

SmartStart Scripting Toolkit Version 2.1

Troubleshooting Questions and Answers

Toolkit Utilities

Q1 Why doesn't the CONREP utility run?

A1 The Toolkit may not support some servers being deployed. The CONREP utility supports ProLiant ML, DL, and BL series servers only. For other HP servers (except CL and TaskSmart servers), use the Configuration Replication utility for pre-ML/DL servers (CF_REP). CONREP is not supported on HP TC model servers.

IMPORTANT: The Toolkit utilities must run from a bootable DOS diskette. The utilities do not function properly with DOS emulation in Microsoft Windows 95, Windows 98, Windows NT 4.0, Windows 2000, or Windows Server 2003. The utilities also do not function with DOS emulation in Red Hat Linux 6.2 or 7.0.

For an updated list of supported hardware, refer to the HP website at www.hp.com/servers/sstoolkit.

Q2 Are there any known limitations of the Array Configuration Replicator utility?

A2 The Array Configuration Replicator utility (ACR) is a command line version of the Array Configuration Utility (ACU), which is available on SmartStart. ACR creates the same volume sizes as those supported by ACU.

Q3 What is the maximum partition size that can be generated by the Disk Partition Creation utility?

A3 The maximum partition size is 4000 MB, set with the Disk Partition Creation utility (CPQDISK). Edit the UNATTEND.TXT file in Windows 2000 to extend the partition size.

Q4 Does the Toolkit support partition sizes that exceed 4 GB?

A4 The Toolkit is not limited to 4-GB partitions. CPQDISK is limited to creating 4000 MB (not to be confused with 4 GB) partitions. When reading the partition table from a drive greater than 4000 MB, CPQDISK limits the partition to 4000 MB and writes a note to the partition information file. To extend the partition size on a Windows 2000 or Windows Server 2003 server, insert the following entries into the UNATTEND.TXT file:

```
[Unattended]
ExtendOemPartition=1
FileSystem=ConvertNTFS
```

These entries increase the partition size to use the available disk space and convert the partition to the NTFS file system. Refer to the Windows 2000 or Windows Server 2003 documentation for details about these parameters.

NOTE: The Novell NetWare and Linux system volumes are created during the installation of the operating system.

Q5 Do the Toolkit utilities create an error log for each step?

A5 Most of the Toolkit utilities do not provide an error log option unless this option is specifically noted in Chapter 2 of the *SmartStart Scripting Toolkit User Guide*. However, using standard operating system redirector symbols, console feedback of the executable files run by the configuration script file can be sent to any file specified.

For example:

```
S:\CPQ\CONREP -L A:\DL380NT.HWR > A:\LOGS\DL380NT.LOG
```

This command creates the file DL380NT.LOG in the \LOGS subdirectory on the A drive and sends any console feedback generated by the command `S:\CPQ\CONREP -L A:\DL380NT.HWR` to the DL380NT.LOG file.

```
S:\CPQ\CPQDISK /R A:\DL380NT.PRT >> A:\LOGS\DL380NT.LOG
```

This command appends any console feedback generated by the command `S:\CPQ\CPQDISK /R A:\DL380NT.PRT` to the file DL380NT.LOG in the \LOGS subdirectory on the A drive.

Q6 Which Toolkit utilities generate error log files?

A6 The Array Configuration Replicator utility (ACR) and the Populate System Partition utility (PSYSPART) generate error logs.

See Chapter 2 of the *SmartStart Scripting Toolkit User Guide* at www.hp.com/servers/sstoolkit for the arguments required by the utilities to generate an error log.

Q7 Why does the SYSPART utility generate an error code 1?

A7 This issue occurs when the CPQDISK utility fails, causing the master boot record to be missing from the primary disk of the target server. To avoid this scenario, be sure that:

- No more than two partitions exist on the CPQDISK input file
- No semicolons are used to comment out a partition (use comments only at the top of the file)
- The primary partition does not exceed 4 GB

Q8 Can the Toolkit use the Virtual Floppy Drive of the Remote Insight Lights-Out Edition?

A8 The Toolkit Virtual Floppy utility (VFLOP) supports the Virtual Floppy Drive of the Remote Insight Lights-Out Edition (RILOE). See Chapter 2 of the *SmartStart Scripting Toolkit User Guide* at www.hp.com/servers/sstoolkit for information about the arguments accepted by VFLOP.

Q9 Why does the CDEJECT utility not work?

A9 Some CD-ROM drive models retract the CD tray after a specified time or after a system reboot. The CDEJECT utility is most effective on ProLiant servers with a Slimline CD-ROM drive, for which the tray remains open until you close it. Also, the utility may not work on some servers when using a Windows 98 boot diskette.

