

IBM System Storage DS8000 series Quick Code Reference

Software CDs and hardcopy documents included in the ship group

The IBM® System Storage™ DS8000® series ship group contains program code, utilities and documentation, and has five sets of media:

1. AIX® Recovery Base (1 CD and 1 DVD)
 - a. Bundle CD, PN 45W6494
 - b. AIX_Base DVD, PN 45W6495
 2. HMC Recovery Kit (Transformation Kit) (1 DVD, 2 CDs and 1 DVDr)
 - a. 242x HMC Base Recovery on DVD, PN 45W7904
 - b. HMC Extensions CD, PN 45W6417
 - c. HMC_ICAT_GUI DVDr, PN 45W6418
 - d. Configuration CD, PN 22R3950
 3. LPAR Recovery Update (1 DVD)
 - a. DVD Bundle, PN DVD751137
- Note:** Retain the first three media sets for use in recovery.
4. Host Attachment Kit (4 CDs)
 - a. Command Line Interface (DSCLI) for 242x CD, PN CL651193
 - b. Global Mirroring Utilities (GMU) CD 1 For ICKDSF & TSO Users CD, PN 45W0547
 - c. DS Open API support for Microsoft® Volume Shadow Copy Service for 242x/2107/1750 CD, PN VSS411209
 - d. IBM System Storage DS8000 series Storage Tier Advisory Tool Application CD, PN STAT651122
 5. IBM System Storage DS8000 Storage Manager Customer Information (1 CD, 4 hardcopy warranty and license documents, and a hardcopy of this document)

Note: The title is misleading. Most of the documents in this media set do not pertain to the IBM System Storage DS8000 series Storage Manager.

- a. IBM System Storage DS8000 Storage Manager Customer Information CD, PN 45W7864
- b. IBM Warranty Information hardcopy, PN 45W7866
- c. IBM System Storage DS8000 License Machine Code Agreement hardcopy, PN 45W1877
- d. IBM System Storage DS® Storage Manager License Information hardcopy, PN 45W7851
- e. IBM CIM Agent for DS Open Application Programming Interface 5.5 hardcopy, form number GC26-7929-03
- f. IBM System Storage DS8000 series Quick Code Reference, PN 45W7849

The following products and utilities are no longer provided as part of the ship group:

- CIM agent for the IBM System Storage DS Open Application Programming Interface

Note: The embedded CIM agent now comes preinstalled on the DS8000 series. The proxy CIM agent can be downloaded from the CIM agent Technical Support Web site: <http://www.ibm.com/servers/storage/support/software/cimdsopi/>

- IBM System Storage Multipath Subsystem Device Driver (SDD)

Note: SDD can be downloaded from the System Storage Multipath Subsystem Device Driver Technical Support Web site: <http://www-947.ibm.com/systems/support/supportsite.wss/selectproduct?brandind=5000033&familyind=5329528&continue.x=15&continue.y=8&oldbrand=5000033&oldfamily=5329841&oldtype=0&taskind=2&psid=sr>

Note: The IBM System Storage DS Storage Manager now comes installed on the Management Console.

The following documents are now referenced in the IBM System Storage DS8000 series Documentation section at the end of this document:

- IBM System Storage DS8000 series License Machine Code Agreement
- IBM System Storage DS8000 series Statement of Limited Warranty

IBM System Storage DS8000 series Customer Download Files

The ftp Web site ftp://ftp.software.ibm.com/storage/ds8000/updates/DS8K_Customer_Download_Files/ can be used to download the following programs and utilities:

- CLI (DS Command-Line Interface)
- GMU_Global_Mirroring_CD1
- SDD (IBM System Storage Multipath Subsystem Device Driver)
- StorageManager_ICAT_GUI
- Volume_Shadow_Copy_Service
- Storage_Tier_Advisor_Tool

IBM System Storage Technical Support

Visit the following Web sites for technical support and related information:

- IBM System Storage products:
<http://www.ibm.com/servers/storage>
- IBM System Storage DS8000 series Storage Server Technical Support:
<http://www.ibm.com/servers/storage/disk/ds8000/index.html>

DS CLI

The DS CLI CD contains the program code and documentation for the DS CLI. You can use the DS CLI to manage and perform both storage management and advanced copy services functions from the command line as well as manage and monitor basic copy services functions.

