Lucent Technologies
Bell Labs Innovations

WaveStar® Network Management System (NMS)

Release 4.2 (Topaz)

Getting Started Guide

365-309-241
Issue 1
October 2001

Notice

Every effort was made to ensure that the information in this document was complete and accurate at the time of printing. However, information is subject to change.

Mandatory customer information

Warranty

Lucent Technologies provides a limited warranty for this product. For more information, consult your Lucent Technologies customer team representative.

Trademarks

WaveStar is a registered trademark of Lucent Technologies.

UNIX is a registered trademark of UNIX Systems Laboratories, Inc.

Orbix is a registered trademark of Iona Technologies

HP is a registered trademark of Hewlett-Packard Co.

Hewlett-Packard is a registered trademark of Hewlett-Packard Co.

VUE is a registered trademark of Hewlett-Packard Co.

Ordering information

The ordering number for this document is 365-309-241. To order WaveStar NMS information products, do one of the following:

• Contact your Lucent Technologies customer team representative.

• Contact the Lucent Technologies Customer Information Center (CIC):

- From the United States, call 1-888-LUCENT8, (1-888-582-3688) prompt 1.

- From Canada, call 1-317-322-6619.

- From Europe, the Middle East, and Africa, call 1-317-322-6416.

- From Asia, the Pacific Region, China, the Caribbean, and Latin America, call 1-317-322-6411.

Support

Information product support

Lucent Technologies provides a referral telephone number for support. Use this number to report errors or to ask questions about the information in the information product. This is a non-technical number. The referral number is: 1-800-645-6759.

Technical support

In the continental United States, when you need additional technical assistance, the Lucent Technologies Global TSS Contact Center is your first point of contact. Technical assistance is available 24 hours a day, 7 days a week. Contact the Global TSS Contact Center at 866-LUCENT8 (866-582-3688).

Outside the continental United States, contact your Local Customer Support (LCS) or the support organization designated by your Lucent customer team representative. If you are unsure of who to call, contact the Global TSS Contact Center at 630-224-4672.

Lucent Technologies

Lucent Technologies values your comments!

Lucent Technologies
Bell Labs Innovations

WaveStar® Network Management System (NMS)
Release 4.2 (Topaz)
Getting Started Guide
365-309-241 Issue 1 October 2001

Lucent Technologies welcomes your comments on this information product. Your opinion is of great value and helps us to improve.

1. Was the information product:

	Yes	*No*	*Not applicable*
In the language of your choice?	☐	☐	☐
In the desired media (paper, CD-ROM, etc.)?	☐	☐	☐
Available when you needed it?	☐	☐	☐

Please provide any additional comments:

_____

_____

2. Please rate the effectiveness of this information product:

	Excellent	*More than satisfactory*	*Satisfactory*	*Less than satisfactory*	*Unsatisfactory*	*Not applicable*
Ease of use	☐	☐	☐	☐	☐	☐
Level of detail	☐	☐	☐	☐	☐	☐
Readability and clarity	☐	☐	☐	☐	☐	☐
Organization	☐	☐	☐	☐	☐	☐
Completeness	☐	☐	☐	☐	☐	☐
Technical accuracy	☐	☐	☐	☐	☐	☐
Quality of translation	☐	☐	☐	☐	☐	☐
Appearance	☐	☐	☐	☐	☐	☐

If your response to any of the above questions is "*Less than satisfactory*" or "*Unsatisfactory,*" please explain your rating.

_____

_____

3. If you could change one thing about this information product, what would it be?

_____

_____

4. Please write any other comments about this information product:

_____

_____

Please complete the following if we may contact you for clarification or to address your concerns:

Name: _____ Date: _____

Company/organization: _____ Telephone number: _____

Address: _____

Email address: _____ Job function: _____

If you choose to complete this form online, go to http://www.lucent-info.com/comments
Otherwise fax to 407 767 2760 (U.S.) or +1 407 767 2760 (outside the U.S.) or email comments to ctiphotline@lucent.com

Lucent Technologies values your comments!

