CHAPTER 1

Product Overview

This chapter contains a brief overview of the product.

CiscoWorks network management software enables you to monitor complex internetworks and helps you with in-depth network planning, troubleshooting, and analysis of your Cisco devices. CiscoWorks is integrated with your network management platform software as a suite of CiscoWorks applications that are accessible through network management platform menus.

CiscoWorks uses network maps that you can create either by manually entering information about devices or by using your network management platform's map tools. CiscoWorks also contains the Sybase relational database that stores information about the Cisco devices displayed in the network maps. CiscoWorks uses the Simple Network Management Protocol (SNMP) to monitor and control any SNMP device on your network. Cisco Systems supports the Management Information Base (MIB) II variable set.

Note Your network management platform for CiscoWorks can be either SunNet Manager or HP OpenView.

CiscoWorks Functions

CiscoWorks performs five kinds of functions:

- Fault management—Network problems can arise from a variety of sources, including devices, lines, interfaces, environment, and so on. CiscoWorks applications help you identify and diagnose the problems by monitoring or checking information about devices and displaying the information. For example, you can display the network path between two devices to see the sequence of hops between the source and destination. You can compare alternative routing paths and decide if any changes in the routing paths would improve the routing process. You can also use the CiscoConnect application and Cisco Systems Customer Information Online (CIO) service to submit cases and look for current information about Cisco devices. CIO is Cisco's mechanism for contacting customer service personnel.
- Performance management—Optimal network performance depends on a variety of factors, such as the amount of traffic on your network, the amount of traffic generated by specific protocols, the number of packet errors, and so on. With CiscoWorks applications, you can monitor your network performance by retrieving or polling information from multiple devices. You can use the acquired information to analyze and make performance-related decisions for your network. You can poll specific MIB variables on a device and display the information either in the form of a text summary or as a visual graph.

- Configuration management—Each network device contains configuration information that specifies how the device is configured and how it performs with CiscoWork. You can edit a device configuration file and store it in the database. Stored device configuration files can be compared with one another or with the current device configuration. In addition, you can retrieve, modify, and download specific configuration files. You can also download Cisco IOS™ images to your devices. Depending on your needs, these functions can be automated so that a centralized administrator can maintain configuration files at remote sites. For example, by using the AutoInstall application in CiscoWorks, you can upgrade all configuration files at remote sites in one step. The Configuration Snap-In Manager application allows you to apply a configuration command of a specific routing protocol to all routers using that protocol. A scheduler also allows flexibility of automation of commands during off-peak hours. Users with a TACACS account can dial in to a remote router.
- Device management—A Sybase database with an inventory of network devices and associated information is helpful for retrieving needed information. CiscoWorks enables you to create a database with information about devices, individuals responsible for maintaining them, and associated locations. In addition, a database synchronization application, called Sync w/Sybase, allows you to match the entire device lists in each database or synchronize multiple devices from a network management platform's database with the CiscoWorks Sybase database. The CiscoView application also allows you to display a graphical representation of each network device; display configuration and performance information for the device, its cards, and its ports; perform minor troubleshooting tasks; and launch other Cisco network management applications.
- Security management—By specifying the kinds of tasks that users with a valid password and login account can perform, you can limit access to CiscoWorks applications and network devices by unauthorized individuals. You can create your CiscoWorks environment to require a login to run specific CiscoWorks applications. This protection ensures that only authorized users can perform tasks such as configuring a router, deleting database information, or defining polling procedures. You can also apply the concept of *groups* (logical collections of user names) and *domains* (logical groupings of devices) to add another level of security. With this scheme, the ability of a user to exercise one or more features of a given CiscoWorks application is defined by the group and domain association.

CiscoWorks Applications

This section describes the CiscoWorks applications and the network management tasks they can perform. They are listed alphabetically.

AutoInstall Manager

Remotely deploys a new router using a "neighbor" router. Allows you to perform AutoInstall tasks remotely by running CiscoWorks instead of using a Telnet session.

CiscoConnect

Creates detailed customer network profiles, allows for automatic submission of Cisco problem cases to the Technical Assistance Center (TAC), and allows you to check the status of existing cases and add information to them. CiscoConnect uses a Mosaic HTML-1.0 compliant browser and HTTPD server, sending and receiving e-mail over the Internet to Cisco Systems, Inc.

CiscoView

Allows you to view the front and rear panels of Cisco devices. You can display configuration and performance information for the device, its cards, and its ports. You can use this information to monitor network performance, quickly access vital device information, and troubleshoot minor network problems.

Configuration Management

Accesses configuration files of local and remote Cisco Systems devices to analyze or edit as necessary. Compares the contents of two configuration files in the database, or compares the configuration currently running on a device with the configuration that represents the last **Database to Device** command you performed. Also supports the **nmconfig** command line interface that performs batch processing of configuration file comparisons.

Configuration Snap-In Manager

Creates and sends pre-defined or custom router commands for a device or group of devices. It uses the CiscoWorks Global Command Scheduler to execute scheduled commands. These commands are added to the configuration file much like pieces are snapped into a puzzle.

Contacts

Obtains information about the contact for a specific device, including the complete name, phone number, e-mail address, title, location, and address of the person responsible for the operation of the device.

