

# StorageWorks™

Getting Started with  
Command Console

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November, 1996

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# Contents

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<b>INTRODUCTION.....</b>	<b>1</b>
<b>PROGRAMS.....</b>	<b>1</b>
<b>FEATURES.....</b>	<b>1</b>
<b>CONNECTION OPTIONS.....</b>	<b>2</b>
<b>GETTING STARTED .....</b>	<b>4</b>
STEP 1: INSTALLING THE ADOBE READER .....	5
STEP 2: ACCESSING THE DOCUMENTATION .....	6
STEP 3: READING THE RELEASE NOTES .....	7
STEP 4: CHOOSING A CONNECTION TYPE .....	8
STEP 5: INSTALLING THE CLIENT PROGRAM .....	9
STEP 6: INSTALLING AND CONFIGURING THE AGENT PROGRAM .....	10
Installing an Agent .....	10
Special Windows NT Installation Instructions.....	11
Special UNIX Agent Installation Instructions.....	11
Special Digital OpenVMS Alpha Agent Installation Instructions .....	12
Installing Additional Agents .....	13
Agent Documentation for Alpha® Platforms.....	13
<b>USING COMMAND CONSOLE.....</b>	<b>14</b>
Starting Client with Network Connections.....	14
Starting Client with a Local Connection .....	14
Uninstalling Command Console .....	14
More Information .....	14



## Introduction

Command Console is a feature-rich, graphical user interface (GUI) and remote management program for StorageWorks controllers. It provides an extremely user-friendly method of monitoring, configuring, and troubleshooting a large number of storage subsystems.

Command Console can be connected to your StorageWorks controller in several ways. Once connected, the program issues commands and interprets the responses sent by the controller. The user interface displays the logical and physical layout and status of a selected subsystem in graphical form.

## Programs

Command Console consists of two programs:

- Command Console Client is the graphical user interface portion of Command Console. Client runs on a local system with either Microsoft Windows 95<sup>®</sup> or Windows NT<sup>®</sup>. You can connect Client to your storage subsystems using either local or network connections.
- Command Console Agent is a companion program that runs on your host systems. Agent enables Client to communicate with your storage subsystems over a network. Agent is available for a variety of popular host operating systems.

In short, Command Console is your remote, graphical window into the operation of your storage subsystems!

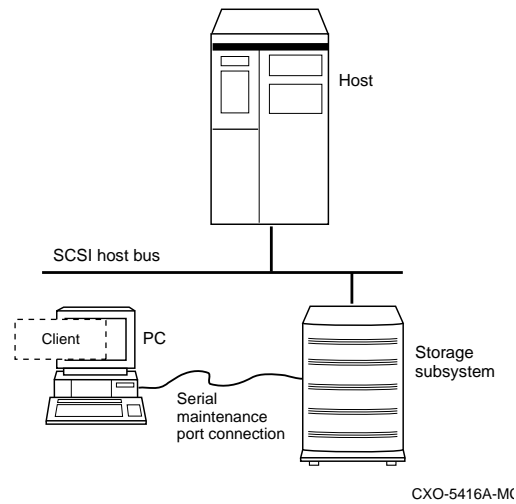
## Features

- Direct, serial port connection
- Host port SCSI bus virtual terminal connection
- Network connection via TCP/IP protocol. Both TCP/IP and SNMP fault notification protocols.
- Graphical view of the controller and its physical and logical storage elements
- Easy, graphical configuration of the storage system
- High and low-level status monitoring of the storage subsystem using colored icons
- Remote fault notification by pager
- Remote fault notification by e-mail (UNIX-based Agents only)
- A controller firmware download facility.
- Automatic event logging in Windows NT 3.51
- User and feature access protection