Q10 What causes the configuration process to stop running when it reaches the populate system partition step?

A10 The Populate System Partition utility lands all files on the system partition that may be required for system configuration or maintenance. Depending on the drive geometry, the size of the system partition (type 12) may need to be larger (40 MB is recommended). This is accomplished through the Disk Creation utility script file.

System Configuration

Q1 Does the Toolkit require the source and target servers to be similar?

A1 At a minimum, the source server should be the same as the target server.

When using CF_REP, the source and target servers must have their specific option cards in the same slots. Memory and processor types are not required to be the same. CF_REP produces a configuration script file that cannot be edited, so HP recommends that the source and target server configurations be similar.

When using CONREP, the configuration script file can be edited to match the target server within the constraints of CONREP parameters. This utility allows the source and target servers to vary, but also requires greater expertise with the Toolkit.

Q2 Does the Toolkit require only the bootable server configuration diskette and operating system CD? What happens when other CDs are needed for operating systems that span multiple CDs?

A2 Creating a custom installation CD or placing all of the installation files on a shared network drive are two methods of using the Toolkit. Swapping operating system CDs is required only when copying files to the shared network drive.

Q3 What are the requirements for placing HP drivers on the target server hard drive?

A3 For SmartStart Scripting Toolkit 1.7 and earlier, the Toolkit requires a specific directory structure on the source drive to populate the system partition correctly. The source drive must also contain all the system partition files from SmartStart 4.80 through SmartStart 5.5. The system partition files must be in the following subdirectories in the root directory of the source drive:

- \SYSCFG
- \DIAGS
- \DIFDATA
- \CPQSUPSW\ROMPAQ

The DOS SUBST command allows you to map a directory as a drive letter, thus enabling you to specify a directory other than the root to contain these subdirectories.

Q4 How many systems can the Toolkit configure before network performance is degraded?

A4 In addition to the Toolkit, many other factors affect network performance when deploying over a network connection. To avoid degrading network performance, HP recommends deploying to no more than 20 target servers on a network simultaneously. HP also recommends staggering the server deployments.

Q5 What are the main reasons for failure of the automated process to configure the target server correctly?

A5 Configuration failures are generally traced to errors in the server batch file. Be sure that the batch file is fully debugged before attempting a complete deployment of a target server.

In addition, check for these other common errors:

- After all the necessary device drivers are loaded, be sure that sufficient memory is available in the operating system environment to run the Toolkit utilities. The Toolkit utilities use the MS-DOS operating system, which is limited to 640 KB of addressable memory. Examples provided in the Toolkit for creating network-accessible disks may create situations where there is not enough free memory to execute the utilities in certain environments.
- If the server batch file uses DOS variables as input for the target server name, be sure that the variable is entered correctly throughout the batch file. Also, be sure that the correct server profile is passed to the DOS variable after the batch file runs.
- Be sure that the source and target servers are similarly configured before generating the server profile script files. If necessary, edit the server configuration script files so that they conform to the configuration present on the target server.
- If deploying a configuration to pre-ML/DL servers, use CF_REP to generate and deploy the hardware configuration data file.

CF_REP provides exact system replication only. When using CF_REP, the configuration of the target servers must match the configuration of the source server (except for memory and processor speeds and types) for the hardware configuration data file to work correctly.

Q6 When deploying to different servers with different options installed, is a boot disk required for each server type?

A6 The network boot disk settings do not need to change unless the NIC in the target server is different. If the configuration script file refers to specific subdirectories to find the location of the server-dependent configuration profiles, the script file must vary for each server. However, if DOS variables are used in the script file to define the location of the server-dependent files, then the script file must not change.

Q7 Why are Integrated Remote Console (IRC) user names and passwords not replicated onto target servers?

A7 For HP servers with IRC, CONREP cannot read the IRC user passwords from the IRC configuration file because IRC user passwords are write only. Consequently, IRC user passwords are not included in the CONREP script file.

When CONREP replicates the source server IRC configuration onto the target server, the IRC user passwords are not replicated. Use a standard text editor to add the IRC user passwords to the CONREP script file before replicating the source server configuration onto the target server.

If the target server is already configured, use the ROM-Based Setup Utility (RBSU) to enter the IRC user passwords into the IRC configuration space on the target server.

IMPORTANT: When the target server configuration is saved by RBSU, it disables the IRC function of the server if it detects the presence of user names, but no passwords. To prevent the loss of IRC functionality, enter the passwords into the IRC configuration of the target server before saving the configuration.

Q8 Is it possible to edit the partition configuration script file for target servers that do not need a system partition?