Lucent Technologies
Bell Labs Innovations

WaveStar® Network Management System (NMS)
Release 4.2 (Topaz)
Getting Started Guide
365-309-241 Issue 1 October 2001

Lucent Technologies welcomes your comments on this information product. Your opinion is of great value and helps us to improve.

1. Was the information product:

	Yes	*No*	*Not applicable*
In the language of your choice?	☐	☐	☐
In the desired media (paper, CD-ROM, etc.)?	☐	☐	☐
Available when you needed it?	☐	☐	☐

Please provide any additional comments:

_____

_____

2. Please rate the effectiveness of this information product:

	Excellent	*More than satisfactory*	*Satisfactory*	*Less than satisfactory*	*Unsatisfactory*	*Not applicable*
Ease of use	☐	☐	☐	☐	☐	☐
Level of detail	☐	☐	☐	☐	☐	☐
Readability and clarity	☐	☐	☐	☐	☐	☐
Organization	☐	☐	☐	☐	☐	☐
Completeness	☐	☐	☐	☐	☐	☐
Technical accuracy	☐	☐	☐	☐	☐	☐
Quality of translation	☐	☐	☐	☐	☐	☐
Appearance	☐	☐	☐	☐	☐	☐

If your response to any of the above questions is "*Less than satisfactory*" or "*Unsatisfactory,*" please explain your rating.

_____

_____

3. If you could change one thing about this information product, what would it be?

_____

_____

4. Please write any other comments about this information product:

_____

_____

Please complete the following if we may contact you for clarification or to address your concerns:

Name: _____ Date: _____

Company/organization: _____ Telephone number: _____

Address: _____

Email address: _____ Job function: _____

If you choose to complete this form online, go to http://www.lucent-info.com/comments
Otherwise fax to 407 767 2760 (U.S.) or +1 407 767 2760 (outside the U.S.) or email comments to ctiphotline@lucent.com