## Connection Options

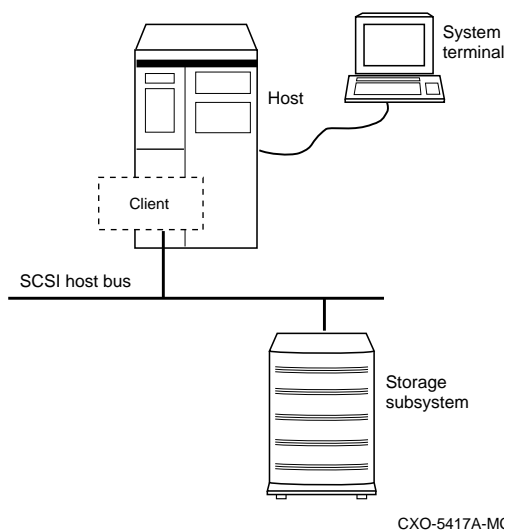
You can connect Command Console to your storage subsystems in three ways:

### Direct Serial Port Connection



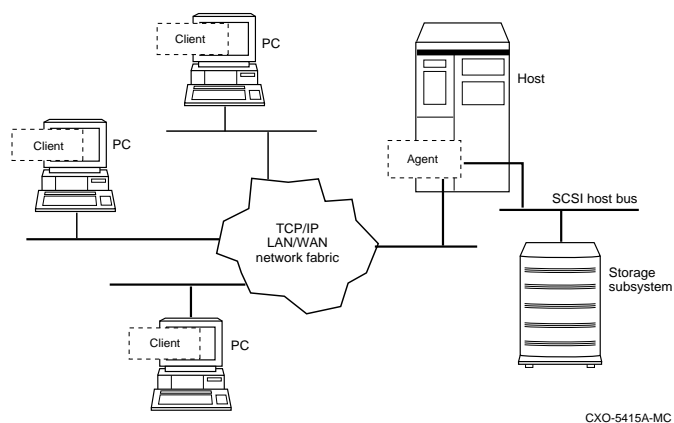
The simplest connection to the storage subsystem is a direct, cable connection from the local system running Command Console Client to one of the subsystem controller's serial maintenance ports.

### Host-Bus SCSI Connection



You can connect to your storage subsystem using the host SCSI bus by running Command Console Client on your host system.

## Network Connection



Command Console has sophisticated networking capabilities. If the local system you are running Client on has a TCP/IP network connection, you can connect the program to your storage subsystem via the network. To connect this way, you must run the Command Console Agent program in your host.

Agent acts as Client's assistant in controlling your storage subsystem. Commands sent from Client are received by Agent and are routed to the storage subsystem via the subsystem's SCSI host bus. Subsystem status is transmitted back to Client from Agent via the network connection. Agent can also be used for access protection.

You can run up to 32, concurrent, Client stations at a time. You can connect concurrently to up to 128 host systems, each with up to 32 storage subsystems for a maximum of up to 4096, concurrent, subsystem connections.

Using a network connection, you can configure and monitor your storage subsystem from anywhere on your LAN. If your LAN has WAN or Internet connectivity, you can monitor your subsystem with TCP/IP network reliability from anywhere in the world.

## Getting Started

Follow these simple steps to install Command Console:

1. Install the Adobe Acrobat Reader, so that you can view the documentation on the accompanying CD-ROM.
2. Access the documentation on the accompanying CD-ROM.
3. Read the release notes on the CD-ROM.
4. Choose either a local or network connection for Client.
5. Install the Client software on your local system.
6. If you chose the network connection method, install the Agent software in your host(s).

The following sections provide you with detailed information on how to complete each step.



## ***Step 1: Installing the Acrobat Reader***

The CD-ROM that accompanies this booklet contains your Command Console programs along with complete, on-line information about them. Much of the information is presented in Adobe Acrobat format, and you must install the Acrobat Reader to access it. Here's how to install the Reader:

1. Place the Command Console CD-ROM in your local system's CD-ROM drive.
2. In Explorer or File Manager, open the \ACROREAD directory.
3. Double click the *ACROREAD.EXE* file. The Acrobat Reader setup program begins, prompting you for basic installation information.
4. Enter the appropriate information in response to the prompts.
5. Your Acrobat Reader is installed!