Program code

The DS CLI CD contains the following installation files for the DS CLI for supported host systems.

Table 1. Installation files for DS CLI

Supported host systems	Installation file name	Default directory for DS CLI
IBM AIX (5.1, 5.2, 5.3, 6.1)	\IMAGES\HMC\Disk1\InstData\AIX\NoVM\dsclisetup.bin	/opt/ibm/dscli
Hewlett-Packard-UX (11.0, 11i, v1, v2)	\IMAGES\HMC\Disk1\InstData\HPUX\NoVM\dsclisetup.bin	/opt/ibm/dscli

Table 1. Installation files for DS CLI (continued)

Supported host systems	Installation file name	Default directory for DS CLI
Linux® (Red Hat 3.0 Advanced Server [AS] and Enterprise Server [ES]), RHEL 4, RHEL 5	\IMAGES\HMC\Disk1\InstData\Linux\NoVM\dsclisetup.bin	/opt/ibm/dscli
SUSE Linux SLES 8, SLES 9, SUSE 8, SUSE 9, SLES10	\IMAGES\HMC\Disk1\InstData\Linux\NoVM\dsclisetup.bin	/opt/ibm/dscli
Sun Solaris (7, 8, 9)	\IMAGES\HMC\Disk1\InstData\Solaris\NoVM\dsclisetup.bin	/opt/ibm/dscli
HP Tru64 UNIX® (5.1, 5.1A)	\IMAGES\HMC\Disk1\InstData\HPUNIX\NoVM\dsclisetup.bin	/opt/ibm/dscli
Novell NetWare 6.5	\IMAGES\HMC\Disk1\InstData\Windows\NoVM\dsclisetup.exe	SYS:\IBM\dscli
Windows® 2000, Windows Datacenter, and Windows 2003, Windows Vista, Windows Server 2008 and Windows XP	\IMAGES\HMC\Disk1\InstData\Windows\NoVM\dsclisetup.exe	C:\Program Files\IBM\dscli
HP OpenVMS 7.3-1 (or later)	IBM-AXPVMS-DSCLI-xx-1.PCSI xx represents the CLI release version. This file is in the CD directory \IMAGES\HMC.	SYS\$SYSDEVICE:[VMS\$COMMON.IBMDSCLI...] Note: This is the default when logical name PCSI\$DESTINATION is not defined.
VMware ESX v3.0.1 Console	\IMAGES\HMC\Disk1\InstData\Linux\NoVM\dsclisetup.bin	/opt/ibm/dscli
IBM System i® i5/OS® 5.3	\IMAGES\HMC\Disk1\InstData\Windows\NoVM\dsclisetup.exe	/ibm/dscli

Notes:

1. For all host systems other than OpenVMS, you must remove any existing CLI (unless you plan to use an existing ESS 2105) from your host system before you install the new CLI code contained on this CD.
2. You must have Java™ 1.4.1 or later installed on your system. The installation program checks for this requirement during installation and does not install the DS CLI if you do not have Java 1.4.1 or later. The DS CLI installation CD contains Java 1.4.2, which you can install if your system does not have this version. The CD directory \IMAGES\HMC contains IBMJava2-JRE-1.4.2-0.0.i386.rpm, ibm-java2-jre-142.exe and jre14-20040626.tar.gz.
3. For an AIX installation:
 - The LIBPATH environment variable can interfere with the installation of the DS CLI and can result in the display of the Java Virtual Machine Not Found Error. To avoid this interference, you must disable the LIBPATH environment variable before you install the DS CLI. After the installation of the DS CLI, you must enable the LIBPATH environment variable so that it can be used with other applications.
 - Run the following commands to sequentially disable the LIBPATH environment variable, install the DS CLI, and restore the LIBPATH environment variable:

```
export LIBSAVE=$LIBPATH
```

```
unset LIBPATH
```

```
\IMAGES\HMC\Disk1\InstData\AIX\NoVM\dsclisetup.bin LAX_VM /opt/ibm-Java-whatever/java/bin/java
```

```
LAX_VM /opt/ibm-Java-whatever/java/bin/java
```

```
export LIBPATH=$LIBSAVE
```

```
unset LIBSAVE
```

4. For a System i model installation:

Note: The installation of DS CLI on a System i model is done remotely from a Windows platform. You cannot run the DS CLI installer directly on a System i model.