Contents

About this information product

Purpose ix

Reason for reissue ix

Safety labels ix

Intended audience ix

How to use this information product ix

Conventions used x

Related documentation x

How to comment xi

How to order xii

1 The WaveStar NMS Network Map: Getting Started

Overview 1-1

Network Map display 1-3

Expand an area 1-6

The Network Map 1-7

Resize the maps 1-9

Manipulate the map view 1-10

Zoom in on the map view 1-11

Zoom out on the map view 1-13

Magnify the map view 1-15

Expand an area on the Network Tree map 1-17

Display node menus 1-19

Specify icon label locations 1-20

Move an icon 1-21

Select/unselect multiple icons 1-22

View the Network Map legend 1-23

Create a user-defined area map 1-24

Update the Network Map 1-25

View the software version 1-26

View the date format 1-27

Access the on-line documentation 1-28

Access the screen help 1-29

2 Network Map Features

Overview 2-1

Network Map graphical display 2-2

Network Map features 2-4

3 Network Map Functionality

Overview 3-1

View aggregates 3-2

View nodes by type 3-4

View nodes by name 3-5

Find a specific node 3-6

View links by type 3-7

Reset the map view 3-8

Display Route on Network Map 3-9

Specify members and non-members 3-10

4 **Network Controller Map Features**

Overview 4-1

Open the Network Controller Map 4-2

The Network Controller Map 4-3

EMS Controller icon 4-6

Reposition an EMS icon 4-7

View network elements controlled by a particular EMS 4-8

Start or stop communication between WaveStar NMS and an EMS 4-9

Perform a database synchronization between WaveStar NMS and an EMS 4-10

Cut-through to an EMS from WaveStar NMS 4-11

IN **Index** IN-1

List of Figures

1 The WaveStar NMS Network Map: Getting Started

1-1 The WaveStar NMS Network Map - start-up appearance 1-4

1-2 Area Map 1-5

1-3 Network Tree 1-5

1-4 The WaveStar NMS Network Map 1-7

1-5 Network Map Sections 1-8

2 Network Map Features

2-1 The WaveStar Network Map 2-3

2-2 The Network Map Menu Bar 2-4

2-3 Network Map 2-7

2-4 Areas on the Area Map 2-9

2-5 Network element icons on the Expanded Area Map 2-10

2-6 A digital link on the Network Map 2-13

2-7 The status line 2-13

4 Network Controller Map Features

4-1 The Network Controller Map 4-4

4-2 The Network Controller Map display 4-5

4-3 Non-Lucent, EMS Controller icon 4-6

About this information product

Purpose

This chapter provides an overview of this information product.

The purpose of this guide is to provide information needed when you are learning how to use the *WaveStar*® Network Management System (NMS) Release 4.2 software. It describes how to use the software and how to interpret the graphical user interface.

Reason for reissue

This Getting Started Guide, Issue 1, is a revised document that supports WaveStar NMS, Release 4.2.

Safety labels

This information product does not use safety labels.

Intended audience

This guide is written primarily for network planners, engineers, and sales teams. It may be used by anyone who will be using the WaveStar NMS software.

How to use this information product

This section provides information that will help users of this information product.

The following table describes the information contained in each chapter of this document.

Section	Title	Description
Preface		Describes this document's purpose, intended audience, usage, and how to comment on it.
Chapter 1	The WaveStar NMS Network Map: Getting Started	Provides information on getting started with using WaveStar NMS.
Chapter 2	Network Map Features	Details the features of the WaveStar Network Map user interface.
Chapter 3	Network Map Functionality	Details the functionality of the WaveStar Network Map user interface.
Chapter 4	Network Controller Map Features	Details the features and functionality of the WaveStar Network Controller Map.
Index	Index	Enables the user to quickly find information on specific topics.

Conventions used

This document uses the following typographical conventions to distinguish between computer input and output.

- When describing the WaveStar NMS software, fields in windows and field entries are identified with **this font**.
- Text and numbers a user inputs to the computer are identified with `boldface type`.
- Text and numbers the computer outputs to a user are identified with `monospace type`.

Related documentation

This information product is part of a set of documents that supports WaveStar NMS.

List of documents

The document set that supports WaveStar NMS includes:

1. *WaveStar NMS Getting Started Guide,* (365-309-241): provides information useful to first-time users of the WaveStar NMS software. It describes how to start and stop WaveStar NMS, how to use the software, and how to interpret the graphical user interface.
   This document includes tasks and conceptual information.
2. *WaveStar NMS Applications and Planning Guide,* (365-309-242): describes the WaveStar NMS features and applications, provides a product description and the hardware platforms for the product, and describes system planning and engineering, ordering, and product support. This document contains conceptual information only.
3. *WaveStar NMS Administration Guide,* (365-309-245): instructs users on how to administer WaveStar NMS and the network. This document includes tasks and conceptual information.
4. *WaveStar NMS Maintenance Guide,* (365-309-244): instructs users on how to maintain WaveStar NMS and the network. This document includes tasks and conceptual information.
5. *WaveStar NMS Provisioning Guide,* (365-309-243): instructs users how to use WaveStar NMS to provision and manage a network. This document contains tasks and conceptual information.

On-line documentation

An on-line HTML version of this document set is provided with WaveStar NMS.

Screen Help

The WaveStar NMS software includes screen help for each window. Screen help describes the purpose of the window and its features, including fields and buttons.

How to comment

Customer satisfaction is extremely important to Lucent Technologies. All users are encouraged to provide feedback on the WaveStar NMS information products.

Customer comment form

A customer comment form appears immediately after the title page of this document. Please fill out the form and fax it to the number provided on the form.

