, following the logon procedures outlined in COE Kernel installation procedure found in Section 6.27.1.
- Step 2. Place the CD containing the COE segments into the CD-ROM drive.
- Step 3. Select Start->DII Installer, or double-click the desktop icon defined in Step 6.27.2.

- Step 4. On the COEInstaller main menu select “File” and then “Select Target drive” from the pop-up menu.
- Step 5. The Disk Drive Selection dialog box will then open. If it is set to D: click the “Cancel” button. If it is not set to D:\ click the down-arrow button and select the D:\ partition as the install location. Then click the “OK” button on the Disk Drive Selection dialog box. The COEInstaller main title bar should update to reflect the new target “COEInstaller - Installed software - target is D:\”.
- Step 6. On the COEInstaller main menu select “File” and then “Select Source drive. Double-click on the CD-ROM drive, the Browse for Folder dialog box will open.
- Step 7. On the Browse for Folder dialog box set the path to the CD drive and then to the location of the Java Web Start COE segment. The path may look like something like COE 4.6 (G:)J2JRE 141 4.7.0.0. (Note: A Java segment is being selected, it has Web Start as an integral part). Select the folder and then click the “OK” button on the Browse for Folder dialog box.
- Step 8. On the COEInstaller main menu select “File” and then “Read Table of Contents” from the pop-up menu. The Reading TOC Header Information... dialog will appear briefly then close.
- Step 9. The bottom Available Software window inside the main COEInstaller window will update to show the “J2SE JRE 1.4.1” (4.7.0.0) segment. Select this segment by clicking the check box next to it (the selection will then be highlighted in dark blue).
- Step 10. On the main COEInstaller menu select “Available Software” and then select “Install” from the pop-up menu to proceed with the installation of the Java Web Start COE segment.
- Step 11. The Segment Installation Status dialog box and the COEInstaller Console window will open to show the segment installation progress. Do not panic if the progress appears to stop at 97% for a long period of time, wait until the process completes.
- Step 12. When completed the COEInstaller dialog box will pop-up with the “Install was successful” message. Click the “OK” button to acknowledge it.
- Step 13. The Installer Information dialog box will then open with the following message:

“In order for segment installation(s) to be complete the system must be rebooted.”

Do you wish to reboot now?

Click the “Yes” button to restart the system.

- Step 14. The System Shutdown dialog will briefly appear on the screen and then the system will restart.
- Step 15. Continue with the next sub-procedure.

6.20.15 Sub-procedure: Fixing UPDSTL Service Recovery

- Step 1. Logon to the server into the administrator account.

- Step 2. Bring up Services window by going to Start → Programs → Administrative Tools → Services.
- Step 3. Scroll down until UPDSTL Service is showing.
- Step 4. Double-click on the service.
- Step 5. Click on the Recovery tab.
- Step 6. For the First Failure drop down box, select Restart the Service.
- Step 7. For the Second Failure drop down box, select Restart the Service.
- Step 8. For the Restart service after: field, enter 2 minutes.
- Step 9. Click OK.
- Step 10. Close the Services window.
- Step 11. Continue with the next sub-procedure.

6.20.16 Sub-procedure: Installation of Windows 2000 Patch COE Segment

- Step 1. Logon to the server into the administrator account, following the logon procedures outlined in COE Kernel installation procedure found in Section 6.27.1
- Step 2. Place the CD containing the COE segments into the CD-ROM drive.
- Step 3. Select Start->DII Installer, or double click the desktop icon defined in Step 6.27.2.
- Step 4. On the COEInstaller main menu select “File” and then “Select Target drive” from the pop-up menu.
- Step 5. The Disk Drive Selection dialog box will then open. If it is set to C: click the “Cancel” button. If it is not set to C:\ click the down-arrow button and select the C:\ partition as the install location for the COE Kernel patch (the kernel patch must be placed on the same partition as the kernel). Click the “OK” button on the Disk Drive Selection dialog box. The COEInstaller main title bar should update to reflect the new target “COEInstaller - Installed software - target is C:\”.
- Step 6. On the COEInstaller main menu select “File” and then “Select Source drive”. Double-click on the CD-ROM drive, the Browse for Folder dialog box will open.
- Step 7. On the Browse for Folder dialog box set the path to the CD drive and then to the location of the Windows 2000 Patch Segment. The path to the file may look like something like: COE 4.6(G:)\W2KPTH 4.6.0.0. Select the folder and then click the “OK” button on the Browse for Folder dialog box.
- Step 8. On the COEInstaller main menu select “File” and then “Read Table of Contents” from the pop-up menu. The Reading TOC Header Information... dialog will appear briefly then close.
- Step 9. The bottom Available Software window inside the main COEInstaller window will update to show the “W2k Patch Update” (4.6.0.0) segment. Select this segment by clicking the check box next to it (the selection will then be highlighted in dark blue).
- Step 10. On the main COEInstaller menu select “Available Software” and then select “Install” from the pop-up menu to proceed with the installation of the Windows 2000 Patch segment.
- Step 11. The Segment Installation Status dialog box and the COEInstaller Console window will open to show the segment installation progress. Wait until this process completes, since this involves applying Service Pack 3 to the Windows 2000 system,

it will take several minutes to complete. Do not panic if the progress appears to stop at 97% for a long period of time, wait until the process completes.

Step 12. When completed the COEInstaller dialog box will pop-up with the “Install was successful” message. Click the “OK” button to acknowledge it.

Step 13. The COEInstaller dialog will then appear with the following message:

“In order for segment installation(s) to be complete the system must be rebooted. Do you wish to reboot now?”

Click the “Yes” button to proceed with the reboot and to finish the installation of the Windows 2000 Patch Segment.

Step 14. The System Shutdown dialog will briefly appear on the screen and then the system will restart.

Step 15. Logon to the server into the administrator account, following the logon procedures outlined in COE Kernel installation procedure found in Section 6.27.1.

Step 16. Upon startup the W2KPTH Message dialog will appear with the message:

“Answer no to any prompts asking to reboot the computer”

Click the “OK” button in response to this warning.

Step 17. The Microsoft Internet Explorer Update dialog box will open requesting that the system be restarted. Click the “No” button.

Step 18. The Microsoft Data Access Components Hotfix Installer dialog will open. Apply the Hotfix KB Article Q318203 by clicking the “OK” button.

Step 19. The Setup is complete dialog box will appear. Click the “OK” button.

Step 20. The System Settings Change dialog box will then open requesting a restart of the system. Click the “No” button.

Step 21. The Microsoft Data Access Components Hotfix Installer dialog will open. Apply the Hotfix KB Article Q329414 by clicking the “OK” button.

Step 22. The Setup is complete dialog box will appear. Click the “OK” button.

Step 23. The System Settings Change dialog box will then open requesting a restart of the system. Click the “No” button.

Step 24. The final steps to apply SP3 will automatically be executed, commands will scroll inside the W2KPTH Message dialog and then the system will automatically restart.

Step 25. Continue with the next procedure.

6.21 Procedure: Installing Veritas Cluster Server 2.0 Service Pack 2 (Enterprise Only)

Note: This procedure will automatically offline service groups if they are online on any of the servers. This will not cause any problems.

Step 1. This work will be performed on JMPSSERVER2. Service Pack 2 (SP2) cannot be installed from a primary domain controller, JMPSSERVER1 in this case. It can only

- be installed from another domain controller, JMPSSERVER2 in this case. The installation will update VCS on both servers.
- Step 2. Copy VERITAS Cluster Server 2.0 Service Pack 2 to a temporary directory on JMPSSERVER2.
- Step 3. Double-click the file Update.exe.
- Step 4. Read the Welcome screen and click Next.
- Step 5. The Prerequisites dialog box is displayed. The installer verifies that the cluster meets all requirements for installing the service pack. Click Next after all requirements are validated.
- Step 6. On the Select Option dialog box, select the Install VCS 2.0 Service Pack 2 option and click Next.
- Step 7. On the Select Nodes dialog box, make sure that the nodes on which you want to install the service pack are selected and click Next. Both JMPSSERVER1 and JMPSSERVER2 should be selected. All listed nodes can be selected by clicking Select All.
- Step 8. The Installing VCS 2.0 Service Pack 2 dialog box displays the status of the service pack installation. A message is displayed informing that the installer will stop VCS on all nodes. Click OK to acknowledge. Warning message **may** appear stating that there is a broken cluster connection. This message can be ignored.
- Step 9. A warning message may come up stating that installation was successful but some files were in use and the node must be rebooted. Click OK.
- Step 10. On the Completing the Installation dialog box, uncheck the Launch Lanman Configuration Wizard check box and click Finish.
- Step 11. Reboot both servers.
- Step 12. On JMPSSERVER2, go to Start → Programs → VERITAS Cluster Server → Tools → Lanman Configuration Wizard.
- Step 13. Read the Welcome screen and click Next.
- Step 14. On the Update Lanman resources dialog box, select the two check boxes to the left of the two virtual server names. All other check boxes should then automatically become selected.
- Step 15. Click Next.
- Step 16. On the Lanman user credentials dialog box, enter the name and password of a JMPS domain (system) administrator and click Next.
- Step 17. The Completing the Lanman Configuration Wizard dialog box displays the status of the update. Click Finish when the update is completed.
- Step 18. Continue with the next procedure.

6.22 Procedure: Microsoft Security Configuration Templates COE Segment

Note: All sub-procedures below should be executed on Enterprise Lite and Pico systems.

6.22.1 Sub-procedure: Installing Microsoft Security Configuration Templates COE Segment

Note: This sub-procedure should be executed first on JMPSSERVER1 and then on JMPSSERVER2.