Note that you cannot install the Acrobat Reader on a Digital Equipment Corporation Alpha® Windows NT system. If you're running Agent programs on an Alpha system and wish to view the Agent documentation locally, it's provided in Word for Windows® format in the \DOCS subdirectory on the CD-ROM.

## **Step 2: Accessing the Documentation**

To use the Acrobat Reader, double click the Acrobat Reader icon in the Adobe Acrobat program group, or access the Reader from the Start menu, as appropriate for your operating system.

Use the File menu's Open option to open the \DOCS directory on the CD-ROM. You can select any file ending with ".PDF" to view. The following table shows the file names of the documents in the \DOCS directory:

Document	File name ends in...
Release Notes	...RNx.PDF
Software Product Description	...SDx.PDF
Getting Started (the document you are reading now)	...GSx.PDF
Windows NT Agent User Guide	...INUGx.PDF
Digital UNIX Agent User Guide	...DUUGx.PDF

Once you've installed Client, you can also access its Windows<sup>®</sup> Help information. The on-line help includes detailed information on the installation, configuration, and use of Command Console.

***Step 3: Reading the Release Notes***

You'll find an on-line version of the release notes in the \DOCS directory on the CD-ROM. Look for the file name ending with the letters "...RNx.PDF".

View the notes with your Acrobat Reader to familiarize yourself with any last-minute issues that came up as the product was being released.

***Step 4: Choosing a Connection Type***

Choose either a local or network connection type for the connection between Client and your storage subsystems. Keep your decision in mind as you determine whether or not to install Agent programs.

## Step 5: Installing the Client Program

Before you can install Client, make sure that the system you'll be installing it on meets the following minimum requirements:

Architecture	Intel® 486/66 MHz, 16 MB memory, 10 MB free disk space, CD-ROM drive
Operating system	Windows NT 3.51 (build 1057 or later) or Windows 95 (build 950 or later)
Monitor	15" VGA
Input devices	Keyboard, mouse
Modem	Hayes-compatible
SCSI adapter (for local connection via host bus only)	fast/wide/differential ( for StorageWorks 6-port controllers) OR fast/wide/single-ended (for StorageWorks 2-port controllers)
Serial port (for connection via serial port only)	standard, PC serial port capable of at least 9600 baud.
Network adapter	TCP/IP-compatible network card (for network connection only)
Controller compatibility	StorageWorks 2 or 6-port controller running operating firmware Version 3.0 or higher.

If your local system meets the minimum requirements, install the Client program as follows:

1. Place the Command Console CD-ROM in your local system's CD-ROM drive.
2. In Explorer or File Manager, open the \CLIENT directory.
3. Double click the *INSTALL.BAT* file. The Client installation program begins, prompting you for a directory in which to install Client.
4. Enter the appropriate information in response to the prompts. The install program completes the installation.

In Windows NT, the program installs a Command Console program group with two icons. In Windows 95, it installs a Start menu item.

Ignore any messages warning about the replacement of existing files.

5. If you're installing in Windows 95, close the remaining MS-DOS window by double clicking the icon in the upper right-hand corner of the window.
6. Your Client program is installed!

## Step 6: Installing and Configuring the Agent Program

Agent is Client's network assistant. You'll need one Agent program running on each host system you wish to connect to Client over the network. The Agent installation program installs the Agent program of your choice at the host system of your choice.

The following installation instructions cover Agents for all operating systems. Ignore any information that does not apply to the Agent you wish to install.

### NOTES

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You can install a Windows NT Agent only locally and only on a host system with a CD-ROM drive.

You can install an Agent for any other operating system only to a remote host system and only from a Windows NT system with a CD-ROM drive.

You can run the Agent installation program on either Intel® or Digital Equipment Corporation Alpha® Windows NT platforms.