The System i model and i5/OS must meet the following requirements before the DS CLI can be installed:

- Prerequisites:
 - The latest Java group program temporary fixes (PTF)
 - i5/OS 5722-SS1 option 34 - Digital certificate manager
 - Licensed product 5722-AC3 option *base - Crypto Access Provider 128 bit
 - Licensed product i5/OS 5722-DG1option *base - IBM HTTP Server
 - Licensed product 5722-JV1 options 6 - Java Developer Kit 1.4
 - The latest cumulative PTF package that is installed on the i5/OS
- If you are installing onto a System i model, ensure that the workstation that you are installing from is network-attached to the iSeries[®] server.
- During the installation of the DS CLI application onto a System i model, you must provide the following information:
 - The name of the iSeries server to which you are installing the DS CLI application.
 - The user name and password that is used to access the designated iSeries server.
- When you install onto a System i model, a _uninst folder is created on the Windows desktop. Save this folder for uninstallation in the future.

5. Regardless of the operating system and DS series that you use, you must activate your license activation codes before you can use the CLI commands that are associated with Copy Services functions.

6. SNMP_README.txt and ibm2100.mib are in the CD directory \IMAGES\HMC\snmp.

DS CLI README Documentation

Review the README text file relevant to the operating system on which you plan to install the DS CLI. The Command Line Interface (DSCLI) for 242x CD contains the following documentation for installing the DS CLI and using the DS CLI commands:

Table 2. Documentation required for installing the DS CLI

Description	CD directory	File name
CLI readme file for supported host systems	IMAGES\HMC\ cliReadmes	README_NOVELL.txt README_OPENVMS.txt README_UNIX.txt README_WINDOWS.txt

Mount instructions for the Command Line Interface (DSCLI) for 242x CD

Perform the following steps to mount the CD on your host system:

Table 3. Procedure for mounting CDs

Host system	CD mounting procedure
HP Tru64 UNIX	<ol style="list-style-type: none"> 1. Log in to your host system as the root user. 2. Insert the DS CLI CD into the CD drive. 3. For a TRU64 V4.0F host system, enter the following command to mount the CD drive: mount -t cdfs -o noversion /dev/rzxx /mnt where <i>xx</i> represents the number of the CD devices. 4. For a TRU64 V5.0F host system, enter the following command: mount -t cdfs /dev/disk/cdrom0x /mnt where <i>x</i> equals the number of the CD devices
HP-UX	<ol style="list-style-type: none"> 1. Mount the CD to the SD_CDROM using the path name for your environment by issuing the following commands: ioscan -funC disk more mount /dev/dsk/c?t?d? /SD_CDROM
IBM AIX	<ol style="list-style-type: none"> 1. Log on to your host system as a root user. 2. Insert the DS CLI product CD into the CD drive. 3. Mount the CD drive using the <i>mount</i> command according to your system. You can mount your CD drive using the following examples: 4. Create a directory for the CD-ROM by entering the following command: mkdir /cdrom -p 5. Create a file system for the CD-ROM by entering the following command: crfs -v cdrfs -p ro -d cd0 -m /cdrom where <i>cd0</i> presents the CD-ROM drive. 6. At the command prompt, type the following command to mount the CD drive: mount /cdrom
Linux	<ol style="list-style-type: none"> 1. At the command prompt, type mount /dev/cdrom to mount the CD drive. 2. Type cd /mnt/cdrom to change to the CD-ROM drive.
Novell NetWare	Installation is run remotely from Windows. CD mounting is not required.
Sun Solaris	<ol style="list-style-type: none"> 1. Log in to your host system as the root user. 2. Type the following command to stop the volume manager: /etc/init.d/volmgt stop 3. Type the following commands to mount the CD: mkdir /mnt mount -F hsfs -r /dev/dsk/c0t6d0s2 /mnt Note: The device name <i>/dev/dsk/c0t6d0s2</i> is the default name for Sun Solaris. The device name may be different on your system depending on your hardware configuration.
Windows	<ol style="list-style-type: none"> 1. Log onto your host system as an administrator user. 2. Insert the IBM System Storage DS8000 series CDROM into the CDROM drive. 3. Run <i>\IMAGES\HMC\Disk1\InstData\Windows\NoVM\dsclisetup.exe</i> from the CD. 4. Select from the list of options when the launchpad displays.

