GLOSSARY

This glossary contains MWTM-specific terms. For an online listing of other internetworking terms and acronyms, refer to the following URL:

- http://www.cisco.com/univercd/cc/td/doc/cisintwk/ita/index.htm

A

active alarm — Network object with the following status:

- A link that is **Warning** or worse and is not **Ignored**.
- A node that is **Pending** or worse and is not **Ignored**.

adjacent node — In MWTM, for a given pair of connected RAN-O nodes, the node that MWTM discovered second. See node.

aggregate site — A Base Station Controller (BSC) or Radio Network Controller (RNC) site where traffic is collected for multiple cell sites. See cell site.

ANSI — American National Standards Institute.

auto save — Setting that enables MWTM to save changes automatically when you exit MWTM.

auto start — Setting that enables MWTM to start a process automatically when the Process Manager is started. See Data Server, Message Log Server, Process Manager, Trap Receiver.

B

browser — GUI-based hypertext client application, such as Internet Explorer, Netscape Navigator, or Mozilla, used to access hypertext documents and other services located on innumerable remote servers throughout the World Wide Web (WWW) and Internet.

BSC — Base Station Controller. Equipment that manages radio resources in a GSM network.

BTS — Base Transceiver Station. The equipment in a GSM network that is used to transmit radio frequencies over the air waves.

C

circle layout Topology map layout in which objects are arranged in a circle, connected by links. Contrast with spring layout. See topology map.

cell site A Base Transceiver Station (BTS) or Node B site, usually located at the remote site with limited connectivity. See aggregate site.

Cisco IOS software Cisco Internetwork Operating System software. Cisco system software that provides common functionality, scalability, and security for many Cisco products. The Cisco IOS software allows centralized, integrated, and automated installation and management of internetworks, while ensuring support for a wide variety of protocols, media, services, and platforms.

CLI Command line interface. An interface that allows the user to interact with the Cisco IOS software operating system by entering commands and optional arguments.

client Node or software program that requests services from a server. The MWTM user interface is an example of a client. See also server.

client view User-customized subset of the DEFAULT view. See also DEFAULT view, view.

command line interface See CLI.

community name See community string.

community string Text string that acts as a password and is used to authenticate messages sent between a management station and a RAN-O node containing an SNMP agent. The community string is sent in every packet between the manager and the agent. Also called community name, read community.

congestion Condition in which a link has too many packets waiting to be sent. This condition could be caused by the failure of an element in the network. Possible levels are **None**, **Low**, **High**, and **Very High**, which correspond roughly to equivalent ANSI, China standard, ITU, NTT, and TTC congestion levels.

console log Log containing unexpected error and warning messages from the MWTM server, such as those that might occur if the MWTM server cannot start.

current view View that is currently in use on an MWTM client. The view can be the DEFAULT view or a customized view. Also called current view. See client view, DEFAULT view.

D

Data Server Multi-threaded process that handles most of the work done by MWTM, including Discovery, polling, and scheduling. See also Message Log Server, Process Manager, Trap Receiver.

DEFAULT view View into which MWTM places all discovered objects when discovering the network. The DEFAULT view is stored on the MWTM server and shared by all MWTM clients, but it cannot be modified by the clients. See current view, view.

demand polling User-initiated poll of selected nodes. Contrast with status polling.

device See node.

device type In MWTM, the type of a discovered device, either a Cisco device or a BTS or BSC device. Also called system object ID. See legacy device.

diamond In topology maps, indicator for a link that is part of a configured interface, associated with the closest node. See topology.

discovered Object that has been discovered by MWTM. Also called *known*. Contrast with unknown.

Discovery Process by which MWTM discovers objects in your network. See also nonrecursive Discovery, recursive Discovery.

display name User-specified name for a node. Contrast with DNS name. See also node name.

domain name The style of identifier—a sequence of case-insensitive ASCII labels separated by dots (“bbn.com.”)—defined for subtrees in the Internet Domain Name System [R1034] and used in other Internet identifiers, such as host names, mailbox names, and URLs.

Domain Name System See DNS.

double triangle In topology maps, indicator for a connection that has multiple interfaces. See topology map.

DNS Domain Name System. System used on the Internet for translating names of network nodes into addresses.