### Installing an Agent

Here's how to install an Agent in one of your host systems:

1. Your host's system resources must meet the minimum requirements to run the Agent program you wish to install. The minimum system requirements for each Agent type are listed in its user guide on the accompanying CD-ROM. Before going on, verify that each of your host systems will support the Agent you wish to install.
2. Before you can install an Agent, at least one logical volume must exist on each storage subsystem you wish to connect to. If your subsystems do not each contain at least one volume, use your operating system utilities to connect to your controller's command line interpreter (CLI) interface to create one. Subsystems without at least one logical volume are invisible to Agent and the host operating system.
3. Place the Command Console CD-ROM in your local system's CD-ROM drive.
4. Open the \AGENTS subdirectory in File Manager.
5. Double click the *INSTALL.BAT* file.

The installation program begins, displaying a series of windows in which you must enter configuration information for your Agent.

6. Enter the appropriate information in each window, until you have completed the installation of your Agent.

Click the *Info* button on any window for helpful information on its use.

If you are installing an Agent on a host system running Windows NT, be sure to read the "Special Windows NT Agent Installation Instructions" below for more information.

If you are installing an Agent on a host system running a type of UNIX be sure to read the special instructions included in some *Info* windows. See "Special UNIX Agent Installation Instructions" below for more information.

If you are installing an Agent on a host system running Digital OpenVMS® Alpha®, be sure to read the special instructions included in some *Info* windows. See “Special Digital OpenVMS Alpha Agent Installation Instructions” below for more information.

### ***Special Windows NT Installation Instructions***

If you installed an Agent with a *Service Startup Type* of *Manual*, you’ll need to restart Agent manually each time you boot its host system. If you selected the *Automatic* type, your agent starts automatically when you boot the host system.

In either case, you must manually start Agent after you first install it.

To manually restart Agent, perform the following actions:

1. Click on the Control Panel icon to open it.
2. Click the *Services* icon.
3. Click *Steam*.
4. Click *Start*.

Your Windows NT Agent starts and executes as a background task.

### ***Special UNIX Agent Installation Instructions***

When you run the Agent installation program from Windows NT, and you select a UNIX-based Agent type, the program performs the installation over the network. You must have access to the superuser (root) account on the remote host, and your local system must have network access to the remote system.

The installation program prompts you for the remote host’s name, along with your personal user name and password. It then uses the file transfer protocol (FTP) to transfer the Agent files to the remote host’s */tmp* directory. When the files are transferred, the program opens a separate Telnet window on your local system. You must use the Telnet window to complete the remaining steps of the Agent installation.

Perform the following actions in the Telnet window to complete your Agent installation. Use the special instructions included with the text-based prompts for assistance as you go along.

1. Log on to the remote host system using your personal user name and password.
2. Enter “su” and the superuser password to become superuser.
3. Enter “cd /tmp” to change your working directory to the */tmp* directory containing the Agent software.
4. Enter “sh install.sh” to start the UNIX, Bourne-shell installation script.
5. Follow the text-based prompts to complete your UNIX Agent installation.

Your UNIX-based Agent is installed as a background task, and it automatically runs at all times once it is installed.

### ***Special Digital OpenVMS Alpha Agent Installation Instructions***

When you run the Agent installation program from Windows NT, and you select the OpenVMS Agent type, the program performs the first part of the installation process over the network. You must have access to the system account on the remote host, your local system must have network access to the remote system, and the remote host must have Digital TCP/IP Services for OpenVMS installed and configured for FTP and Telnet service.

The installation program prompts you for the remote host's name, along with your personal user name and password. It then uses the file transfer protocol (FTP) to transfer a compressed set of installation files named "DEC-AXPVMS-SWCC-Vxxx-xx.PCSI" to the remote host's SYSS\$MANAGER: directory.

When this file is transferred, the program opens a separate Telnet window on your local system. You must use the Telnet window to complete the remaining steps of the Agent installation.

#### ***Using the Telnet Window to Complete Your VMS Installation***

Perform the following actions in the Telnet window to complete your Agent installation. Use the special instructions included with the text-based prompts for assistance as you go along.

