



# Software Product Information

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**PRODUCT NAME: clearVISN Version 3.0 - Web Suite**

**9033113  
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## **Description**

The Web Suite is a set of network management applications designed to manage the Cabletron SmartSwitch 6000, DIGITAL MultiSwitch 700, DIGITAL MultiSwitch 900, and DIGITAL MultiSwitch 600-series modules when installed in a DIGITAL MultiSwitch 900. Version 5.0.10 of the DEChub Consolidated Firmware kit is required for the Web Suite to operate properly with the DIGITAL MultiSwitch 900 chassis and modules. This kit is included on the clearVISN CD-ROM.

The Web Suite contains the following applications:

- MultiChassis Manager, Version 7.0
- LAN Interconnect, Version 7.0
- Administration Utility, Version 3.0
- Flash Loader, Version 3.0
- Spanning Tree, Version 1.0
- Find Address, Version 1.0

The Web Suite is invoked from within a browser. Java applets are loaded from the web server, where the suite was installed, and communicate back to the server using HTTP. The server then communicates to the device being managed using the Simple Network Management Protocol (SNMP). Applications can be launched directly from the browser by typing in the appropriate URL.

Both the web server and the web browser components can be run on the same computer. If Windows 95 or Windows 98 is used as a clearVISN server, you cannot have more than two clients at a time active against that server. If the client is run on the same Windows 95 or Windows 98 computer as the server, then only that client can be active.

**Note:** The Windows Suite MultiChassis Manager, Version 6.3 (a non-web application) is included with clearVISN. You use the Windows Suite to manage the DEChub 90, DIGITAL MultiStack, MultiSwitch 600, and GIGAswitch devices. Refer to the Windows Suite Software Product Information sheets (SPIs).

## **clearVISN Web Suite Main Window**

After login, the clearVISN Web Suite main window appears. This window is empty until you add devices to the Device Database using the Administration Utility. After you add devices to the Device Database, a navigation tree of the devices is displayed. The clearVISN Web Suite main window allows you to expand any chassis or group in the navigation tree to see its components. When you select a device, the applications supported for that device are highlighted. Applications not supported for that device are grayed out.

The graphical user interface (GUI) allows you to configure Cabletron SmartSwitch 6000, DIGITAL MultiSwitch 700s, and DIGITAL MultiSwitch 900s; and to examine the status and activity of modules in these product families. To aid in understanding the Web Suite, an animated Web Tour is included on the clearVISN CD-ROM. There is also context-sensitive help, and extensive online help for every window.

## **Administration Utility**

The Administration Utility allows network managers to maintain a collection of data about manageable devices and authorized users on the network. The Administration Utility main window has dbAdmin, SNMP Logging, and File Admin tabbed dialogs. Users must have appropriate privileges set to access the tabbed dialogs. Browser security requires that all files are written to the server and not to your local directory. To access files, you must copy them from the server to your local client machine. Note that you can only view files in the directory on the server that corresponds to your user name.

The Administration Utility allows you to perform the following:

- Add users
- Set up accounts and privileges
- Add devices to the database
- Enable SNMP and event logging
- Access files, that you created, from the clearVISN server

## Database Administration (dbAdmin)

The Database Administration Utility allows you to perform the following:

- Manage the database of device information. You can add devices and groups, view existing information about devices, override default information, and make necessary device changes in the Administer Devices window. Click **Devices** to access the Administer Devices window.

For example, you add a chassis device, click Discover, and the devices in each slot of the chassis are displayed. For this operation to work, the device must be network accessible. Discover is also useful for learning data about non-chassis network devices such as the system descriptor.

The results of the add and discover are displayed as a hierarchical tree in the left view with detailed data about the selected device in the right view.

- Set default values that are applied to all new user accounts in the Defaults Setup window. Click Defaults to access the Defaults Setup window.
- Setup new user accounts, grant user privileges, and override the default values set in the Defaults Setup window, if necessary in the Administer Users window. Click Users to access the Administer Users window.

The left side of the window displays a user tree. The right side of the window displays the Properties and Devices tab dialogs that let you enter and change information about users. The information you enter in the Administer Users window determines which devices and applications are displayed in the navigation tree and accessible to a user. Users do not see devices for which they have no privilege.

## MultiChassis Manager

To access MultiChassis Manager, you select the device that you want to manage in the clearVISN Web Suite main window and click Manage Device.