- Step 1. Logon to the server into the administrator account, following the logon procedures outlined in COE Kernel installation procedure found in Section 6.27.1.
- Step 2. Place the CD containing the COE segments into the CD-ROM drive.
- Step 3. Select Start->DII Installer, or double-click the desktop icon defined in Step 6.27.2.
- Step 4. On the COEInstaller main menu select “File” and then “Select Target drive” from the pop-up menu.
- Step 5. The Disk Drive Selection dialog box will then open. If it is set to C: click the “Cancel” button. If it is not set to D:\ click the down-arrow button and select the C:\ partition as the install location. Then click the “OK” button on the Disk Drive Selection dialog box. The COEInstaller main title bar should update to reflect the new target “COEInstaller - Installed software - target is C:\”.
- Step 6. On the COEInstaller main menu select “File” and then “Select Source drive. Double-click on the CD-ROM drive, the Browse for Folder dialog box will open.
- Step 7. On the Browse for Folder dialog box set the path to the CD drive and then to the location of the Java Web Start COE segment. The path may look like something like COE 4.6 (G:)\W2KCET_WIN_4601. Select the folder and then click the “OK” button on the Browse for Folder dialog box.
- Step 8. On the COEInstaller main menu select “File” and then “Read Table of Contents” from the pop-up menu. The Reading TOC Header Information... dialog will appear briefly then close.
- Step 9. The bottom Available Software window inside the main COEInstaller window will update to show the “MS Security Config Template” (4.6.0.1) segment. Select this segment by clicking the check box next to it (the selection will then be highlighted in dark blue).
- Step 10. On the main COEInstaller menu select “Available Software” and then select “Install” from the pop-up menu to proceed with the installation of the Microsoft Security Configuration Templates COE segment.
- Step 11. The Segment Installation Status dialog box and the COEInstaller Console window will open to show the segment installation progress. Do not panic if the progress appears to stop at 97% for a long period of time, wait until the process completes. The COEInstaller Console DOS window will open and processes will be executed as the segment is installed.
- Step 12. When completed the COEInstaller dialog box will pop-up with the “Install was successful” message. Click the “OK” button to acknowledge it.
- Step 13. The Installer Information dialog box will then open with the following message:

“In order for segment installation(s) to be complete the system must be rebooted.”

Do you wish to reboot now?

Click the “Yes” button to restart the system.

- Step 14. The System Shutdown dialog will briefly appear on the screen and then the system will restart.
- Step 15. Continue with the next sub-procedure.

6.22.2 Sub-procedure: Modifying Access Permissions to the Documents and Settings Folder on drive C:

Note: This sub-procedure should be executed first on JMPSSERVER1 and then on JMPSSERVER2.

Note: the rest of the instructions in this sub-procedure mirror those described in the official COE installation manual for this segment – “Installation Procedures (IP) for MS Security Config Templates (W2KCET), Version 4.6.0.1 for Windows 2000”.

- Step 1. Use Windows Explorer and go to C:\h\COTS\W2KCET\DATA. Double-click the W2KCET_4601_Filtered_System_Compliance_Check_results.txt file. Several files in C:\Documents and Settings folder have permissions that grant the Everyone group access. This needs to be changed.
- Step 2. Right-click on C:\Documents and Settings and select Properties.
- Step 3. Click on the Security tab and then click on the Advanced button. Access Control Settings for Documents and Settings window will come up.
- Step 4. Click on the Reset permissions on all child objects and enable propagation of inheritable permissions check box and then click Apply.
- Step 5. Click Yes to confirm selection. This step will remove the Everyone group from the access list to this directory.
- Step 6. Click OK twice to close both properties windows.
- Step 7. Continue with the next sub-procedure once the steps above have been executed on both servers.

6.22.3 Sub-procedure: Applying Domain Controller Security Policy and Domain Security Policy

Note: This sub-procedure has to be executed on JMPSSERVER1 only.

- Step 1. Use Windows Explorer and go to C:\h\COTS\W2KCET\bin.
- Step 2. Double-click the W2KCET_Verify.bat file. This will create the file W2KCET_4601_LANMANNT_Verify.txt file. This file is created in the W2KCET\data directory.
- Step 3. Double-click that file. Verify that several lines from the top, there is a line that states “The configuration file used to configure this OS was = LanmanNT”.
- Step 4. Go to Start → Programs → Administrative tools and click on Domain Controller Security Policy.
- Step 5. Right click on Security Settings and select Import Policy.

- Step 6. Select COE_W2KCET_4601_LANMANNT_Reapply.inf and select Open.
- Step 7. Right click on Security Settings and select Reload.
- Step 8. Double click on Local Policies → Security Options and double click Allow machine policy to automatically update during logon.
- Step 9. If the policy is set to disable, change policy to Enable and click OK.
- Step 10. Close the Domain Controller Security Policy window.
- Step 11. You **may** get a message to Save Security Templates. Click Yes if you get this dialog.
- Step 12. Go to Start → Programs → Administrative tools and click on Domain Security Policy.
- Step 13. Right click on Security Settings and select Import Policy.
- Step 14. Select COE_W2KCET_4601_Domain_Policy_Reapply.inf and select Open.
- Step 15. Right click on Security Settings and select Reload.
- Step 16. Close the Domain Security Policy window.
- Step 17. Manually restart JMPSSERVER1 and the log back in as an administrator.
- Step 18. Click on the Start menu and select Run
- Step 19. Type in “cmd”, then click OK
- Step 20. Type “secedit /refreshpolicy machine_policy /enforce”, then press Enter
- Step 21. Type “secedit /refreshpolicy user_policy /enforce”, then press Enter
- Step 22. Type “exit”, then press Enter
- Step 23. Wait for 5-6 minutes while the security policies are being refreshed. Do not continue until at least 5 minutes have passed.
- Step 24. Continue with the next sub-procedure.

6.22.4 Sub-procedure: Removing POSIX and OS/2 Files

Note: This sub-procedure has to be executed on JMPSSERVER1 and on JMPSSERVER2.

- Step 1. On JMPSSERVER1, use Windows Explorer and go to C:\h\COTS\W2KCET\bin.
- Step 2. Double click the W2KCET_4601_Delete_POSIX_OS2.bat file.
- Step 3. A warning message for POSIX and OS/2 file deletion will come up. Select OK. System will delete files and then automatically reboot.
- Step 4. (**Enterprise Only**) Wait for JMPSSERVER1 to come up. Repeat steps 1-3 on JMPSSERVER2.
- Step 5. Continue with the next procedure.

6.23 Procedure: Additional Modifications to Prepare the Server for JC1 Installation

6.23.1 Sub-procedure: Applying Task Scheduler and Event Viewer Fix

Note: This sub-procedure has to be executed on JMPSSERVER1 only.

- Step 1. Log in as the administrator
- Step 2. Go to Start → Programs → Administrative Tools → Domain Security Policy.
- Step 3. Expand Security Settings, and click on File System
- Step 4. Delete any %SystemRoot%\system32\mmc.exe and %SystemRoot%\Tasks\
entries
- Step 5. Close the Domain Security Policy window
- Step 6. Continue with the next sub-procedure.

6.23.2 Sub-procedure: Modifying Domain Security Policy to Allow Users to Log on as Batch Job and Log on as Service

Note: This sub-procedure has to be executed on JMPSSERVER1 only.

- Step 1. Log in as the administrator on JMPSSERVER1.
- Step 2. Go to Start → Programs → Administrative Tools → Domain Security Policy
- Step 3. Expand Security Settings, Local Policies, and click on User Rights Assignment
- Step 4. Double-click on Log on as batch job
- Step 5. Uncheck the define checkbox
- Step 6. Click OK
- Step 7. Double-click on Log on as service
- Step 8. Uncheck the define checkbox
- Step 9. Click OK
- Step 10. Right-click on Security Settings and select Reload
- Step 11. Close the Domain Security Policy window
- Step 12. Click on the Start menu and select Run
- Step 13. Type in “cmd”, then click OK
- Step 14. Type “secedit /refreshpolicy user_policy /enforce”, then press Enter
- Step 15. Type “exit”, then press Enter
- Step 16. Continue with the next sub-procedure.

6.23.3 Sub-procedure: Giving SYSTEM Full Control to Indexing Service, Internet Connection Sharing, Irmon, and NetMeeting Remote Desktop Sharing Services

Note: This sub-procedure has to be executed on JMPSSERVER1 only.

- Step 1. Go to Start → Programs → Administrative Tools → Active Directory Users and Computers.
- Step 2. Right-click on Domain Controllers and click on Properties.
- Step 3. Select the Group Policy tab.
- Step 4. Select the Default Domain Controllers Policy. This should be the only policy shown.
- Step 5. Click Edit.

- Step 6. In the Group Policy UI that opens, navigate to Computer Configuration → Windows Settings → Security Settings → System Services.
- Step 7. Double-click on Indexing Service.
- Step 8. Click the button for Edit Security.
- Step 9. Click the Add button and add SYSTEM with full control
- Step 10. Click Ok.
- Step 11. Repeat steps 7 - 10 for Internet Connection Sharing.
- Step 12. Go to Start → Programs → Administrative Tools → Services. If the Irmon service does not exist, then back on the Security Policy Setting window uncheck the define checkbox for each of the Irmon services and skip to Step 14.
- Step 13. Repeat steps 7 - 10 for Irmon. *Note: There may be two entries for Irmon. Perform the same steps for both entries.*
- Step 14. Repeat steps 7 – 10 for NetMeeting Remote Desktop Sharing.
- Step 15. Close the Group Policy window.
- Step 16. On the Domain Controllers Properties window click Ok.
- Step 17. Close Active Directory Users and Computers.
- Step 18. Go to Start → Run and type “cmd”.
- Step 19. In the command window that opens, type "secedit /refreshpolicy machine_policy /enforce"
- Step 20. Wait for 5 minutes.
- Step 21. Close the command line window.
- Step 22. Continue with the next sub-procedure.

6.23.4 Sub-procedure: Additional Domain Controller Security Policy Modifications

Note: This sub-procedure has to be executed on JMPSSERVER1 only.