Fax number

Fax comments about this document to: WaveStar NMS Document Feedback Fax: 1-732-615-4715

How to order

To order WaveStar NMS user documentation, do one of the following:

Contact your Lucent Technologies customer team representative.

Contact the Lucent Technologies Customer Information Center (CIC):

From the United States, call 1-888-LUCENT8 (1-888-582-3688), prompt 1.

From Canada, call 1-317-322-6619.

From Europe, the Middle East, and Africa, call 1-317-322-6416.

From Asia, the Pacific Region, China, the Caribbean, and Latin America, call 1-317-322-6411.

1 The WaveStar NMS Network Map: Getting Started

Overview

Purpose

WaveStar NMS is a software-based application designed for:

- Network management
- Provisioning management, for example, Optical links, Optical channels, Digital links, and circuits
- Fault management
- Performance management

The most prominent feature of the WaveStar NMS GUI is the Network Map.

This chapter describes the features and functionality of the WaveStar NMS Network Map. It provides an introduction to using the WaveStar NMS software. For more comprehensive information about the product's features and functionality, refer to the other documents in the WaveStar NMS documentation set. The preface of this guide provides a complete listing of the WaveStar NMS documents.

Contents

Network Map display	1-3
Expand an area	1-6
The Network Map	1-7
Resize the maps	1-9

Manipulate the map view	1-10
Zoom in on the map view	1-11
Zoom out on the map view	1-13
Magnify the map view	1-15
Expand an area on the Network Tree map	1-17
Display node menus	1-19
Specify icon label locations	1-20
Move an icon	1-21
Select/unselect multiple icons	1-22
View the Network Map legend	1-23
Create a user-defined area map	1-24
Update the Network Map	1-25
View the software version	1-26
View the date format	1-27
Access the on-line documentation	1-28
Access the screen help	1-29

Network Map display

Introduction

This section describes the appearance of the Network Map when WaveStar NMS is first brought up after installation.

Description

After WaveStar NMS is installed and a user logs into the application, the WaveStar Network Map Graphical User Interface (GUI) displays the Area Map and the Tree Panel.

If areas have not been created yet, only one area, UNASSIGNED, displays on the Network Map. In this case, the system automatically expands this area on the Expansion Panel to show all the network elements in the network.