For example, if you selected the DIGITAL MultiSwitch 700 chassis, the typical manageable components would be a Front Panel view, a port redirection view, an environment view representing power supply status, and a list identifying each module in the chassis. Each module can be further expanded to display its manageable components. There is an entry for each separate configuration window - typically Filtering, Spanning Tree, Config, Port summary, Forwarding, and Traffic Summary. For devices which contain embedded web configuration pages and which implement the common Table of Contents HTML page, this list also provides access to the Embedded Web pages.

To access module management windows, you double click on the module identifier in the navigation tree. You can also go directly to a Port Summary view by double-clicking on a Front Panel module, or to an individual port view by double clicking on the port connector in the Front Panel view. In general, the Port Summary views and the Configuration views contain navigation buttons at the top for accessing other device-specific configuration windows.

The MAC address, protocol filtering, and forwarding management are performed on detail views available from the Switch Summary view or from the navigation tree.

MultiChassis Manager uses SNMP to manage the Cabletron SmartSwitch 6000, DIGITAL MultiSwitch 700, and the DIGITAL MultiSwitch 900, as well as DIGITAL MultiSwitch 900 modules in a DEChub ONE. DEChub 90 modules listed are supported only within a DIGITAL MultiSwitch 900 chassis.

## MultiChassis Manager Supported Devices

### **DIGITAL MultiSwitch 900:**

#### **DECrepeater:**

90FA, 90FL, 90FS, 90TS, 900GM,  
900TM, 900FP

#### **PORTswitch:**

900CP, 900FP, 900TP, 900TP/12

#### **DECserver:**

90TL, 90M, 900TM, 900GM, 700

#### **DECbridge:**

900MX

#### **DECswitch:**

900EE, 900EF, 900FO

#### **DECconcentrator:**

900MX, 900TH, 900FH

#### **VNswitch:**

900EA, 900EE, 900EF, 900EX, 900XX,  
900LL, 900FF, 900FX, 900CC, 900GV,  
900CG

#### **RoamAbout Access Point**

#### **PEswitch 900TX**

**Note:** The MultiSwitch 612EX, MultiSwitch Hub 624T and MultiSwitch 612TX are only supported when inserted in the DIGITAL MultiSwitch 900.

**For the following devices, only a generic MIB II information window is available:**

#### **DECbrouter:**

90T1, 90T2, 90T2A

#### **RouteAbout:**

AccessTW, Access EI, Access EW, Central  
EW, Central EI,  
Central EP

**Cabletron SmartSwitch 6000:** 6E122-26  
6E123-26  
6E132-25  
6E133-25  
6H202-24  
6E233-49  
6H252-17  
6H258-17  
6M146-04  
HSIM-F6

**DIGITAL MultiSwitch 700:** DIGITAL MultiSwitch 700EE DLE22-MA  
DIGITAL MultiSwitch 700ET DLE23-MA  
DIGITAL MultiSwitch 700EL DLE28-MA  
DIGITAL MultiSwitch 700EE DLE32-MA  
DIGITAL MultiSwitch 700ET DLE33-MA  
DIGITAL MultiSwitch 700 DLE02-MA  
DIGITAL MultiSwitch 700 DLE52-MA  
DIGITAL MultiSwitch 700 DLE49-MA  
DIGITAL MultiSwitch 700 DLEHF-MA

DIGITAL MultiSwitch FDDI MOD DELHF-UA

### **DIGITAL MultiSwitch 900 Management**

Management of the DIGITAL MultiSwitch 900 requires an IP services module to be installed and identified in the DIGITAL MultiSwitch 900. Multiple IP services modules can be configured using the Hub Manager (DIGITAL MultiSwitch 900 integral SNMP agent). Modules that currently provide IP services are as follows:

**DECrepeater:** 90FS, 90TS, 900GM, 900TM, 900FP  
**PORTswitch:** 900CP, 900FP, 900TP, 900TP/12  
**DECbridge 900MX**  
**DECswitch:** 900EE, 900EF, 900FO  
**DECconcentrator:** 900MX, 900TH, 900FH  
**VNswitch:** 900EA, 900EE, 900EF, 900EX, 900XX, 900LL, 900FF, 900FX,  
900CC, 900GV, 900CG  
**PEswitch 900TX**  
**RouteAbout Central** 900EW, 900EI, 900EP  
**RouteAbout Access** 90EW, 90EI, 90FP

Full graphical management of the DIGITAL MultiSwitch 900 is also available through its out-of-band port.

The DIGITAL MultiSwitch 900 Hub Manager restricts communities to the local DIGITAL MultiSwitch 900 backplane. A single hub can have 1 to 9 communities. Each slot uses the Hub Manager's community name followed by the slot number.