DNS name Initial name of a node, as discovered by MWTM. Contrast with display name. See also node name.

E

event forwarding See trap forwarding.

exclude Removing a network object from a view, while retaining the object in the MWTM data model.

G

GSM ITU standard for defining the Global System for Mobile communications.

graphical element Graphical representation of an object or view in the topology map. See topology map.

graphical user interface See GUI.

GUI Graphical user interface. User environment that uses pictorial as well as textual representations of the input and output of applications and the hierarchical or other data structure in which information is stored. Conventions such as buttons, icons, and windows are typical, and many actions are performed using a pointing device (such as a mouse). Microsoft Windows and the Apple Macintosh are prominent examples of platforms utilizing a GUI.

H

host Computer system on a network. Similar to the term node except that host usually implies a computer system, whereas node generally applies to any network system, including access servers and RAN-O devices. See also node.

host address See host number.

host number Part of an IP address that designates which node on the subnetwork is being addressed. Also called a host address.

HTML Hypertext Markup Language. Simple hypertext document formatting language that uses tags to indicate how a given part of a document should be interpreted by a viewing application, such as a Web browser. See also hypertext and browser.

hypertext Electronically-stored text that allows direct access to other texts by way of encoded links. Hypertext documents can be created using HTML, and often integrate images, sound, and other media that are commonly viewed using a browser. See also HTML and browser.

Hypertext Markup Language See HTML.

I

ignore Exclude an object when aggregating and displaying MWTM status information. See also unignore.

IMSI International Mobile Subscriber Identity. A unique 15-digit code that identifies an individual user on a GSM network.

installation log Log containing messages and other information recorded during installation.

internal ID Unique identifier assigned by MWTM, for its own internal use, to every event, link, linkset, and node.

Internet Protocol See IP.

IP Internet Protocol. Network layer protocol in the TCP/IP stack offering a connectionless internetwork service. IP provides features for addressing, type-of-service specification, fragmentation and reassembly, and security. Documented in RFC 791.

IP address 32-bit address assigned to hosts using TCP/IP. An IP address belongs to one of five classes (A, B, C, D, or E) and is written as 4 octets separated by periods (dotted decimal format). Each address consists of a network number, an optional subnetwork number, and a host number. The network and subnetwork numbers together are used for routing, while the host number is used to address an individual host within the network or subnetwork. A subnet mask is used to extract network and subnetwork information from the IP address. CIDR provides a new way of representing IP addresses and subnet masks. See also IP.

ITU International Telecommunication Union.

K

known See discovered.

L

legacy device In MWTM, a device that is not a Cisco RAN-O node. Legacy devices include BSCs and BTSs.

link In RAN-O networks, the connection between nodes. See node.

local authentication Type of MWTM security authentication that allows the creation of user accounts and passwords local to the MWTM system. When using this method, user names, passwords, and access levels are managed using MWTM commands. Contrast with Solaris authentication.

For more information on Solaris authentication, see the "Implementing MWTM User-Based Access (Server Only)" section on page 10-2.

local IP address IP address used by the MWTM client to connect to the MWTM server.

local VPN IP address IP address used by the MWTM client to connect to the MWTM server via VPN. See local IP address, VPN.

M

managed object Link or node that is being managed by MWTM.

Management Information Base See MIB.

Message Log Server Multi-threaded service that logs messages from the Data Server, Process Manager, and MWTM client. See also Data Server, Process Manager, Trap Receiver.

MIB Management Information Base. Database of network management information that is used and maintained by a network management protocol such as SNMP. The value of a MIB object can be changed or retrieved using SNMP commands, usually through a GUI network management system. MIB objects are organized in a tree structure that includes public (standard) and private (proprietary) branches.

mouse over help Popups that display information about objects and table entries.

N

name server Server connected to a network that resolves network names into network addresses.

network management system See NMS.

network view See view.

new node Node that MWTM has newly discovered, and that has not yet been added to the current view.

NMS Network management system. System responsible for managing at least part of a network. An NMS is generally a reasonably powerful and well-equipped computer such as an engineering workstation. NMSes communicate with agents to help keep track of network statistics and resources.

node Endpoint of a network connection or a junction common to two or more lines in a network. Nodes can be processors, controllers, or workstations. Nodes, which vary in routing and other functional capabilities, can be interconnected by links, and serve as control points in the network.