Device Management

Creates and maintains a Sybase database that holds a complete inventory of your network: hardware, software, release levels of operation components, individuals responsible for maintaining the devices, and associated locations. Enters or changes data in the database tables for network devices, networks, interfaces, contacts, vendors, and so on.

Device Monitor

Monitors your Cisco network devices for information about environmental and interface statistics. This application is only available on the SunNet Manager platform.

Device Polling

Probes and extracts information about the condition of your networks using a polling feature. Stores data in the polling database for further evaluation and analysis. You can set the polling database capacity during installation. You can compares the relative performance and status of devices and interfaces on the network.

Device Software Manager

Automates the upgrade of a system software image on a Cisco device.

Domain Manager

Creates groups of devices (called domains) that CiscoWorks applications use to accomplish network management tasks such as security, configuration, and device polling.

Environmental Monitor

Displays the environmental status of Cisco AGS+ and Cisco 7000 routers, including temperature and voltage statistics. This function is available on AGS+ routers running System Software Release 9.0 or later with an environmental monitor card running ENVM Microcode Version 2.0 or later.

Global Command Manager

Creates, stores, and executes system commands for a device or group of devices. It uses the Global Command Scheduler to schedule command execution.

Global Command Scheduler

Schedules commands or other jobs at regularly scheduled times using the **crontab** utility.

Health Monitor

Displays information about the status of a device, including buffers, CPU load, available memory, and protocols and interfaces in use. Enables you to open the Show Commands and Real-Time Graphs windows from the Health Monitor window.

Login

Performs a generic login for all CiscoWorks applications that require user authentication, so that you do not have to log into each individual application.

Logout

Logs out of secured CiscoWorks applications to ensure security for applications with authority checking enabled.

Online Help System

CiscoWorks now includes online help based upon help systems supplied with Windows-based platforms. It replaces the *CiscoWorks User Guide*, which is no longer supplied with CiscoWorks.

Once you start the CiscoWorks online help system, you can jump to any topic within the system. For information on how to use the Help viewer, select **Help>How to Use Help** when the first help window appears.

Online help is available from several parts of CiscoWorks and its network management platforms:

- Network management platform menus, so you can view help before starting a CiscoWorks application.
- CiscoWorks application Help menus which start the help system and display the Contents page for that application.
- CiscoWorks Toolbox application so you can view help before starting a CiscoWorks application.

CiscoWorks online help includes a **Find** button that allows you to do full-text searches within the help system. For information on how to do a search, select **Help>How to Use Help** when the first Help window appears.

Path Tool

Displays and analyzes the path between two devices. Performs analysis on the path to collect utilization and error data. Displays the devices encountered between the source and the destination device, the link speeds connecting these SNMP devices, and the interface names.

Polling Summary

Summarizes the polling setup completed within Device Polling. Browses polling data, and stops and starts polling.

Process Manager

Starts, stops, and shows status for CiscoWorks-related processes including the following daemons: Polling (**nmpolld**), CiscoConnect (**httpd**) System Log (**syslogd**), Sybase Server (**dataserver**), and TACACS (**xtacacsd**).

Real-Time Graphs

Displays device information such as the router health (buffer space, CPU load, environment, free memory, and security); interface health (bits per second, bytes, errors, packets per second, packets, and queues); and protocol traffic (IP, ICMP, SNMP, TCP, UDP, AppleTalk, DECnet IV, Novell, VINES, and XNS) using a grapher utility.

SA Password

Allows you to login to the Sybase database account so you can perform system administrator tasks.

Security Manager

Creates authority checking procedures to protect selected CiscoWorks applications and network devices from unauthorized individuals. You can require a login to run protected applications. Ensures that only users with a valid account and password can perform tasks such as configuring a router, deleting database device information, or defining polling procedures.

Show Commands

Displays device data about any SNMP device, including Cisco routers and communication servers. This data includes the software version, buffers, selected device interfaces, traffic mix, IP accounting checkpoint, ARP, and IP route. Emulates some of the EXEC **show** commands for Cisco routers.

Software Inventory Manager

Updates the Sybase database to include current device software and hardware status. Sorts device information according to platform and software image, and invokes Device Software Manager to update specific devices.

Software Library Manager

Maintains a master storage space that contains the list of all available Cisco system software. You can retrieve these Cisco IOS software images using a variety of methods.

Sync w/Sybase

Synchronizes the network management platform and Sybase databases. CiscoWorks maintains data in the Sybase database, whereas each NMS maintains its own database. Sync w/Sybase ensures that device data from the NMS database is in the Sybase database (**Sync w/Platform**) and vice versa. Synchronizes the databases whenever new devices are added to your network. Use **Sync Selected** to add individual devices.

Sybase ESQR

Uses Sybase ESQR utilities to run and print reports on any table created with the Device Polling application.

TACACS Manager

Maintains the TACACS password file on UNIX hosts that act as TACACS servers. Creates and updates TACACS accounts and computer-generated passwords.

Toolbox

Allows you to start CiscoWorks applications directly, without using the menus on your network management platform. Click on an application's icon in the Toolbox window to start the application. You can also display help for each application from Toolbox.

Workgroup Director

Workgroup Director is an SNMP-based network management software tool. It monitors and controls Workgroup products using an intuitive graphical user interface (GUI). Workgroup Director runs on leading UNIX workstations as a standalone application, or it may be integrated with SNMP-based network management platforms, to provide a seamless, powerful management system.