Table 3. Procedure for mounting CDs (continued)

Host system	CD mounting procedure
OpenVMS	<ol style="list-style-type: none"> 1. Log on to your host system as a user with syslck, sysnam, sysprv (or a system UIC), tmpmbx, and cmkrnl privileges. 2. Insert the DS CLI CDROM into the CDROM drive. 3. For an IDE CDROM device DQA0, enter the following command to mount the CD drive: MOUNT /NOASSIST /OVERRIDE=IDENTIFICATION /MEDIA_FORMAT=CDROM DQA0 A message similar to the following is displayed: <div style="border: 1px solid black; border-radius: 15px; padding: 5px; margin: 5px 0;"> <pre>%MOUNT-I-WRITELOCK,volume is write locked %MOUNT-I-CDROM_ISO, : (1 of 1) , mounted on VMS1\$DQA0:</pre> </div> 4. For a SCSI CD device DKAnnn, enter the following command: MOUNT /NOASSIST /OVERRIDE=IDENTIFICATION /MEDIA_FORMAT=CDROM DKAnnn where nnn represents the number that is assigned by the OpenVMS system to your CDROM device.

Global Mirroring Utilities (GMU) CD 1 For ICKDSF & TSO Users

This CD contains two license documents and the code to install the rexx utility scripts that can be used to control a Metro Global Mirror configuration. These scripts use ICKDSF and TSO functions to control a Metro Global Mirror configuration. Management operations can involve hundreds or even thousands of volumes. These utilities are provided to assist in creating commands to manage large configurations.

Note: These utilities are provided as examples only. No support is offered; however, comments are welcome.

The CD includes the following files:

- License Information, Tool - Global Mirroring Utilities for ICKDSF Users, filename GC26-7644-02.pdf
- International License Agreement for Non-Warranted Programs, filename ilan.pdf
- setupV313.exe

Run setupV313.exe to install the Global Mirroring Utilities for ICKDSF & TSO Users.

DS Open API support for Microsoft Volume Shadow Copy Service for 242x/2107/1750

This CD is intended for system administrators who are familiar with the Windows environment and want to use the Volume Shadow Copy service with the IBM TotalStorage[®] ESS or IBM System Storage DS8000, DS6000[™] or SAN Volume Controller.

See README.txt on the CD for additional information such as late-breaking known limitations, new and previous feature support, and notices.

The CD includes the following files:

- README.txt
- IBM System Storage DS Open Application Programming Interface 5.4 Installation and Reference (GC35-0516-03.pdf)
- IBM System Storage SAN Volume Controller Software Installation and Configuration Guide (svc_configuide.pdf)
- IBMVSSVDS.exe

Run IBMVSSVDS.exe to install the DS Open API support for Microsoft Volume Shadow Copy Service for 242x/2107/1750.

IBM System Storage DS8000 series Storage Tier Advisory Tool Application

The DS8700 includes an enhancement called Easy Tier, which is an optional feature that is designed to determine the appropriate tier of storage based on data access requirements and then automatically and non-disruptively move data, at the sub-volume or sub-LUN level, to the appropriate tier. This feature is designed to reduce the amount of manual effort involved. In this new dynamic environment, data movement is seamless to the host application regardless of the storage tier in which the data resides.