- Step 1. Go to Start → Programs → Administrative Tools → Active Directory Users and
- Step 2. Expand the domain name, JMPS, right-click "Domain Controllers Organizational Unit", and then select Properties
- Step 3. Select the "Group Policy" tab.
- Step 4. Select the Default Domain Controllers Policy and then click Edit .
- Step 5. From the left pane, expand Computer Configuration and go to Windows Settings → Security Settings → Local Policies → User Rights Assignments
- Step 6. In the right pane double-click on Act as part of the operating system.
- Step 7. In the window that comes up click the Add button.
- Step 8. In the window that comes up click the Browse button.
- Step 9. Scroll down until Administrators group is shown.
- Step 10. Single-click on Administrators and click the Add button below.
- Step 11. Click OK three times to go back to the Domain Controller Security Policy window.
- Step 12. In the right pane double-click on Create Token Object.
- Step 13. Repeat steps 7-11 above to add Administrators group.
- Step 14. In the right pane double-click on Log on as a Service

- Step 15. If the Administrators group is not added already, repeat steps 7-11 above to add Administrators group.
- Step 16. From the left pane, expand Computer Configuration and go to Windows Settings → Security Settings → System Services.
- Step 17. In the right pane, double-click on Computer Browser.
- Step 18. In the window that comes up, change the service startup mode from Disabled to Manual.
- Step 19. Click OK.
- Step 20. **(Enterprise Only)** In the right pane, double-click on Remote Registry Service.
- Step 21. **(Enterprise Only)** In the window that comes up, change the service startup mode from Disabled to Automatic.
- Step 22. **(Enterprise Only)** Click OK.
- Step 23. Close the Domain Controller Security Policy window.
- Step 24. **(Enterprise Only)** Go to Start → Programs → Administrative Tools → Services.
- Step 25. **(Enterprise Only)** Double-click on Remote Registry Service.
- Step 26. **(Enterprise Only)** In the Startup Mode drop-down menu, change mode from Disabled to Automatic.
- Step 27. **(Enterprise Only)** Click Apply.
- Step 28. **(Enterprise Only)** Click the Start button to start the Remote Registry Service.
- Step 29. **(Enterprise Only)** Repeat only Step 24 - Step 28 on JMPSSERVER2.
- Step 30. Click on the Start menu and select Run
- Step 31. Type in "cmd", then click OK
- Step 32. Type "secedit /refreshpolicy machine_policy /enforce", then press Enter
- Step 33. Type "exit", then press Enter
- Step 34. Continue with the next sub-procedure.

6.23.5 Sub-procedure: Installing JMPS_DC_Spike_Fix.inf security template to Modify Active Directory replication frequency

Note: This sub-procedure has to be executed on JMPSSERVER1 only.

- Step 1. Obtain the JMPS_DC_Spike_Fix.inf template file from the JC1 CD/DVD. It is located in JMPS_FW directory.
- Step 2. Log in as the administrator
- Step 3. Copy the JMPS_DC_Spike_Fix.inf file to C:\WINNT\security\templates\
Step 4. Go to Start → Programs → Administrative Tools → Domain Controller Security Policy.
- Step 5. Right-click on Security Settings and select Import Policy.
- Step 6. Select JMPS_DC_Spike_Fix.inf and click on Open.
- Step 7. Right-click on Security Settings and select Reload.
- Step 8. Close the Domain Controller Security Policy window.
- Step 9. Continue with the next sub-procedure.

6.23.6 Sub-procedure: Resetting Logon Parameters for Backup Exec Services

Note: This sub-procedure has to be executed on JMPSSERVER1 and on JMPSSERVER2.

Step 1. Using Windows Explorer navigate to D:\Program Files\Veritas\Backup Exec\NT

Step 2. Double-click on ServicesMgr.exe. A window will come up.

Step 3. Click on the Service Credentials button.

Step 4. Check the box that says Change Service Account Information

Step 5. Enter the following info:

- a. Administrator for the User Name
- b. JMPS for the domain. *Note: If the domain name was changed, select the correct domain name from the drop-down menu.*
- c. Enter the Administrator password
- d. Re-enter the Administrator password

Step 6. Click OK.

Step 7. Continue with the next sub-procedure.

6.23.7 Sub-procedure: Resetting Logon Parameters for SQL Server Services

Note: This sub-procedure has to be executed on JMPSSERVER1 and on JMPSSERVER2.

Note: The addition of Microsoft Security Templates COE segment prevents some of the SQL Server services from starting. The logon password must be reset so that SQL Services can start. The following steps must be executed to reset the SQL Server logon information:

Step 1. Select Start->Programs->Administrative Tools->Computer Management.

Step 2. The Computer Management window will open, in the left-hand list double click on "Services and Applications".

Step 3. The Service and Applications list will appear in the right-hand side of the Computer Management window. Double click on the Services item.

Step 4. In the right-hand box the services will appear. On the Computer Management menu select "View" and from the drop-down list that appears click the "Detail" choice. This will change the service display from Icons to a list format so that the necessary SQL services can be easily located.

Step 5. In the right-hand box all the services should be displayed. Use the scroll bar to locate the "MSSQL\$JMPS_SQL_SERVER" service, select it and then double click on it to open the MSSQL\$JMPS_SQL_SERVER Properties box.

Step 6. On the properties box click the "Log On" TAB to bring it forward.

Step 7. In the "This Account" box, delete the Password and Confirm password boxes content, re-enter the administrator password in both boxes. (Note: Leave the account set to the domain account, it should be "%domainname%\Administrator").

Step 8. On the MSSQL\$JMPS_SQL_SERVER Properties dialog box click the "OK" button. The Microsoft Management Console dialog box will open with the following message:

“The account %administrator%\Administrator has been granted the Log On As A Service right.”

Click the “OK” button.

- Step 9. Back on the Computer Management window, in the right-hand box, use the scroll bar to locate the “SQLAgent\$JMPS_SQL_SERVER” service, select it and then double click on it to open the SQLAgent\$JMPS_SQL_SERVER Properties box.
- Step 10. On the properties box click the “Log On” TAB to bring it forward.
- Step 11. In the “This Account” box, delete the Password and Confirm password boxes content, re-enter the administrator password in both boxes. (Note: Leave the account set to the domain account, it should be “%domainname%\Administrator”).
- Step 12. On the SQLAgent\$JMPS_SQL_SERVER Properties dialog box click the “OK” button.
- Step 13. Close the Computer Manager.
- Step 14. Continue with the next sub-procedure.

6.23.8 Sub-procedure: Setting the COM Default Authentication Level to (None)

- Step 1. Log on as the administrator.
- Step 2. Go to Start → Programs → Administrative Tools → Component Services.
- Step 3. In the right windowpane double-click on Computers.
- Step 4. In the right windowpane right-click on My Computer and select Properties.
- Step 5. Select the Default Properties tab.
- Step 6. Set the Default Authentication Level to (None).
- Step 7. Click OK.
- Step 8. Close the confirmation dialog that appears.
- Step 9. Close the Component Services window.
- Step 10. Restart JMPSSERVER1.
- Step 11. **(Enterprise Only)** Wait for JMPSSERVER1 to come up. Then repeat steps 1-10 above on JMPSSERVER2.
- Step 12. Continue with the next procedure.

6.24 Procedure: Veritas Cluster Server Customization (Enterprise System Only)

6.24.1 Adding Veritas Backup Exec Service Group to Veritas Cluster Server

Note: This Backup Exec service group is to be used only during system backups. The group should be brought online before doing a backup and should be taken offline after completing the backup. Since Backup Exec requires SQL Server to function, Backup Exec service group should be brought online on the server that has the SQL group at that time. For example, if JMPSSERVER1 is currently hosting JMPS_SRV_SQL, then the Backup Exec service group should be brought online on JMPSSERVER1. It cannot be brought online on JMPSSERVER2.

- Step 1. If J MPS_SRV_SQL is not online on JMPSSERVER1, bring it online.
- Step 2. On JMPSSERVER1, go to Start → Programs → Administrative Tools → Services.
- Step 3. Double-click on Computer Browser.
- Step 4. In the Startup Type drop-down menu, select Manual and click OK.
- Step 5. Repeat the last three steps on JMPSSERVER2.
- Step 6. On JMPSSERVER1 log into Veritas Cluster Manager.
- Step 7. In Cluster Explorer, go to Edit → Add → Service Group.
- Step 8. Enter BackupExec for the Service Group name.
- Step 9. Click on JMPSSERVER1 and click the black triangle button to add the server to the list of systems for the BackupExec service group.
- Step 10. Click the black triangle again to add JMPSSERVER2.
- Step 11. Click OK. Service group will be shown in Cluster Explorer.
- Step 12. Right-click on BackupExec service group and select Add Resource. Add Resource window will come up.
- Step 13. For the Resource Name enter ComputerBrowser.
- Step 14. For the Resource Type, select GenericService from the drop-down menu.
- Step 15. Scroll down until the ServiceName attribute is visible. For the ServiceName attribute, enter “Computer Browser”. The best way to avoid spelling mistakes in this entry is to open the Services window in Administrative tools, double-click on this service, copy the name, and then paste it into the Scalar Value field. This entry must be exactly the same as the service name.
- Step 16. In the Add Resource window, click on the Enabled check box and click OK. Resource will be created.
- Step 17. Right-click on BackupExec service group and select Add Resource. Add Resource window will come up.
- Step 18. For the Resource Name enter BEDeviceMedia.
- Step 19. For the Resource Type, select GenericService from the drop-down menu.
- Step 20. In the attributes list, click on the Domain attribute and click on the Edit icon on the right.
- Step 21. In the Scalar Value field, click on the white field, enter JMPS and click OK.
- Step 22. For the Password attribute, perform the following steps:
- Open command window.
 - Type “encrypt”.
 - Press the Enter key.
 - Enter the Windows Domain administrator password and press Enter.
 - Enter the same password to confirm and press Enter.
 - Encrypted password will be shown below. Select the password with the mouse and press Enter.
 - Back on the Add Resource window, click on the Password attribute and click on the Edit icon. Click on the white field and enter the password in the Scalar Value field by pressing Ctrl-V. Click OK.
- Step 23. For the UserAccount attribute, enter “Administrator”.