1. Log on to the remote host system using the *system* user name and password.
2. Run the Agent installation program at the host. At a DCL prompt, enter "PRODUCT INSTALL SWCC /SOURCE=[]".
3. Follow the text-based prompts. Use the default value for each option.
4. Agent is now installed on your host.

#### ***Configuring Your VMS Agent Using the Telnet Window***

Once Agent is installed on your host, you must configure it. Using the Telnet window, run the configuration program by entering "@SYSS\$MANAGER:SWCC\_CONFIG" at the DCL prompt.

When you run the configuration program on a newly installed system, the program prompts you for the following information:

- The names of Clients authorized to access the Agent, the Clients' access privileges, and the type of notification to be used in the event of a change in storage subsystem status.
- The names and OpenVMS device specifications of the storage subsystems you wish to connect to the Agent, along with a time interval to be used by the Agent when monitoring each subsystem.  
Note that subsystem names are arbitrary and are only used by the Client as a way to reference specific subsystems. The OpenVMS device specification, however, must refer to a valid "DK" device on a directly attached 2 or 6-port controller. (As mentioned previously, at least one such device (that is, logical volume) must exist on each system before you can operate your Agent.)
- A 4–16 character password to be used by Clients to access this Agent and its associated subsystems.
- The method by which your Agent is to be started. You can choose to immediately start your Agent from the configuration program, to activate it automatically each time the host is



booted, or to run it as an auxiliary service of UCX. The UCX Service option is the default, and it starts the Agent on demand when any Client accesses the Agent.

Note that your Agent is available on all the nodes in your cluster. After installation, however, you must individually configure the Agent on each node on which it is to run. Storage subsystems to be accessed by an Agent on any particular node must be directly attached to that node. Subsystems that are directly attached to two nodes can be accessed by either node, but not simultaneously. Time sharing is enforced automatically by OpenVMS cluster locking.

### ***Installing Additional Agents***

You may want to install Agents on your other host systems. To install more Agent programs, simply repeat the procedure above, using the appropriate host system name and Agent type for each session.

### ***Agent Documentation for Alpha® Platforms***

If you're running the Agent installation program on a Digital Equipment Corporation Alpha® Windows NT platform, you cannot install the Acrobat Reader. The \DOCS subdirectory on the CD-ROM contains Agent user guides in Word for Windows format for use in this situation.

## Using Command Console

Once you've installed the program, you'll want to learn how to start it and use it.

### ***Starting Client with Network Connections***

To start Command Console Client using network connections to your storage subsystems, double click the Command Console icon in the Command Console program group in Windows NT or the Command Console Start menu entry in Windows 95.

You can also use the following command line at a Windows NT or Windows 95 command prompt to start Client for use with network connections:

```
\path_to_client_directory\swcc.exe -d your_host_system your_host subsystem
```

where “-d *your\_host\_system your\_host subsystem*” is an optional set of parameters that enables you to specify a host system and a subsystem to start Client with. If you specify these parameters, Client opens with the host system selected and the subsystem displayed in the Subsystem Window. If Client is not already aware of the system and subsystem, it adds them to the Navigation Window.

If you start Client without the parameters, it runs with its existing system and subsystem configuration.

### ***Starting Client with a Local Connection***

You can also use the following command line at a Windows NT or Windows 95 command prompt to start Client for use with a local connection:

```
\path_to_client_directory\swcc.exe direct
```

Client starts and executes with menu options and other functionality adjusted for connection to a single subsystem via serial or SCSI host bus connection.

### ***Uninstalling Command Console***

To uninstall Client, click the Remove Command Console icon in Windows NT. In Windows 95, use the Add/Remove Programs utility in the Control Panel.

To uninstall an Agent, see the Agent's on-line user guide on the accompanying CD-ROM.

### ***More Information***

This document is provided only to get you started in using Command Console. Most of the information you will need to use the program is contained in the on-line documentation. Read Client's on-line help for detailed instructions on configuring and connecting Client to your subsystems. Read the user guide for each Agent type for more Agent information.