A8 Yes, the partition configuration file generated by CPODISK and the operating system-dependent unattended installation file control the partition settings. Refer to the documentation for each operating system for specific requirements.

Q9 Why is a slot error message generated when booting from a DOS network diskette on a server with multiple NICs?

A9 When using a server with more than one NIC port, the SLOT parameter in the *PROTOCOL.INI* file must be edited to the correct value. If the DOS NIC driver on the boot diskette detects more than one NIC, the following error is displayed:

```
Error: The driver detected multiple Compaq Ethernet or Fast
Ethernet NICs in PCI slots. Therefore, the slot parameter must
be specified exactly for each PCI driver instance and there
must be an adapter in the SLOT specified. The available slot
numbers will be displayed during the failed boot in the
following error message:
```

```
Use one value from the following list of PCI slot identifiers
as a value for the SLOT parameter of each PCI driver instance:
0x0008    0x00A8
```

The following is an example of a PROTOCOL.INI file before and after editing for the slot parameter value:

BEFORE:	AFTER:
[ms\$ne2clone]	[ms\$ne2clone]
drivername=N100\$	drivername=N100\$
; INTERRUPT=3	; INTERRUPT=3
; iobase=0X300	; iobase=0X300
; SlotNumber=1	Slot=0x0008

Q10 Why does the file copy freeze and connection to my Toolkit repository fail when using the integrated Gigabit NIC?

A10 To connect to the repository using the integrated Gigabit NIC, you must include the Microsoft SMARTDRV.EXE utility on your boot disk.

Q11 Why do I get the error "No DHCP Server found" when connecting to my repository when using the Compaq NC6770 Gigabit Server Adapter?

A11 The Compaq NC6770 Gigabit Server Adapter requires the NDIS2 driver v6.31 or later.

Operating System Installation

Q1 Does the Toolkit provide an interface for configuring the Windows NT 4.0 and Windows 2000 UNATTEND.TXT installation files?

A1 No. Instead, the Toolkit provides an example of a typical unattended installation file.

Information about configuring the UNATTEND.TXT file is available in the documentation of each operating system or in the following documents:

- Microsoft Windows NT Server 4.0 Resource Kit
www.microsoft.com/technet/treeview/default.asp?url=/technet/prodtechnol/winntas/reskit/default.asp
- Microsoft Windows 2000 Server Resource Kit
www.microsoft.com/technet/treeview/default.asp?url=/technet/prodtechnol/windows2000opro/reskit/default.asp
- Microsoft Windows 2000 Guide to Unattended Setup
www.microsoft.com/technet/treeview/default.asp?url=/technet/prodtechnol/windows2000opro/deploy/unattend/sp1unatd.asp

Q2 When Windows NT 4.0, Windows 2000, and Windows Server 2003 require an operating system key for installation, where is the key placed in the UNATTEND.TXT file?

A2 The operating system key for Windows NT 4.0, Windows 2000, and Windows Server 2003 is placed under the [unattended] section of the UNATTEND.TXT file.

Placing the operating system key in the unattended installation file is only necessary for operating system versions that do not have a site license.

Q3 What is GUIRUNONCE in the UNATTEND.TXT file and is it documented?

A3 GUIRUNONCE is a section of the Windows 2000 and Windows Server 2003 UNATTEND.TXT files. The GUIRUNONCE section contains a list of commands to be executed the first time a user logs on to the server after the graphical portion of the operating system setup process has completed. Each line enclosed in quotes specifies a command to be executed by the RunOnce Windows registry entry.

GUIRUNONCE functionality is documented in the Microsoft Windows 2000 Server Resource Kit available on the Microsoft website at

www.microsoft.com/technet/treeview/default.asp?url=/technet/prodtechnol/windows2000opro/reskit/default.asp

Q4 Why doesn't Windows NT 4.0 locate the correct Intel-based NIC drivers for the NIC in the target system?

A4 The Intel-based NIC drivers required by the ProLiant ML and DL servers supported by the Toolkit are not included in the original distribution of the Windows NT 4.0 Server operating system. Obtain the updated NIC drivers from the Web at

www.hp.com/support/files

Q5 The Windows 2000 or Windows Server 2003 installation does not create the boot partition on the target server. The deployment fails with an “Invalid System Disk” or “Could not find a place for the swap file” error message. What causes this?

A5 These errors indicate that either the local hard drive is too small (1 GB is recommended for a Windows 2000 installation, 2GB for Windows Server 2003), the system partition is too small, or the RAID controller on the target system is not supported by the operating system being deployed. Run the installation of Windows 2000 or Windows Server 2003 manually and press the **F6** key to specify the driver for the RAID controller.