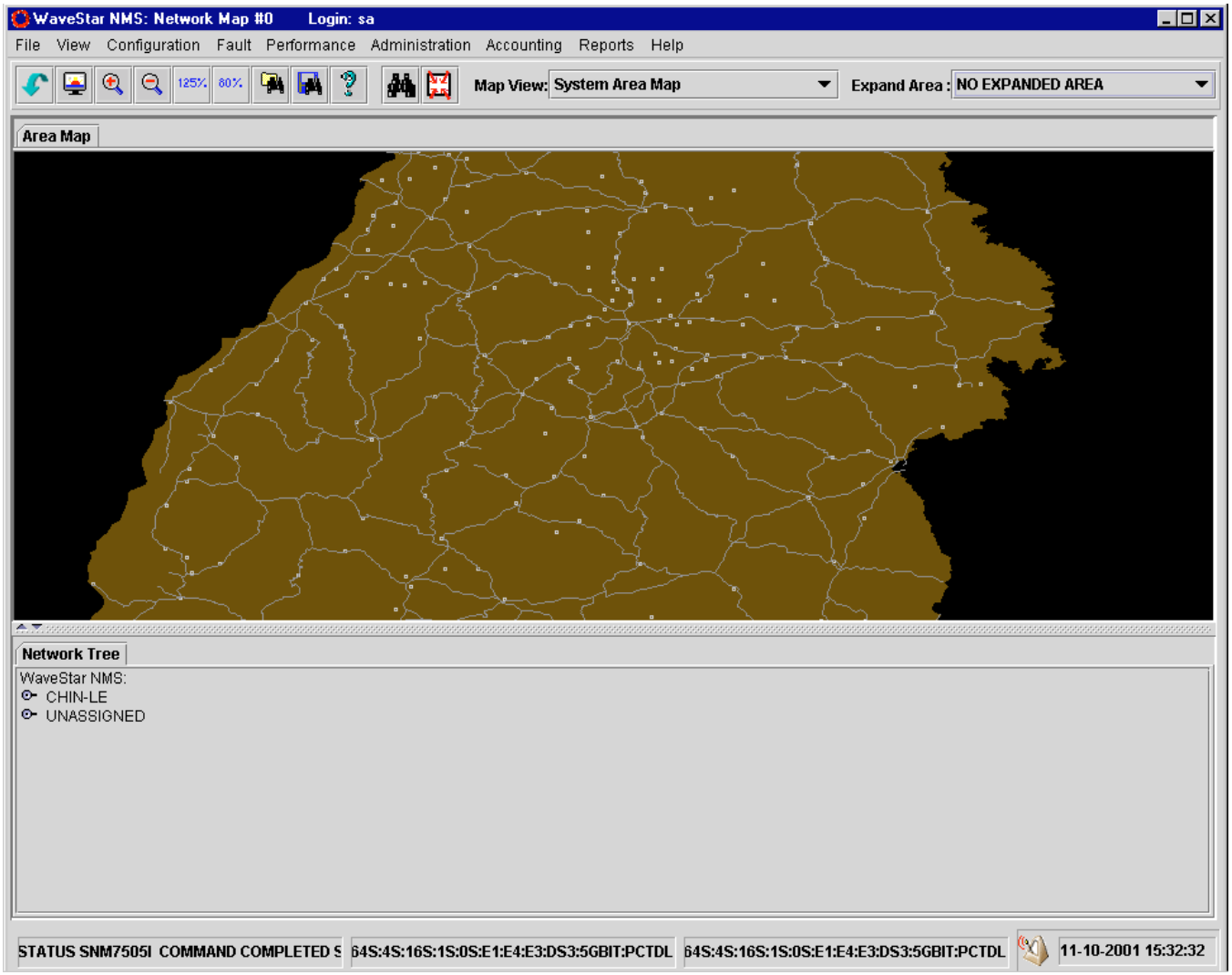
Note that the Network Map's view (what the user sees on the map itself) can be pre-determined by either the administrator or the user. Thus, during subsequent log in sessions, the user may see the Network Map pre-populated by several areas. Also, if the user is assigned the correct privileges, the user can subsequently group network elements into areas to make it easier to display and manage a large network.

Note: Users employing the ICA Citrix client support to run WaveStar NMS may toggle between the WaveStar NMS windows and the ICA Citrix windows through short-cut keys. Users may refer to the ICA Citrix documentation for complete information about the ICA Citrix client.