- Step 24. For the ServiceName attribute, enter “Backup Exec Device & Media Service”. The best way to avoid spelling mistakes in this entry is to open the Services window in Administrative tools, double-click on this service, copy the name, and then paste it into the Scalar Value field. This entry must be exactly the same as the service name.
- Step 25. In the Add Resource window, click on the Enabled check box and click OK. Resource will be created.
- Step 26. Perform steps 16-24 to add three more resources from three other Backup Exec services, Backup Exec Server, Backup Exec Job Engine, and ExecView Communication Module (ECM). The Resource names will be BEServer, BEJobEngine, and BEECM.
- Step 27. In Cluster Explorer, click on BackupExec service group and then click on the Resources tab on the right side of the window.
- Step 28. Click on the BEECM icon and then click on the BEJobEngine icon. Click Yes to create dependency. BEECM will now be on the top and connected by a line to BEJobEngine.
- Step 29. Click on the BEJobEngine icon and then click on the BEServer icon. Click Yes to create dependency. BEJobEngine will now be below BEECM and above BEServer. All three will be connected by two lines.
- Step 30. Click on the BEServer icon and then click on the BEDeviceMedia icon. Click Yes to create dependency. BEServer will now be below BEJobEngine and above BEDeviceMedia. All four will be connected by three lines.
- Step 31. Click on the ComputerBrowser icon and then click on the BEECM icon. Click Yes to create dependency. BEECM will now be below ComputerBrowser and above BEJobEngine. All five will be connected by four lines.
- Step 32. In Cluster Explorer, click on BackupExec, click on Properties tab, and click on Show All Attributes button.
- Step 33. Click on the AutoFailOver value and click the Edit button. Uncheck the AutoFailOver box and click OK. Close the Attributes View for BackupExec.
- Step 34. In Cluster Explorer, right-click on the BackupExec service group and select Online → JMPSSERVER1. This will take 1-2 minutes. Be patient. Once the service group is online, the State value in the Status tab will change to Online on JMPSSERVER1.
- Step 35. Backup Exec can now be used if needed.
- Step 36. After verifying that service group is working, take BackupExec service group offline.
- Step 37. Continue with the next sub-procedure.

6.24.2 Sub-Procedure: Performance modifications for Veritas Cluster Server

Note: This sub-procedure has to be executed on JMPSSERVER1 only.

- Step 1. In Cluster Explorer, the configuration tree that shows various service groups is contained inside a tab containing an icon on the top that looks like three small blue squares arranged in a triangle. There are two more tabs there, a yellow rectangle with

- a smaller yellow embedded rectangle and a third tab with an icon resembling a blue box.
- Step 2. Click on the second tab, the yellow one. Two servers will be shown inside the JMPS_Cluster, JMPSSERVER1 and JMPSSERVER2.
- Step 3. Click on JMPSSERVER1 and click on the Show All Attributes button.
- Step 4. Scroll down until ShutdownTimeout value is shown and click on it. Click the Edit button on the right.
- Step 5. Change the default value of 60 to 180. Click OK.
- Step 6. Close the Attributes view for JMPSSERVER1.
- Step 7. Repeat steps 3-6 to set the ShutdownTimeout value to 180 on JMPSSERVER2.
- Step 8. Now click on the first tab to go back to the configuration tree view.
- Step 9. Expand JMPS_SRV_SHARE and click on MountV.
- Step 10. Click the Properties tab and click on the Show All Attributes button.
- Step 11. Scroll down until OnlineRetryLimit value is shown and click on it. Click the Edit button on the right. Change the default value of 0 to 2. Click OK.
- Step 12. Close the Attributes view for MountV.
- Step 13. Now click on VMDg.
- Step 14. Click the Properties tab and click on the Show All Attributes button.
- Step 15. Scroll down until OnlineRetryLimit value is shown and click on it. Click the Edit button on the right. Change the default value of 0 to 2. Click OK.
- Step 16. Close the Attributes view for VMDg.
- Step 17. Expand JMPS_SRV_SHARE and then expand MountV.
- Step 18. Click on MountV-FDrive.
- Step 19. Click on the Properties tab in the right pane and scroll down until the ForceUnmount value is visible under Type Specific Attributes.
- Step 20. Click on the Edit button and check the box next to ForceUnmount. The Type on the left should be Global.
- Step 21. Click OK to confirm.
- Step 22. Expand JMPS_SRV_SQL and then expand MountV.
- Step 23. Click on MountV-EDrive.
- Step 24. Click on the Properties tab in the right pane and scroll down until the ForceUnmount value is visible under Type Specific Attributes.
- Step 25. Click on the Edit button and check the box next to ForceUnmount. The Type on the left should be Global.
- Step 26. Click OK to confirm.
- Step 27. Click on the first tab in Cluster Explorer to go back to the service group configuration tree view.

6.25 Procedure: UPS Power Monitoring Software Setup (Shipboard Enterprise Only)

NOTE

THIS PROCEDURE SHOULD BE EXECUTED ONLY ON SYSTEMS THAT ARE CONFIGURED FOR A SHIPBOARD ENVIRONMENT.

- Step 1. On JMPSSERVER1 and JMPSSERVER2, verify that the UPS monitoring serial cable is connected to the serial port of the server and the STATUS port on the UPS.
- Step 2. On JMPSSERVER1, copy all files from the UPS software floppy disk to a temporary directory on the C:\ drive. (Ex. C:\eti_ups)
- Step 3. Navigate to the temporary directory above and double-click on Setup.exe.
- Step 4. Click Next twice.
- Step 5. Select "Typical" for the type of installation and click Next twice. The software will be installed.
- Step 6. Click OK in the window to confirm that the installation was completed.
- Step 7. Start PowerMon II by going to Start → Programs → PowerMon II → PowerMon II.
- Step 8. Click OK to accept default options.
- Step 9. UPS status window will come up automatically.
- Step 10. Minimize the status window. There will be an "OK" symbol in the minimized status window.
- Step 11. Perform steps 2-10 on JMPSSERVER2.
- Step 12. Continue with the next procedure.

6.26 Procedure: Installation of Mission Binders 1.0.0.8

6.26.1 Sub-procedure: Installation of Mission Binders 1.0.0.8 COE Segment on JMPSSERVER1

- Step 1. **(Enterprise Only)** Verify in Veritas Cluster Explorer that both service groups are online on JMPSSERVER1. If they are not, online them. On JMPSSERVER1. If they are, both E: and F: drives will be visible in Windows Explorer.
- Step 2. Place the CD containing the Mission Binders segment into the CD-ROM drive.
- Step 3. Select Start->DII Installer, or double-click the desktop icon.
- Step 4. On the COEInstaller main menu select "File" and then "Select Target drive" from the pop-up menu.
- Step 5. The Disk Drive Selection dialog box will then open. If it is set to D: click the "Cancel" button. If it is not set to D:\ click the down-arrow button and select the D:\ partition as the install location. Then click the "OK" button on the Disk Drive Selection dialog box. The COEInstaller main title bar should update to reflect the new target "COEInstaller - Installed software - target is D:\".
- Step 6. On the COEInstaller main menu select "File" and then "Select Source drive. Double-click on the CD-ROM drive, the Browse for Folder dialog box will open.
- Step 7. On the Browse for Folder dialog box set the path to the CD drive and then to the location of the MissionBinderRepository_1.0.0.7 COE segment. The path may look like something like COE 4.6 (G:)MissionBinderRepository_1.0.0.7. Select the folder and then click the "OK" button on the Browse for Folder dialog box.
- Step 8. On the COEInstaller main menu select "File" and then "Read Table of Contents" from the pop-up menu. The Reading TOC Header Information... dialog will appear briefly then close.

- Step 9. The bottom Available Software window inside the main COEInstaller window will update to show the “Mission Binder” (1.0.0.7) segment. Select this segment by clicking the check box next to it (the selection will then be highlighted in dark blue).
- Step 10. On the main COEInstaller menu select “Available Software” and then select “Install” from the pop-up menu to proceed with the installation of the Mission Binders COE segment.
- Step 11. The Segment Installation Status dialog box and the COEInstaller Console window will open to show the segment installation progress. Do not panic if the progress appears to stop at 100% for a long period of time, wait until the process completes.
- Step 12. The MissionBinder Introduction dialog box will open. Click the “Next” button.
- Step 13. The Choose Install Folder will then open. Click the “Choose...” button.
- Step 14. The Browse for Folder dialog box will open. Set the path to Segments (D:)Program Files\MissionBinder so that the Mission Binder COE segment resides on D; with all the other installed COE segments.
- Step 15. Verify that the path displayed on the Choose Install Folder dialog has updated to “D:\Program Files\MissionBinder”. Click the “Next” button.
- Step 16. The Choose a Folder to Store MissionBinder data files dialog box will open. Set the path in the Please Choose a Folder box to “E:\data\local\MissionBinder”. Click the “Next” button when complete.
- Step 17. The Pre-Installation Summary dialog will then open. Review the installation parameters and if correct click the Install button. If problems are noted then click the “Previous” button and make the necessary corrections.
- Step 18. The Installing MissionBinders dialog will open and then quickly close. The Install Complete dialog will then open. Click the “Done” button.
- Step 19. When completed the COEInstaller dialog box will pop-up with the “Install was successful” message. Click the “OK” button to acknowledge it.
- Step 20. The Installer Information dialog box will then open with the following message:

“In order for segment installation(s) to be complete the system must be rebooted.”

Do you wish to reboot now?

Click the “No” button.

- Step 21. Click OK to acknowledge Mission Binder installation.
- Step 22. **(Enterprise Only)** Transfer the VCS service groups from JMPSSERVER1 to JMPSSERVER2.
- Step 23. Reboot JMPSSERVER1.
- Step 24. Continue with the next sub-procedure.