FDDI configuration with MultiChassis Manager consists of the ability to manage the DECconcentrator 900MX, 900TH, 900FH and the FDDI port of the DECswitch 900EF, DECswitch 900FO, PEs switch 900TX, and VNswitches. FDDI management functions include FDDI ligo (FDDI building blocks as implemented by MultiChassis Manager) management, FDDI ring and tree network management on the DIGITAL MultiSwitch 900 backplane, and FDDI port assignment and operational management.

## **LAN Interconnect**

The DIGITAL MultiSwitch 900 has multiple backplane channels that can be used to create independent LAN segments. The Web Suite allows you to create and delete the LAN segments via the LAN Interconnect window, which you get to by clicking on the "Configure Backplane" button.

When you create LAN segments, you use a menu to assign a name and technology type. LAN Interconnect supports the creation and deletion of Ethernet, VNbus, ATM, and FDDI LAN segments. LAN Interconnect is capable of differentiating the six segments supported by all DIGITAL MultiSwitch 900 Ethernet modules from the additional six supported by the VNswitch and PORTswitch 900TP/12 products.

You can create up to three 400 Mbps VNbuses connecting VNswitch modules, after which VNswitch modules can be interconnected. LAN Interconnect also supports the creation of up to four ATM channels on the backplane for connecting VNswitch 900EA modules to an ATMswitch 900 module.

Each port on a PORTswitch 900TP, 900FP, or 900CP can be assigned to any of six Ethernet LAN segments. This feature provides software LAN configuration at the repeater port level. Any port of a PORTswitch 900TP/12 can be assigned to any of 12 Ethernet LAN segments.

Modules or ports can be connected to different LAN segments by dragging (using the mouse) the desired connection to the appropriate LAN segment. Modules with the capability to connect to more than four LANs (for example, VNswitches, DECswitches, and PORTswitches) automatically expand to display all of the LAN segment connections. LAN Interconnect can configure ports between the front panel and the DIGITAL MultiSwitch 900 backplane. The Port Switching view is used with the DECrepeater 900FP and PORTswitches to group ports before connecting them to different LANs.

## **Cabletron SmartSwitch 6000 and DIGITAL MultiSwitch 700 Management**

The chassis views consist of a Front Panel view, a chassis-wide Port Redirection view, and an Environment view. You can also access the Environment view via a button on the Front Panel view. Each module is identified with physical detail and shown in its proper slot.

When you select a chassis and then select Configure Backplane, you get a window that displays the status of each switched backplane connection, and the administrative status for each connection. By clicking on the Admin status button, you can toggle between enable and disable for that connection.

## **Find Address and Spanning Tree**

### **Find Address**

The Find Address button in the clearVISN Web Suite main window opens the Find Address window. You enter the MAC address in the Enter New Address dialog box. The software uses this information to perform the search.

### **Spanning Tree**

The Spanning Tree button in the clearVISN Web Suite main window finds all the switches in the database and uses the spanning tree information to build the tree.

The spanning tree map is displayed automatically using the following steps:

- 1) The dot1dBaseBridgeAddress is queried to get the MAC Address of each bridge.
- 2) Next, the dot1dStpDesignatedRoot is queried, and returns the MAC Address of the root bridge, and dot1dStpRootPort is queried to find the root port on the switch.
- 3) Then, in order to find the parent of the switch, dot1dStpPortDesignatedBridge is queried, and returns the MAC Address of the designated bridge and the dot1dStpPortDesignatedPort, which returns the port on the designated bridge that the switch is connected to. From this information a tree is built. Now we have the parent of each bridge, and the top of each tree. If a designated bridge is missing, then a missing link bridge is substituted. If a root bridge is missing, then a missing root bridge is used as a placeholder in the tree.

## **Flash Loader**

To access Flash Loader, click Load Device Firmware in the clearVISN Web Suite main window. Flash Loader is a utility with a graphical interface for upgrading device firmware over the network. It also works in a client-server fashion like MultiChassis Manager. Flash Loader provides for loading from the database, as well as a provision for manually specifying agents. Flash Loader retrieves the current firmware revision from a device and shows how it compares to the most recent firmware revision from the DEChub Consolidated Firmware kit. You can choose to update devices one at a time or in batch mode using an edited list of devices. A log file indicating success or failure is kept for reference. Flash Loader uses the trivial file transfer protocol (TFTP) application to download devices. Flash Loader supports the devices in the DEChub Consolidated Firmware kit.