Q6 Why doesn't the controller function when deploying servers with Red Hat Linux?

A6 Some hardware may require that specific parameters or patches be applied to the Linux kernel. For more information, refer to the Linux website at www.compaq.com/products/servers/linux/linux-drivers.html

Q6 Why doesn't Insight Manager XE 2.0 or XE 2.1 recognize cloned Windows NT servers configured with Norton Ghost or Altiris RapiDeploy?

A6 In the master image created by Ghost or Altiris, Insight Manager doesn't recognize the global user ID (GUID) key used to identify each server. Insight Manager XE 2.0 or XE 2.1 uses the GUID key located at HKEY_LOCAL_MACHINE\SOFTWARE\Compaq Insight Agent\Hostguid to identify servers. Delete this key from the master image **before** the image is created in Ghost or Altiris. When the cloned servers are booted, the agents create a new, unique key for each server.

Q7 Does the Toolkit provide an interface for configuring the NetWare 5.1 RESPONSE.NI unattended installation file?

A7 No. Instead, the Toolkit provides an example of a typical unattended installation file. Information about configuring the *RESPONSE.NI* file is available in the operating system documentation or in the *Automating the NetWare 5 Installation with a Response File* document, available on the Novell website: www.novell.com/documentation/lq/nw51/othr_enu/data/a2zj6s4.html

This document is also available as Technical Information Document number 10055290.

Q8 In NetWare 5.1 installations, can a system partition be defined by a CPQDISK partition entry other than [Partition0]?

A8 In a NetWare 5.1 installation, it is possible to have the system partition type 12h as part of an entry other than [Partition0] in the partition configuration script file. [Partition0] could then be defined as a boot partition type 6h, and the script file would be similar to the following text:

```
[General Parameters]
Overwrite=true

[Partition0]
Size=200
Type=6
Active=true

[Partition1]
Size=40
Type=12
Active=false
```

Defining partitions in this manner causes problems when using the SYSPART and PSYSPART utilities.

When the SYSPART utility is run to change the system partition from type 12h to type 6h to allow for system partition population with the PSYSPART utility, there will be two partitions of type 6h on the system. DOS recognizes the first partition of type 6h as the C drive and the second partition of type 6h as the D drive.

It is possible to populate the system partition by passing the correct destination drive argument to the PSYSPART utility. When the SYSPART utility is run a second time to convert the populated system partition back to a partition of type 12h, SYSPART will be unable to determine which partition must be converted. HP recommends that the system partition always be in the [Partition0] slot.

Q9 Does the Toolkit provide an interface for configuring the Red Hat Linux 7.1 and 7.2 ks.cfg unattended installation file?

A9 No. Instead, the Toolkit provides an example of a typical unattended installation file.

Information about configuring the *ks.cfg* file is available in the operating system documentation or in the *Red Hat Linux KickStart HOWTO* document, available on the following website:

www.linux.org/docs/ldp/howto/HOWTO-INDEX/index.html

Hardware Issues

Q1 Why is the ProLiant ML330 or ML350 server unable to boot from drives other than the A drive?

A1 This problem arises when the Sign Disk utility is used on these servers and the system ROM date is June 17, 2000 or earlier.

If a signed diskette is used on an ML330 or ML350 server with the system ROM date indicated, the server will not boot from any device other than the A: drive. An earlier signed diskette prevents the operating system from completing the installation. Instead, use an unsigned diskette. When the F1/F10 setup prompt displays during the first boot cycle, press the **F1** key to indicate to the system ROM that it should boot the unconfigured server. After the first boot, the server installs in an unattended fashion.

For the latest ROMPaq firmware upgrades for these servers, refer to the HP website at www.compaq.com/support/files/server/us/download/9094.html

Q2 Why does the Toolkit not function with a Smart Array 5300 Controller when upgrading from SmartStart 5.0 to 5.1?

A2 Three files must be updated to equip all of the 5x Array Controllers with Toolkit functionality. The first and second files, each called TXTSETUP.OEM, are located in the CPOW2K\%OEM%\\$1\%WIN_NT\$~.LS and CPOW2K\%OEM%\TEXTMODE folders. Under [SCSI], edit the entry for CPOCISSM to read as follows:

```
cpqcissm="Compaq Smart Array 5x Controller"
```

The third file, called UNATTEND.TXT, is found in the SERVERS folder. Under [MassStorageDrivers], edit the file to read:

```
"Compaq Smart Array 5x Controller"=OEM
```

Q3 Are there white papers that explain remote "headless" deployments with the Remote Insight Lights-Out Edition (RILOE) board and Windows 2000?

A3 Refer to the RILOE website at www.hp.com/servers/lights-out