6.26.2 Sub-procedure: Installation of Mission Binders 1.0.0.8 COE Segment on JMPSSERVER2 (Enterprise Only)

- Step 1. Install Mission Binders on JMPSSERVER2 according to the installation instructions in the previous sub-procedure. Follow steps 2 – 19. Installation may go slightly quicker than on the first server.
- Step 2. When asked in step 20 to reboot after Mission Binders install, click “No”.
- Step 3. Transfer the VCS service groups from JMPSSERVER2 to JMPSSERVER1.
- Step 4. Reboot JMPSSERVER2.
- Step 5. Continue with the next procedure.

6.27 Procedure: Installation of JC1

NOTE

SINCE JC1 IS STILL IN DEVELOPMENT, EACH BUILD HAS UNIQUE INSTRUCTIONS THAT CANNOT BE ACCOUNTED FOR IN THIS INSTALLATION MANUAL. CONTACT THE SSC-SD C4I PROGRAMS OFFICE PHILADELPHIA FOR INSTRUCTIONS ON SPECIFIC BUILD NOTES.

Note: Refer to the Software Installation Instructions for JMPS Combat One for detailed procedures for installing JC1. These instructions are not repeated in this document to the same level of detail because the developer Northrop Grumman Information Technology (NGIT) is writing and maintaining these JMPS load instructions. However, the following notes shall apply in conjunction with the NGIT document. JC1 4200 build was used to describe JMPS installation in a clustered environment.

Note: Installation on Enterprise Lite and Pico systems is virtually identical. Watch for notes in the procedure below.

Note: Some Microsoft Office application, such as Word, must be started once before JC1 installation.

6.27.1 Sub-procedure: Installation of JC1 on JMPSSERVER1

- Step 1. **(Enterprise Only)** Verify in Veritas Cluster Explorer that both service groups are online on JMPSSERVER1. If they are not, online them. On JMPSSERVER1. If they are, both E: and F: drives will be visible in Windows Explorer.
- Step 2. Copy the JC1 Install folder to a temporary directory on C:\ and execute the installation from this location. *Note: Installation will NOT work from the CD. The files must be copied to a local directory on C: or D:.*

- Step 3. Start JMPS installation setup program, Setup.exe.
- Step 4. Click on Next.
- Step 5. Accept the license agreement and click Next.
- Step 6. Select the Domain Controller option and click Next.
- Step 7. On the Configure PTW FTP Server screen, make sure the checkbox is checked.
Change the directory to the following value and then click Next.
- a) F:\JMPS_Data\ftproot (**Enterprise Only**)
 - b) E:\inetpub\ftproot (**Enterprise Lite and Pico**)
- Step 8. Select Yes to apply COE security settings and click Next.
- Step 9. If desired, enter the Administrator email address and select both check boxes to Create Desktop shortcut to JMPS and create Quickbar shortcut to JMPS for the logged in user. Then click Next.
- Step 10. Select Complete for the Setup Type and click Next.
- Step 11. Click Install to install JMPS. Wait until installation is complete. This will take several minutes.
- Step 12. For the JMPS Data install, select Complete for Setup Type and click Next.
- Step 13. Click Install to install JMPS data. Wait for the JMPS Data installation to complete (5+ minutes).
- Step 14. Click Finish twice.
- Step 15. Select “No” if asked to reboot at the end of JMPS Data installation.
- Step 16. (**Enterprise Only**) Transfer the VCS service groups from JMPSSERVER1 to JMPSSERVER2.
- Step 17. Reboot JMPSSERVER1.
- Step 18. Continue with the next sub-procedure.

6.27.2 Sub-procedure: Installation of JC1 on JMPSSERVER2 (Enterprise Only)

- Step 1. Once JMPSSERVER1 comes back online, transfer VCS service groups from JMPSSERVER2 back to JMPSSERVER1.
- Step 2. Use the JMPS Admin tool to detach the following JMPS databases. *Note: Directions for using the JMPS Admin tool are provided in NGIT JC1 documentation.*
- a. AimPoints
 - b. DAFIF
 - c. F18MIDS
 - d. JTIDS
 - e. LocalPoints
 - f. OrderOfBattle
 - g. PointExport
 - h. ThreatParameters
- Step 3. Transfer the VCS service groups from JMPSSERVER1 to JMPSSERVER2.
- Step 4. Install JC1 on JMPSSERVER2 according to the JC1 installation instructions in the previous section. Installation may go quicker than on the first server due to the fact that JMPS data files on the E: drive are already present and do not have to be copied again.
- Step 5. When asked to reboot after JMPS Data install, click “No”.

- Step 6. Transfer the VCS service groups from JMPSSERVER2 to JMPSSERVER1.
- Step 7. Reboot JMPSSERVER2.
- Step 8. Continue with the next sub-procedure.

6.27.3 Sub-procedure: Installing JMPS Framework and JMPS Framework Data COE segments

- Step 1. On JMPSSERVER1, place the CD containing the JMPS Framework and JMPS Framework Data segments into the CD-ROM drive.
- Step 2. Select Start->DII Installer, or double-click the desktop icon defined in Step 6.27.2.
- Step 3. On the COEInstaller main menu select "File" and then "Select Target drive" from the pop-up menu.
- Step 4. The Disk Drive Selection dialog box will then open. If it is set to D: click the "Cancel" button. If it is not set to D:\ click the down-arrow button and select the D:\ partition as the install location. Then click the "OK" button on the Disk Drive Selection dialog box. The COEInstaller main title bar should update to reflect the new target "COEInstaller - Installed software - target is D:\".
- Step 5. On the COEInstaller main menu select "File" and then "Select Source drive. Double-click on the CD-ROM drive, the Browse for Folder dialog box will open.
- Step 6. On the Browse for Folder dialog box set the path to the CD drive and then to the location of the JMPS Framework segments.
- Step 7. On the COEInstaller main menu select "File" and then "Read Table of Contents" from the pop-up menu. The Reading TOC Header Information... dialog will appear briefly then close.
- Step 8. The bottom Available Software window inside the main COEInstaller window will update to show the two segments, JMPS Framework and JMPS Framework Data.
- Step 9. Select JMPS Framework by clicking the check box next to it (the selection will then be highlighted in dark blue).
- Step 10. On the main COEInstaller menu select "Available Software" and then select "Install" from the pop-up menu to proceed with the installation of the JMPS Framework COE segment.
- Step 11. The Segment Installation Status dialog box and the COEInstaller Console window will open to show the segment installation progress.
- Step 12. When completed the COEInstaller dialog box will pop-up with the "Install was successful" message. Click the "OK" button to acknowledge it.
- Step 13. Follow steps 9-12 above to install JMPS Framework Data segment.
- Step 14. Exit COE installer.
- Step 15. **(Enterprise Only)** Transfer VCS service groups from JMPSSERVER1 to JMPSSERVER2.
- Step 16. Reboot JMPSSERVER1.
- Step 17. **(Enterprise Only)** Follow steps 1-13 to install JMPS Framework and JMPS Framework Data segments on JMPSSERVER2.
- Step 18. **(Enterprise Only)** Transfer VCS service groups from JMPSSERVER2 to JMPSSERVER1.

- Step 19. **(Enterprise Only)** Reboot JMPSSERVER2.
- Step 20. Continue with the next sub-procedure

6.27.4 Sub-procedure: Active Directory Schema changes

Follow directions in Appendix A: Active Directory Schema changes to configure the Active Directory Schema.

6.27.5 Sub-procedure: Installing VBScript 5.6 Patch for TOLD

- Step 1. On JMPSSERVER1, log on as the administrator.
- Step 2. **(Enterprise Only)** Transfer VCS service groups from JMPSSERVER1 to JMPSSERVER2.
- Step 3. Using Windows Explorer, go to D:\Program Files\JMPS\Setup\Scripts\.
- Step 4. Double-click on scripten.exe.
- Step 5. Click Yes on the confirmation dialog.
- Step 6. Click Yes for the license agreement.
- Step 7. Click OK on the confirmation dialog after the update is completed.
- Step 8. Click Yes to restart JMPSSERVER1.
- Step 9. **(Enterprise Only)** Transfer VCS service groups from JMPSSERVER2 to JMPSSERVER1 when JMPSSERVER1 comes back up.
- Step 10. **(Enterprise Only)** Repeat steps 3-8 on JMPSSERVER2.
- Step 11. Continue with the next sub-procedure.

6.28 Procedure: Additional Post-JC1 JMPS System Configuration

6.28.1 Sub-procedure: Applying Additional Security Lockdown Policies

Note: This sub-procedure has to be executed on JMPSSERVER1 only.

- Step 1. Log in as the administrator on JMPSSERVER1.
- Step 2. Go to Start → Programs → Administrative Tools → Domain Controller Security Policy.
- Step 3. Right-click on Security Settings and select Import Policy.
- Step 4. Select “JmpsDomainController.inf” and click on Open.
- Step 5. Right-click on Security Settings and select Reload.
- Step 6. Close the Domain Controller Security Policy window.
- Step 7. Click on the Start menu and select Run.
- Step 8. Type in “cmd”, then click OK.
- Step 9. Type “secedit /refreshpolicy machine_policy /enforce”, then press Enter.

- Step 10. Wait for 3-4 minutes for the policy to refresh.
- Step 11. Type 'exit', then press Enter.
- Step 12. Go to Start → Programs → Administrative Tools → Domain Security Policy.
- Step 13. Right-click on Security Settings and select Import Policy.
- Step 14. Select "JmpsDomain.inf" and click on Open.
- Step 15. Right-click on Security Settings and select Reload.
- Step 16. Close the Domain Security Policy window.
- Step 17. Click on the Start menu and select Run.
- Step 18. Type in "cmd", then click OK.
- Step 19. Type "secedit /refreshpolicy user_policy /enforce", then press Enter.
- Step 20. Wait for 5-6 minutes for policies to refresh.
- Step 21. Type 'exit', then press Enter.
- Step 22. Continue with the next sub-procedure.

6.28.2 Sub-procedure: Configuring FTP server for PTW access

Note: This sub-procedure has to be executed on JMPSSERVER1 and on JMPSSERVER2.