## Operating System Requirements for the Web Suite

You can install the Web Suite on the following Y2K compliant Operating System platforms that support Java JDK 1.1.6:

- Microsoft® Windows 95® or Windows 98®
- Windows NT™ on an Intel® PC, Version 4.0
- Windows NT on an Alpha PC, Version 4.0
- Compaq Tru64 UNIX, Version 4D or higher (Compaq Tru64 UNIX is not supported as a Web Suite client, only as a Web Suite server)
- Hewlett Packard® HP-UX®, Version 10.2, 11.0 or higher
- Sun Solaris®, Version 2.6 or higher

## Hardware Requirements for Windows 95, 98, or NT

- Intel Pentium® 200MHz or higher performance IBM®-compatible PC
- Color monitor with a minimum 800 by 600 resolution, 1024 by 768 is recommended
- Minimum 64 MB RAM
- CD-ROM drive
- Minimum 100 MB of disk space
- Mouse or other pointing device supported by Windows
- Network Interface Card (NIC)

The following Alpha processors running Windows NT 4.0 are supported:

- AlphaStation: 200, 250
- AlphaServer: 400, 1000, 2000, 2100
- DECpc AXP 150
- DEC 2000 Server

This list comprises the requirements for running the Web Suite applications standalone. The requirements may be greater if you are running with other network applications. Refer to your documentation for the hardware requirements of those applications.



## Web Server Requirements

You must have a web server installed on your system.

- Microsoft IIS, Version 4.0
- Microsoft Personal Web Server
- Apache Web Server (included on the clearVISN CD-ROM):
  - Compaq Tru64 UNIX, Version 1.3.6
  - HP-UX, Version 1.3.2
  - Windows NT, Version 1.3.6
  - Sun Solaris, Version 1.3.6
  - Microsoft Windows, Version 1.3.6

## Web Suite Browser Requirements

You can access the Web Suite with the following Java-enabled web browsers:

- Microsoft Internet Explorer, Version 5.0 or higher

Note: The Internet Explorer Java Virtual Machine version must have 3182, or higher, as the last four digits.

- Netscape Navigator, Version 4.5.1 or higher

## Firmware

Firmware in supported devices must be at the latest revision levels. Although the consolidated firmware kit for the DIGITAL devices is included on the clearVISN CD-ROM, it can also be obtained through the Cabletron Web Page at the following address:

*<http://www.cabletron.com/dnpg/dr/hubs/firmware/>*

Latest firmware upgrades for the SmartSwitch 6000 and the DIGITAL MultiSwitch 700 are available from your Cabletron Service Representative.

For further information, please see your Cabletron Service Representative.

## Other Hardware Required

For DIGITAL MultiSwitch 900: One or more IP services modules.

## Growth Considerations

The minimum hardware and software requirements for any future version of this product may be different from the requirements for the current version.

## Distribution Media

CD-ROM

## Ordering Information

The clearVISN CD-ROM contains all the applications and documentation. You only need to order one copy of QA-5FVAB-X8. You must purchase additional QM licenses for each server that you want to install the Web Suite.

clearVISN license only:

Unix Environment: QM-0MWAA-BA  
Windows Environment: QM-MQDAA-BA

clearVISN upgrade license:

Unix Environment: QM-0MWAA-BB  
Windows Environment: QM-MQDAA-BB

## Software Product Services

Provided by Compaq Computer Corporation, and available through Compaq:

### Windows Environment:

New Version License Service:	QT-MQDAA-TA
Media and Documentation Delivery Service:	QT-5FVAB-E8
Installation:	QT-MQDAA-I9
Telephone Support:	QT-MQDAA-ZA

### Unix Environment:

New Version License Service:	QT-0MWAA-TA
Media and Documentation Delivery Service:	QT-5FVAB-E8
Installation:	QT-0MWAA-I9
Telephone Support:	QT-0MWAA-ZA

## Software Licensing

This software is furnished under the licensing provisions of Cabletron's Standard Terms and Conditions. For more information about Cabletron's licensing terms and policies, contact your local Cabletron office.

You may print the electronic software documentation accompanying the software as reasonably necessary to exercise your license to use the software.

## Year 2000 Information

For Year 2000 information, refer to the Cabletron Web page:

*<http://www.cabletron.com/year-2000>*

## Software Warranty

Warranty for this software product is provided by Compaq with the purchase of a license for the product as defined in the license agreement.

The previous information is valid at the time of release. Contact your local Cabletron office for the most up-to-date information.

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