Easy Tier provides a performance monitoring capability, regardless of whether the Easy Tier license feature is activated. Easy Tier uses the monitoring process to determine what data to move and when to move it when using automatic mode. You can enable monitoring independently (with or without the Easy Tier license feature activated) to provide information as to what behavior and benefits might be expected if automatic mode were enabled.

Data from the monitoring process is included in a summary report that you can download to a Windows® system. An application called the IBM® System Storage™ DS8000 series Storage Tier Advisor Tool allows you to view the data when you point your browser to that file.

Run \IMAGES\STAT\Disk1\InstData\NoVM\install.exe to install the Windows application (IBM® System Storage™ DS8000 series Storage Tier Advisor Tool).

IBM System Storage DS8000 series Documentation

Note: The documentation on the CD is in portable document format (PDF). You must install the Adobe® Acrobat Reader to view PDF documents. You can download a free version from the Adobe Web site at: <http://www.adobe.com>

The license documents noted below as being provided in hardcopy format are also included as PDFs on the CD. The latest versions of documents that have IBM form numbers are available on the IBM Publications Web site <http://www-05.ibm.com/e-business/linkweb/publications/servlet/pbi.wss>. You might want to review the current version of the relevant documentation before performing any installation and configuration tasks.

The following documentation is included on the IBM System Storage DS8000 Storage Manager Customer Information CD:

Table 4. Documentation included on the IBM System Storage DS8000 Storage Manager Customer Information CD

Title	Description	Part number	Form number	Comments
<i>IBM System Storage DS8000 Storage Manager Customer Information</i>	The CD-ROM contains customer publications for the DS8000 series.	45W7864	SK2T-8829-08	This is the CD that contains everything in the table rows below.
<i>IBM Warranty Information</i>	This publication provides translations of the IBM warranty statements for the IBM System Storage DS8000 series (all models).	45W7866		Hardcopy provided as part of the ship group.
<i>IBM System Storage DS8000 License Machine Code Agreement</i>	This publication provides the License Machine Code (LMC) Agreement between IBM and users of the IBM System Storage DS8000.	45W1877	GC26-7918-01	Hardcopy provided as part of the ship group.

Table 4. Documentation included on the IBM System Storage DS8000 Storage Manager Customer Information CD (continued)

Title	Description	Part number	Form number	Comments
<i>IBM System Storage DS Storage Manager License Information</i>	This publication provides the license agreement information for the use of the IBM System Storage DS Storage Manager.	45W7851	GC26-7928-02	Hardcopy provided as part of the ship group.
<i>IBM CIM Agent for the IBM System Storage Application Programming Interface License Information</i>	This publication provides the license agreement information for the use of the Common Information Model Agent for the IBM System Storage Application Programming Interface.		GC26-7929-03	Hardcopy provided as part of the ship group.
<i>IBM System Storage DS8000 Introduction and Planning Guide</i>	This publication introduces the DS8000 product and lists the features that you can order. It also provides guidelines for planning the installation and configuration of the storage unit.		GC35-0515-12	
<i>IBM System Storage DS8000 Host Systems Attachment Guide</i>	This publication provides guidelines for attaching the DS8000 to your host system.		SC26-7917-04	
<i>IBM System Storage DS8000 Command Line Interfaces User's Guide</i>	This publication describes the commands that you can use from the command-line interface (CLI) for managing your DS8000 series configuration and Copy Services relationships.		GC53-1127-04	
<i>IBM System Storage DS Open Application Programming Interface Reference</i>	This publication provides reference information for the IBM System Storage DS application programming interface (API) and provides instructions for installing the Common Information Model Agent, which implements the API.		GC35-0516-06	
<i>IBM System Storage Multipath Subsystem Device Driver User's Guide</i>	This publication describes how to use the IBM Subsystem Device Driver (SDD) on open-systems hosts to enhance performance and availability on the DS8000 series.		GC52-1309-02	
<i>IBM System Storage Notice Regarding Storage Encryption</i>	By making use of an Encryption Machine, you acknowledge, on behalf of your enterprise, that you have read this notice, understand the risks of using an Encryption Machine described herein, and accept the IBM disclaimers as set forth in this document.	45W6389	GA32-0642-01	

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