- Step 1. Go to Start → Programs → Administrative Tools → Internet Services Manager.
- Step 2. Expand the server name until the FTP service is visible. Right-click on the FTP server name and select Properties.
- Step 3. Enter "JMPS FTP Server" for the description.
- Step 4. Click on the Security Accounts tab and check the Allow Anonymous Connections box if it is not already checked.
- Step 5. The username should already be filled in as IUSR_SERVERNAME where SERVERNAME is the name of the current machine.
- Step 6. Check the Allow only anonymous connections box.
- Step 7. Click on the Messages tab and enter a welcome message if desired. This should be a standard DoD security warning message.
- Step 8. Click on the Directory Security tab.
- Step 9. Check the Denied Access box so that by default all computers will be denied access.
- Step 10. Click on the Add button on the right, type in the IP address of the PTW server and click OK to add that IP to the list of servers that are allowed to use FTP.
- Step 11. Perform the step above to add other PTW servers as necessary.
- Step 12. Click OK to close the FTP server properties window.
- Step 13. Close the Internet Information Services window.
- Step 14. Continue with the next sub-procedure.

6.28.3 Sub-procedure: Adding Cluster Resources to the VCS SQL service group (Enterprise Only)

- Step 1. On JMPSSERVER1, go to Start → Programs → Administrative Tools → Services.

- Step 2. Double-click on MissionBinderFileService.
- Step 3. In the Startup Type drop-down menu, select Manual and click OK.
- Step 4. Stop the service if it is running by right-clicking on it and selecting Stop.
- Step 5. Repeat steps 2-4 on JMPSSERVER2 to stop MissionBinderFileService service and set startup type to Manual.
- Step 6. Start Cluster Manager, open Cluster Explorer, and take JMPS_SRV_SQL group Offline from JMPSSERVER1.
- Step 7. In Cluster Explorer, right-click on JMPS_SRV_SQL service group and select Add Resource. A window asking if the configuration should be switched to read/write may come up. Answer Yes. Add Resource window will then come up.
- Step 8. For the Resource Name enter MBFileService.
- Step 9. For the Resource Type, select GenericService from the drop-down menu.
- Step 10. Scroll down until the ServiceName attribute is visible. For the service name attribute, enter "MissionBinderFileService". The best way to avoid spelling mistakes in this entry is to open the Services window in Administrative tools, double-click on this service, copy the name, click on the white field back in the Edit Attribute window and then paste it into the Scalar Value field. This entry must be exactly the same as the service name.
- Step 11. In the Add Resource window, click on the Enabled check box. Critical box should be checked by default. Leave it checked. Click OK. Resource will be created.
- Step 12. In Cluster Explorer, right-click on JMPS_SRV_SQL service group and select Add Resource.
- Step 13. For the resource name enter JmpsDataShare; for the Resource type select FileShare from the drop-down menu.
- Step 14. Scroll down until UserPermissions is visible and click on the Edit button on the right.
- Step 15. Click on the Value box that says NO_ACCESS and change NO_ACCESS to FULL_CONTROL and then click OK.
- Step 16. Scroll a little further until PathName is visible and click on the Edit button on the right. Enter "\data\Local\JMPS\Data" without the quotes. *Note: It is very important to enter the path exactly as it is described above. The path starts with a backslash without a drive letter.* Click OK when done.
- Step 17. Scroll a little further until ShareName is visible and click on the Edit button on the right. Enter "JMPSData" without the quotes. *Note: It is very important to enter the share name exactly as it is described above.* Click OK when done.
- Step 18. Scroll a little further until MountResName is visible and click on the Edit button on the right. Enter "MountV-EDrive" without the quotes. *Note: It is very important to enter the share name exactly as it is described above.* Click OK when done.
- Step 19. In the Add Resource window, click on the Enabled check box. Critical box should be checked by default. Leave it checked. Click OK. Resource will be created.
- Step 20. In Cluster Explorer click on the JMPS_SRV_SQL service group and then click on the Resources tab on the right side of the window.
- Step 21. Left-click on the line connecting MountV-EDrive and SQLServer2000-JMPS_SQL_SERVER resources. The line will turn yellow. Right-click on the line and select Unlink. Resource tree will separate into two branches.

- Step 22. Click on the JmpsDataShare resource icon and then click on the MountV-EDrive resource icon. A yellow line will connect the two and a window asking whether a dependency should be created. JmpsDataShare will be the parent and MountV-EDrive will be the child. *Note: The order of the clicks is important. Follow instructions carefully to create the correct dependency.*
- Step 23. Now click on the SQLServer2000-JMPS_SQL_SERVER resource icon and then click on the JmpsDataShare resource icon. Click Yes to create a dependency. A dependency will be created and SQLServer2000-JMPS_SQL_SERVER will be above JmpsDataShare.
- Step 24. Now click on the MBFileService icon and then click on the SQLServer2000-JMPS_SQL_SERVER resource icon. Click Yes to create a dependency. MBFileService will be above SQLServer2000-JMPS_SQL_SERVER.
- Step 25. In Cluster Explorer, go to File → Save Configuration to save the changes to Cluster Server configuration. JMPS_SRV_SQL service group can now be brought online on JMPSSERVER1.
- Step 26. Continue with the next sub-procedure.

6.28.4 Sub-procedure: Setting SNMP zone

Note: This sub-procedure has to be executed on JMPSSERVER1 and on JMPSSERVER2.

- Step 1. Right-click on My Computer and select Manage
- Step 2. Expand Services and Applications
- Step 3. Click on Services.
- Step 4. Right-click on SNMP Service and select Properties.
- Step 5. Click on the Security tab
- Step 6. In the top pane, click on the “public” community name and click Edit
- Step 7. Rename “public” to the proper SNMP community name and click OK. Leave Community Rights as READ ONLY. *Note: SNMP community name is site-dependent.*
- Step 8. In the bottom pane, select Accept SNMP packets from these hosts and click Add.
- Step 9. Enter the IP address of the SNMP monitoring server.
- Step 10. Click OK.
- Step 11. Click Apply.
- Step 12. Click on the Traps tab.
- Step 13. Enter the name of the SNMP community. This is the same name that was entered above in Step 7.
- Step 14. Click on the Add to list button.
- Step 15. Click on the Add button below.
- Step 16. Enter the IP address of the SNMP monitoring server. This is the same IP address that was entered in Step 9 above.
- Step 17. Click Add.
- Step 18. Click Apply.
- Step 19. Click OK.
- Step 20. Restart the SNMP Service by right-clicking on it and selecting Restart.

6.28.5 Sub-procedure: Installing IAVA patches

Note: This sub-procedure has to be executed on JMPSSERVER1 and on JMPSSERVER2.

The procedure for installing IAVA patches is the same for virtually all updates. After double-clicking the executable, accept the license agreement and click Yes to update the system. There is no need to reboot after every update. Check the box next to the “Do not reboot” option, or click No when asked to reboot. Once all updates are installed, reboot manually.

6.29 Procedure: Enabling Automatic Group Starting in VCS 2.0 (Enterprise Only)

Note: This sub-procedure has to be executed on JMPSSERVER1 only.

- Step 1. Log on to the cluster using Veritas Cluster Manager by double-clicking the VERITAS Cluster Manager (Java Console) icon on the desktop.
- Step 2. After starting Cluster Manager, the first window that appears is Cluster Monitor. An inactive, gray panel for JMPS_Cluster appears in Cluster Monitor.
- Step 3. Click that panel to log on to and monitor the cluster.
- Step 4. In the Login window, enter a valid VCS user name and password. Click OK. Cluster Explorer window will open.
- Step 5. On the File menu, click Open Configuration. If Open Configuration is grayed out, the configuration file is already opened. Proceed to the next step.
- Step 6. From Cluster Explorer, click the JMPS_SRV_SHARE service group in the configuration tree.
- Step 7. On the Tools menu, click System Manager.
- Step 8. Check the Startup box for both JMPSSERVER1 and JMPSSERVER2.
- Step 9. Click OK.
- Step 10. From Cluster Explorer, click the JMPS_SRV_SQL service group in the configuration tree.
- Step 11. On the Tools menu, click System Manager.
- Step 12. Check the Startup box for both JMPSSERVER1 and JMPSSERVER2.
- Step 13. Click OK.
- Step 14. On the File menu, click Save Configuration.