In RAN-O networks, a node is a Cisco Mobile Wireless Router (MWR).

See legacy device.

Node B Physical unit for radio transmission/reception with cells in the UTRAN.

node name Name of a node. This is either the DNS name of the node, or a user-specified name. See display name, DNS name.

nonrecursive Discovery — Discovery of seed nodes only. MWTM discovers all seed nodes and attempts to manage them, then marks all nodes that are adjacent to those seed nodes as **Unmanaged**. Contrast with recursive Discovery.

note — User-defined descriptive string attached to an object.

O

object — Link or node that has been discovered by MWTM.

P

PAGER — Environment variable that causes the terminal to display text output one screenful at a time. This variable is usually set to either */usr/bin/more* or */usr/bin/less*, which are two common pager executables.

ping — Packet internet groper. ICMP echo message and its reply. Often used in IP networks to test the reachability of a network device.

polling — Access method in which a primary network device inquires, in an orderly fashion, whether secondaries have data to transmit. The inquiry occurs in the form of a message to each secondary that gives the secondary the right to transmit.

poll interval — Time between polls.

poll response — Time taken by a node to respond to MWTM poll requests.

port — In IP terminology, an upper-layer process that receives information from lower layers. Ports are numbered, and each numbered port is associated with a specific process. For example, SMTP is associated with port 25. A port number is also called a well-known address.

preferences — Settings that enable a user to change the way MWTM presents information.

primary SNMP address — IP address used by SNMP to poll the node. (There might be other IP addresses on the node that are not the primary SNMP address.) Contrast with secondary IP address.

process — Internal component of MWTM. See Data Server, Message Log Server, Process Manager, Trap Receiver.

Process Manager — Multi-threaded process that handles the management of registered MWTM services. See also Data Server, Message Log Server, Trap Receiver.

Q

QoS Quality of service. Measure of performance for a transmission system that reflects its transmission quality and service availability.

Quality of Service See QoS.

R

RAN Radio Access Network.

RAN backhaul The end-to-end RAN connections between the BTS or Node B at the cell site and the BSC or RNC.

RAN shorthaul An interface that transports GSM or UMTS voice and data traffic between the BTS or Node-B and the RAN-O node at the cell site. At the aggregation site, RAN shorthauls exist between the RAN-O node and the BSC or RNC.

RAN-O RAN optimization. Standard-based, end-to-end, IP connectivity for GSM and UMTS RAN transport. The Cisco solution puts RAN voice and data frames into IP packets at the cell-site, and transports them seamlessly over an optimized backhaul network. At the central site, the RAN frames are extracted from IP packets, and the GSM or UMTS data streams are rebuilt.

read community See community string.

recursive Discovery Discovery of the entire network. MWTM discovers all seed nodes and attempts to manage them; then attempts to discover and manage all RAN-O nodes that are adjacent to those seed nodes (unless the nodes are connected by serial links only); then attempts to discover and manage all RAN-O nodes that are adjacent to *those* nodes; and so on, until MWTM has discovered the entire network.

Contrast with nonrecursive Discovery.

RNC Radio Network Controller. Network element that controls one or more Node B transceiver stations in the UTRAN.

route Path through an internetwork.

S

secondary IP address Alternate or backup IP address used by a node. Contrast with primary SNMP address.

seed file List of seed nodes. See seed node.

seed node Node used by MWTM to discover the other objects in your network.

serial Method of data transmission in which the bits of a data character are transmitted sequentially over a single channel.

server Node or software program that provides services to clients. See client.

Simple Network Management Protocol See SNMP.

SMPP Short Message Peer-to-Peer Protocol. A messaging protocol meant to simplify integration of data applications with wireless mobile networks such as GSM.

SNMP Simple Network Management Protocol. Network management protocol used almost exclusively in TCP/IP networks. SNMP provides a means to monitor and control network devices, and to manage configurations, statistics collection, performance, and security.

Solaris authentication Type of MWTM security authentication that uses standard Solaris-based user accounts and passwords, as specified in the */etc/nsswitch.conf* file. Authentication can be provided by the local */etc/passwd* file or from a distributed Network Information Services (NIS) system. Contrast with local authentication.