JMPS Enterprise Server Configuration

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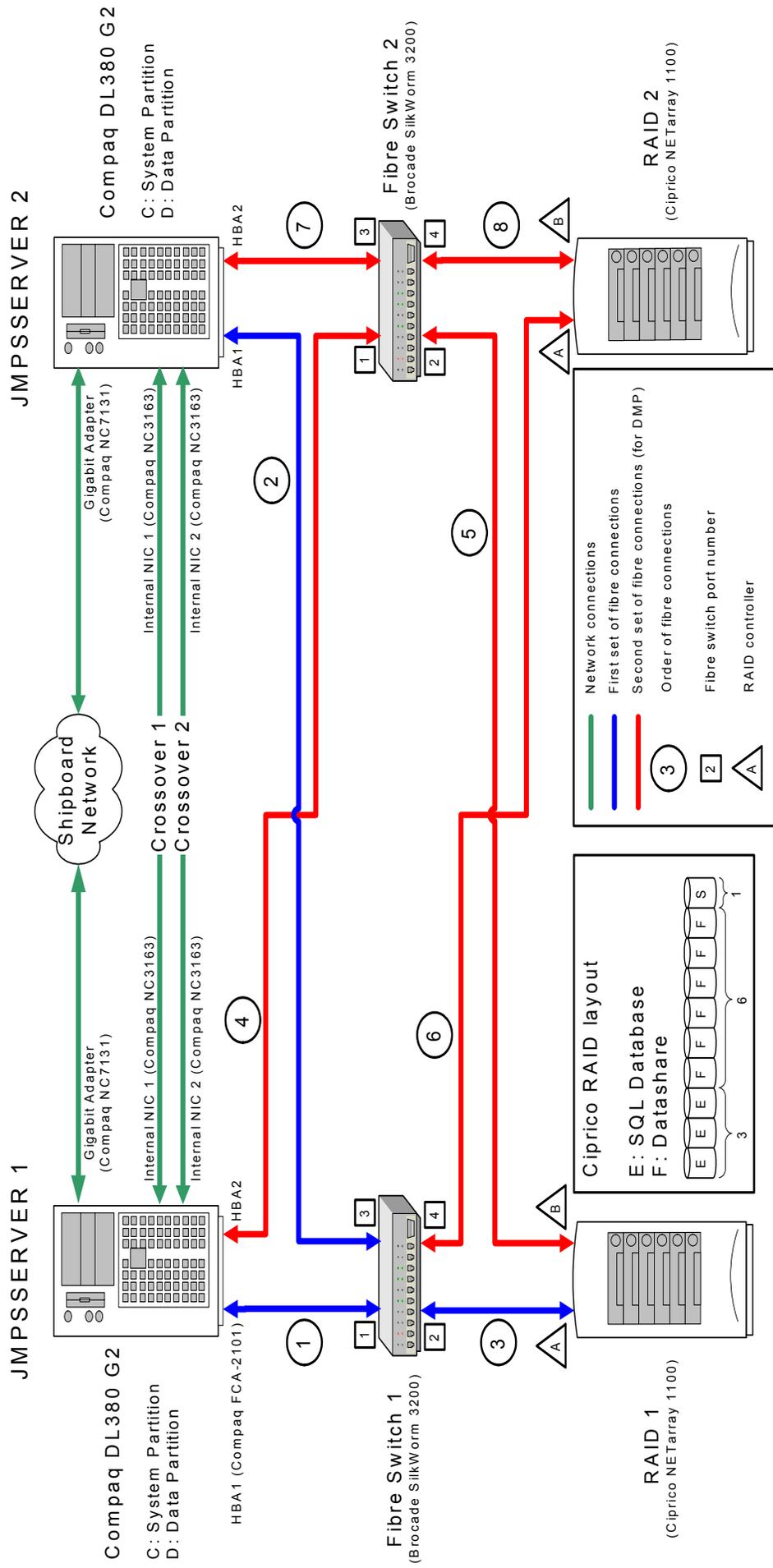


Figure 7 - JMPS Enterprise System Overview

6.30 Procedure: Adding Dynamic Multi-Pathing (DMP) Capability

6.30.1 JMPS Enterprise

NOTE

IN ORDER TO ENABLE DMP SUPPORT, APPROPRIATE FIBRE CHANNEL CONNECTIONS MUST NOW BE MADE TO PROVIDE REDUNDANT PATHS TO THE DUAL CIPRICO RAIDS. SEE THE DIAGRAM ABOVE FOR CONNECTION DESCRIPTIONS. AT THIS POINT, ONLY CONNECTIONS 1, 2, AND 3 SHOULD BE MADE. THEY WILL PROVIDE A SINGLE PATH TO THE FIRST CIPRICO RAID. PAY CAREFUL ATTENTION TO THE ORDER OF THE STEPS. INSTRUCTIONS MUST BE EXECUTED EXACTLY AS DESCRIBED HERE.

- Step 1. Ensure that the second Brocade Silksworm 3200 fibre switch is powered on. If it is not, power it on. It takes the switch approximately 4-5 minutes to perform self-testing and come online. Be patient.
- Step 2. Open Veritas Enterprise Administrator (VEA) on JMPSSERVER1. Server name, username and password will have to be entered again since Veritas Volume Manager has been updated in the last sub-procedure.
- Step 3. Expand jmpsserver1 in the left pane of the VEA window. Then expand the Disks folder. Click on Harddisk1.
- Step 4. Select the Paths tab in the right pane. This tab displays the paths to the selected disk. Only one path will be shown.
- Step 5. Right-click on the path and the path context menu appears.
- Step 6. Select Array Settings from the path context menu that comes up. The Array Settings window comes up. The Exclude checkbox is checked.
- Step 7. Uncheck the Exclude checkbox.
- Step 8. Under Load Balancing, select Active/Active if it is not selected by default.
- Step 9. Click OK.
- Step 10. Click on Harddisk2.
- Step 11. Select the Paths tab in the right pane. This tab displays the paths to the selected disk. Only one path will be shown.
- Step 12. Right-click on the path and the path context menu appears.
- Step 13. Right-click the path and select Array Settings from the path context menu that comes up. The Array Settings window comes up. The Exclude checkbox is checked.
- Step 14. Uncheck the Exclude checkbox.
- Step 15. Under Load Balancing, select Active/Active if it is not selected by default.

- Step 16. Click OK.
- Step 17. Make connections 4 and 5 according to Figure 7 above.
- Step 18. VVM should automatically recognize the second path to the disk array. If it does not, Select Actions → Rescan from the VEA menu bar. Volume Manager rescans the array and updates the display.
Note: If Volume Manager does not recognize the second path, it is possible that the connectors were reversed on the RAID controller. Reverse the connectors and try again.
- Step 19. Two paths should now be shown for both Harddisk1 and Harddisk2.
- Step 20. Make connection 6 according to Figure 7 above.
- Step 21. Select Actions → Rescan from the VEA menu bar. Volume Manager rescans the array and updates the display. Two more disks will be shown – Harddisk3 and Harddisk4.
Note 1: it is possible for the numbering to be slightly different. Harddisk5 and Harddisk6 may show up instead of Harddisk3 and Harddisk4. This is not an issue since the numbering will be reset after rebooting the server.
Note 2: If Volume Manager does not recognize the second path, it is possible that the connectors were reversed on the RAID controller. Reverse the connectors and try again.
- Step 22. Harddisk3 and Harddisk4 need to have signatures added to them. To add a signature to a disk right-click on the unsigned disk in the tree view. The Write Signature command appears in the context menu.
- Step 23. Select Write Signature from the context menu. The Write Disk Signature dialog box will appear. Select the disks that need a signature to be added to them – Harddisk3 and Harddisk4. To select a disk, click on it in the list of available disks and click the Add button.
- Step 24. Once the disks are selected, click the OK button. Click Yes to confirm. Once a signature appears on a disk, the disk will display as a basic disk.
- Step 25. Right-click on the dynamic disk group JMPS_SQL_GRP and select Import Dynamic Disk Group from the menu that appears. Click OK to import the dynamic disk group. The status should change to Imported
- Step 26. Import JMPS_SHARE_GRP in the manner similar to JMPS_SQL_GRP.
- Step 27. Right-click on Harddisk3 the tree view or the Disk View tab in the right pane.
- Step 28. In the context menu that comes up, select Add Disk to Dynamic Disk Group.
- Step 29. The Add Disk to Dynamic Disk Group wizard appears. Click Next to continue.
- Step 30. In the next screen, select Harddisk3 by clicking the Add button if Harddisk3 is not already selected. Select JMPS_SQL_GRP for the dynamic disk group name from the drop-down menu. Click Next.
- Step 31. A confirmation screen appears listing the selected disk. Click Next to continue if the disk selection is satisfactory, or choose Back to go back to modify the disk selection.
- Step 32. Click Finish in the final screen.

- Step 33. Right-click on Harddisk4 the tree view or the Disk View tab in the right pane.
- Step 34. In the context menu that comes up, select Add Disk to Dynamic Disk Group.
- Step 35. The Add Disk to Dynamic Disk Group wizard appears. Click Next to continue.
- Step 36. In the next screen, select Harddisk4 by clicking the Add button if Harddisk4 is not already selected. Select JMPS_SHARE_GRP for the dynamic disk group name from the drop-down menu. Click Next.
- Step 37. A confirmation screen appears listing the selected disk. Click Next to continue if the disk selection is satisfactory, or choose Back to go back to modify the disk selection.
- Step 38. Click Finish in the final screen.
- Step 39. Expand the Disks folder in the left pane of the VEA window. Click on Harddisk3.
- Step 40. Select the Paths tab in the right pane. This tab displays the paths to the selected disk. Only one path will be shown.
- Step 41. Right-click on the path and the path context menu appears.
- Step 42. Right-click the path and select Array Settings from the path context menu that comes up. The Array Settings window comes up. The Exclude checkbox is checked.
- Step 43. Uncheck the Exclude checkbox.
- Step 44. Under Load Balancing, select Active/Active if it is not selected by default.
- Step 45. Click OK.
- Step 46. Click on Harddisk4.
- Step 47. Select the Paths tab in the right pane. This tab displays the paths to the selected disk. Only one path will be shown.
- Step 48. Right-click on the path and the path context menu appears.
- Step 49. Right-click the path and select Array Settings from the path context menu that comes up. The Array Settings window comes up. The Exclude checkbox is checked.
- Step 50. Uncheck the Exclude checkbox.
- Step 51. Under Load Balancing, select Active/Active if it is not selected by default.
- Step 52. Click OK.
- Step 53. Make connections 7 and 8 according to Figure 7 above.
- Step 54. VVM should automatically recognize the second path to the disk array. If it does not, Select Actions → Rescan from the VEA menu bar. Volume Manager rescans the array and updates the display.
- Note: If Volume Manager does not recognize the second path, it is possible that the connectors were reversed on the RAID controller. Reverse the connectors and try again.*
- Step 55. Two paths should now be shown for both Harddisk3 and Harddisk4.
- Step 56. Restart JMPSSERVER1 and allow it to reboot fully before continuing.
- Step 57. Restart JMPSSERVER2 and allow it to reboot fully before continuing.
- Step 58. After both reboots, log into VEA on JMPSSERVER2. Server name, username, and password will have to be entered again since VVM has been updated.

Verify that two service groups and five hard disks are shown. It has been noted, that VVM does not always recognize multiple paths to the same array automatically. In that case, several more hard disks could be listed. To fix this, perform the following steps:

- a. Click on Harddisk1.
 - b. Select the Paths tab in the right pane. This tab displays the paths to the selected disk. One or two paths may be shown.
 - c. Right-click on Path 1 and the path context menu appears.
 - d. Select Array Settings from the path context menu that comes up. The Array Settings window comes up. The Exclude checkbox is checked.
 - e. Uncheck the Exclude checkbox.
 - f. Under Load Balancing, select Active/Active if it is not selected by default.
 - g. Click OK. At this point, all extra hard disks should disappear from the list. Only Harddisk0 through Harddisk4 will be shown.
 - h. Exit VEA on JMPSSERVER2.
- Step 59. Log into VEA on JMPSSERVER1.
- Step 60. Import both service groups.
- Step 61. Right-click on JMPS_SQL_VOL in the Volumes folder in VEA tree view on the left side of the screen.
- Step 62. Select Mirror → Add from the context menu. The Add Mirror dialog box will appear.
- Step 63. Auto-select Disks radio button will be selected along with Harddisk3 already shown in the right pane below.
- Step 64. Click OK to add the mirror.
- Step 65. Right-click on JMPS_SHARE_VOL in the Volumes folder in VEA tree view on the left side of the screen.
- Step 66. Select Mirror → Add from the context menu. The Add Mirror dialog box will appear.
- Step 67. Auto-select Disks radio button will be selected along with Harddisk4 already shown in the right pane below.
- Step 68. Click OK to add the mirror.

NOTE

This operation will take several days to complete. The disk array can be used during this time, although with reduced performance. The status of volume mirroring can be observed by clicking on the Tasks tab at the bottom of the main VEA window. DO NOT REBOOT JMPSSERVER1 OR MOVE SERVICE GROUPS FROM JMPSSERVER1 WHILE MIRRORING. If it is necessary to reboot or shutdown JMPSSERVER1, steps 59-68 will have to be executed again and mirroring will start from scratch. The process cannot be stopped and restarted. It must be allowed to proceed to completion before any server reboots service group operations.

- Step 69. Once the process completes, continue with the next procedure.

6.30.2 JMPS Enterprise Lite

NOTE

IN ORDER TO ENABLE DMP SUPPORT, APPROPRIATE FIBRE CHANNEL CONNECTION MUST NOW BE MADE TO PROVIDE A REDUNDANT PATH TO THE CIPRICO RAID. AT THIS POINT, ONLY A SINGLE CONNECTION SHOULD BE MADE FROM ONE OF THE FIBRE CHANNEL CARDS ON THE SERVER TO CONTROLLER A ON THE CIPRICO RAID. PAY CAREFUL ATTENTION TO THE ORDER OF THE STEPS. INSTRUCTIONS MUST BE EXECUTED EXACTLY AS DESCRIBED HERE.

- Step 1. Open Veritas Enterprise Administrator (VEA) on JMPSSERVER1. Server name, username and password will have to be entered again since Veritas Volume Manager has been updated in the last sub-procedure.
- Step 2. Expand jmpsserver1 in the left pane of the VEA window. Then expand the Disks folder. Click on Harddisk1.
- Step 3. Select the Paths tab in the right pane. This tab displays the paths to the selected disk. Only one path will be shown.
- Step 4. Right-click on the path and the path context menu appears.
- Step 5. Select Array Settings from the path context menu that comes up. The Array Settings window comes up. The Exclude checkbox is checked.
- Step 6. Uncheck the Exclude checkbox.
- Step 7. Under Load Balancing, select Active/Active if it is not selected by default.
- Step 8. Click OK.
- Step 9. Add the second fibre connection by connecting the bottom fibre channel card to controller B on the Ciprico RAID using an LC to SC cable. VVM should automatically recognize the second path to the disk array. If it does not, Select Actions → Rescan from the VEA menu bar. Volume Manager rescans the array and updates the display.
Note: If Volume Manager does not recognize the second path, it is possible that the connectors were reversed on the RAID controller. Reverse the connectors and try again.
- Step 10. Two paths should now be shown for both Harddisk1.

7 Technical Notes

7.1 JMPS System startup procedure

When fully configured, the system should be brought up in the following order:

Step 1. Turn on Brocade SilkWorm 3200 fibre switches. The switches take 5 minutes to initialize. Note: There is no On/Off switch. Switches start initializing as soon as they are plugged into the UPS/Power Supply.

Step 2. Turn on Ciprico RAID arrays. The arrays take 2 minutes to initialize.

Step 3. Turn on the first JMPS server. Server takes approximately 3-4 minutes to fully start. Note: In the Enterprise configuration, this is JMPSSV1.

Step 4. **(Enterprise Only)** Turn on the second server, JMPSSV2.

Step 5. Turn on the Iomega P410m NAS.

7.2 JMPS System shutdown procedure

Shutdown procedure is the reverse of the startup procedure.

7.3 Monitoring multiple SQL servers and MSDE databases from JMPS servers

It is possible to monitor multiple SQL servers and MSDE databases from any of the JMPS servers using the Microsoft SQL Server 2000 Enterprise Manager tool. Follow the following steps to add servers or MSDE databases that can be monitored:

Step 1. Go to Start → Programs → Microsoft SQL Server → Enterprise Manager.

Step 2. Expand Console Root → Microsoft SQL Servers → SQL Server Group

Step 3. One server, *JMPSSERVERNAME* \JMPS_SQL_SERVER will be listed there.

JMPSSERVERNAME is the name of the current JMPS server.

Step 4. Click on Action → New SQL Server Registration. A Register SQL Server Wizard will start.

Step 5. Click Next.

Step 6. Several *MACHINENAME* \JMPS_SQL_SERVER may show up in the available servers pane on the left. Double-click on the name of the client or server that needs to be monitored. The server will move to the added servers pane on the right.

MACHINENAME is the name of any client or server that is running Microsoft SQL server or MSDE database.

Step 7. Click Next.

Step 8. Select the default Connect using Windows account information and click Next.

Step 9. Select the default Add the SQL Server to an existing SQL Server group and click Next.

Step 10. Click Finish to add the server. A window stating that the server was registered successfully will come up.

Step 11. Click Close.

Step 12. Close the SQL Enterprise Manager console.

7.4 Monitoring multiple DNS servers from JMPS servers

It is possible to monitor multiple Windows 2000 DNS servers from any of the JMPS servers using the Microsoft DNS tool. Follow the following steps to add Windows 2000 DNS servers that can be monitored:

Step 1. Go to Start → Programs → Administrative Tools → DNS.

Step 2. Right-click on DNS in the left pane and select Connect to Computer ...

Step 3. In the Select Target Computer window that comes up, select The following computer check box and enter the name of a DNS server. This can be the second DNS server in the Enterprise configuration.

Step 4. Click OK. The second server will be added to the list in the left pane.

7.5 Forcing Veritas Cluster Server from the STALE_ADMIN_WAIT state

Occasionally, Veritas Cluster Server enters the STALE_ADMIN_WAIT state in which the service groups cannot be brought online. This situation occurs if both servers in the Enterprise configuration are rebooted at the same time or VCS configuration files are corrupted due to improper system shutdown or unsaved VCS configuration file. This state can be confirmed by entering “*hastatus*” in a command-line window. If the servers are operational, server status and service group status will be displayed. If the servers are in a STALE_ADMIN_WAIT state, this state will be displayed following the “*hastatus*” command. In order to force VCS to start, enter “*hasys -force JMPSSV1*” or “*hasys -force JMPSSV2*”. This will force VCS to start on one of the servers. Once VCS starts on one of the servers, the second server will automatically join the cluster.

Note: “hastatus” is a persistent monitoring command. In order to stop monitoring, enter Ctrl-C in the command-line window.

Note: “hasys” is a case-sensitive command. JMPSSV1 or JMPSSV2 must be in uppercase. Otherwise, a message will be shown stating that jmpssv1 or jmpssv2 do not exist.

7.6 Forcing Veritas Cluster Server to function on one node in case of failure of second node in the Enterprise configuration

If one of the two servers in the Enterprise configuration experiences a catastrophic failure, it will be necessary to start Veritas Cluster Server on the other working server. By default, VCS will not start unless both servers are up and running. Administrator can force VCS to start by entering the following commands on the working server:

Step 1. *hastop -all*

Step 2. *hastart -onenode*

Service groups can then be brought online.

7.7 Clearing CIPRICO Raid Configuration and Creating LUNs

TBD

Appendix A: Active Directory Schema changes

1. On JMPSSERVER1, copy the Upload directory from D:\Program Files\JMPS\Data directory to E:\data\local\JMPS\Data.
 - a. Use Windows Explorer to navigate to D:\Program Files\JMPS\Data
 - b. Right-click on the Upload directory and select Copy.
 - c. Navigate to E:\data\local\JMPS\Data.
 - d. Paste the file into that directory.
2. Click on the Start menu, go to Programs, Windows 2000 Support Tools, Tools, and select ADSI Edit
3. Expand ADSI Edit → Domain NC [<domain controller name>] → DC=<domain name> → CN=Computers
4. Also expand OU=Domain Controllers

Depending on the system (Enterprise, Enterprise Lite, or Pico), different servers must be set up. Follow steps (a) – (h) below for each system.

In case of Enterprise, configure CN=JMPSSERVER1 and CN=JMPSSERVER2 inside the OU=Domain Controllers. Also configure CN=VIRTUALJMPS inside CN=Computers.

In case of Enterprise Lite and Pico, configure just CN=JMPSSERVER1 inside OU=Domain Controllers

5. Perform the following steps for each server. Substitute server name for <JMPS server>.
 - a. When you find the JMPS Server, right-click on CN=<JMPS server name> and select Properties
 - b. For the “Select a property to view” field select mDBName
 - c. Verify that the Value field is showing “\\<JMPS server name>\DATA\configuration.mdb”. If not, in the Edit Attribute field type in “\\<JMPS server name>\data\configuration.mdb”, then click on the Set button
 - d. For the “Select a property to view” field select mDBUpload. The Value field will show “\\<JMPS server name>\DATA\Upload”
 - e. In the Edit Attribute field type in “\\<JMPS server name>\JMPSData\Upload”, then click on the Set button.
 - f. For the “Select a property to view” field select mDBLocation
 - g. In the Edit Attribute field type in some text that describes the location of the JMPS server, then click on the Set button
 - h. Click on the OK button