For more information on Solaris authentication, see the "Implementing MWTM User-Based Access (Server Only)" section on page 10-2.

spring layout Topology map layout in which objects are arranged in a spring layout. Objects with the most links are drawn closer to the center of the map, while objects with fewer links are drawn farther away. Contrast with circle layout. See topology map.

status Current condition, such as **Active** or **Unknown**, of a network object.

status polling Regularly scheduled polling of nodes performed by MWTM. Contrast with demand polling.

super user User specified in MWTM to be able to perform most functions that otherwise require the user to be logged in as the root user.

For more information, see the "Specifying a Super User (Server Only)" section on page 10-19.

system object ID See device type.

T

TCP Transmission Control Protocol. Connection-oriented transport layer protocol that provides reliable full-duplex data transmission. TCP is part of the TCP/IP protocol stack. See also TCP/IP.

TCP/IP Transmission Control Protocol/Internet Protocol. Common name for the suite of protocols developed by the U.S. DoD in the 1970s to support the construction of worldwide internetworks. TCP and IP are the two best-known protocols in the suite. See also IP and TCP.

thread name Task name.

timeout Event that occurs when one network device expects to hear from another network device within a specified period of time, but does not. The resulting timeout usually results in a retransmission of information or the dissolving of the session between the two devices.

topology See topology map.

topology map Graphical representation by MWTM of the RAN-O network. Also called topology.

Transmission Control Protocol See TCP.

Transmission Control Protocol/Internet Protocol See TCP/IP.

trap Unsolicited message sent by an SNMP agent to an NMS, console, or terminal to indicate the occurrence of a significant event, such as a specifically defined condition or a threshold that has been reached.

trap forwarding Forwarding MWTM events to other hosts, in the form of SNMP traps. This enables MWTM to integrate with high-level event- and alarm-monitoring systems such as the Cisco Info Center (CIC), HP OpenView, and Micromuse's Netcool suite of products. These systems can provide a single high-level view of all alarm monitoring in your network, making it easier to detect and resolve problems.

Trap Receiver Multi-threaded service that receives SNMP traps for MWTM. See also Data Server, Message Log Server, Process Manager.

U

UDP User Datagram Protocol. Connectionless transport layer protocol in the TCP/IP protocol stack. UDP is a simple protocol that exchanges datagrams without acknowledgments or guaranteed delivery, requiring that error processing and retransmission be handled by other protocols. UDP is defined in RFC 768.

UMTS Universal Mobile Telecommunications System. Third generation wireless standard for supporting data transfer rates of 144 kbs (vehicular), 384 kbs (pedestrian), or up to 2 Mbs in buildings.

unignore Stop ignoring the selected object at the next polling cycle. See also ignore.

unknown Device type for which MWTM is unable to determine the device type. If a node, the node failed to respond to an SNMP request. If a link, either the associated node failed to respond to an SNMP request, or MWTM found that the link no longer exists. Contrast with discovered.

unmanaged Node status in which the node is known indirectly by MWTM (MWTM knows the device exists but there is no known SNMP stack on the device for MWTM to query), or a user has set the node to this status to prevent MWTM from polling the node.

User-Based Access MWTM security scheme that provides multi-level password-protected access to MWTM features. Each user can have a unique user name and password. Each user can also be assigned to one of five levels of access, which control the list of MWTM features accessible by that user.

For more information, see the "Configuring MWTM User-Based Access" section on page 10-1.

User Datagram Protocol See UDP.

utilization Amount of an object's send or receive capacity that is being used, expressed as a percentage or in Erlangs.

UTRAN UMTS Terrestrial RAN. Radio access network for UMTS networks.

V

view View that is currently in use on an MWTM client. The current view can be the DEFAULT view or a customized view. See client view, current view, DEFAULT view.

Virtual Private Network See VPN.

VPN Virtual Private Network. Enables IP traffic to travel securely over a public TCP/IP network by encrypting all traffic from one network to another. A VPN uses "tunneling" to encrypt all information at the IP level.

W

World Wide Web See WWW.

WWW World Wide Web. Large network of Internet servers providing hypertext and other services to terminals running client applications such as a browser. See also *browser*.