WaveStar NMS Network Map

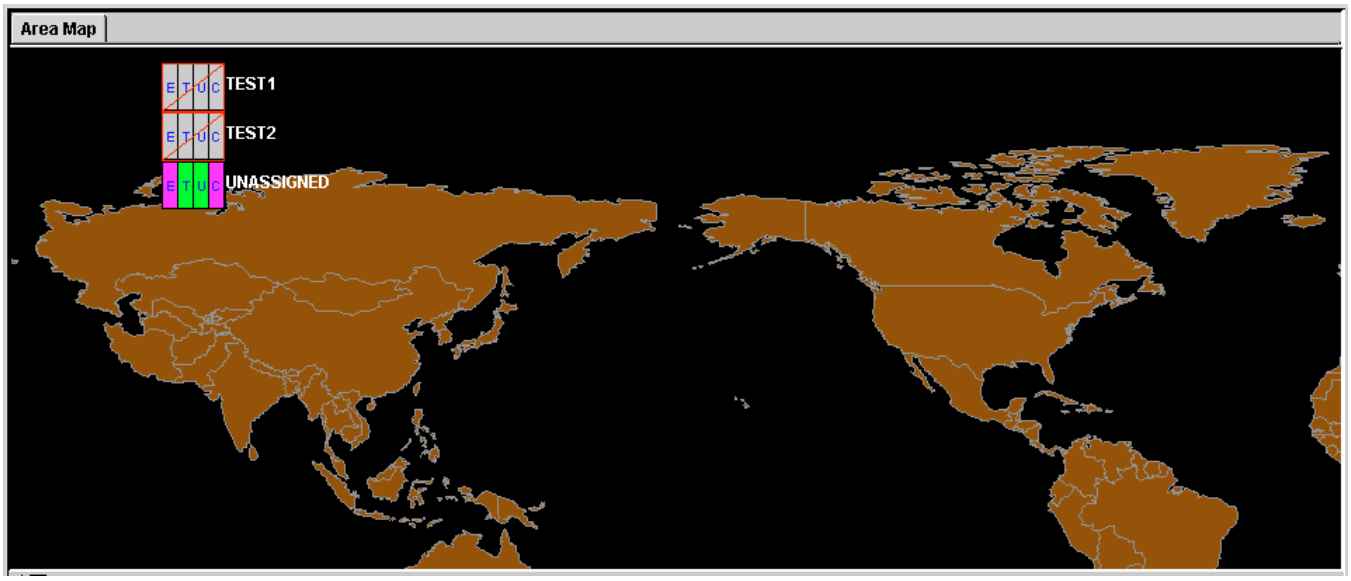
The following figure is an example of the WaveStar NMS Network Map.

Figure 1-1 The WaveStar NMS Network Map - start-up appearance



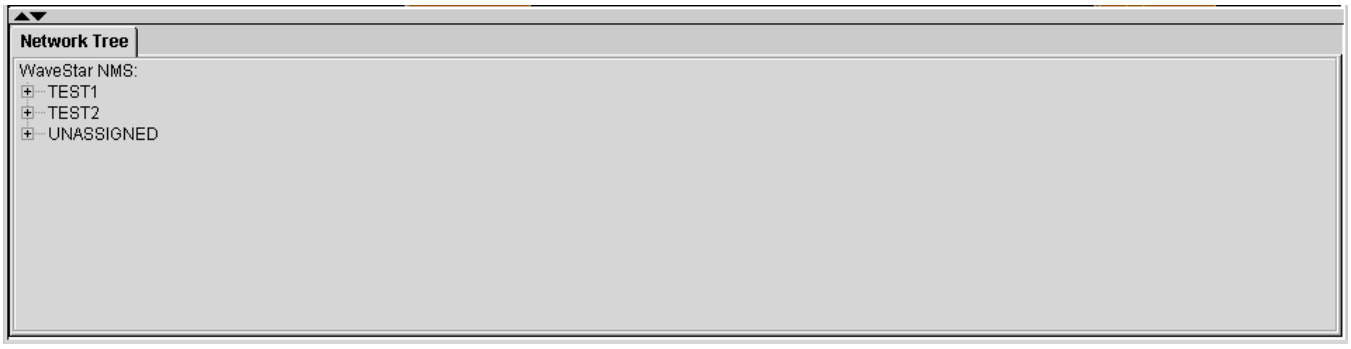
Area map The area map shows all the currently created areas. By default, the map will always show at least one area (UNASSIGNED). In the following example, there are three areas displayed by the system.

Figure 1-2 Area Map



Network Tree The Network Tree provides a hierarchical file view of the Network Map's areas and network elements. It corresponds to the Area Map.

Figure 1-3 Network Tree



Expand an area

Purpose An area can be selected and expanded so that its network elements are displayed in the Expansion Panel.

If areas have not been created yet, only one area, UNASSIGNED, displays on the Network Map. In this case, the system automatically expands this area on the Expansion Panel to show all the network elements in the network.

If a user has defined a view from their last session, WaveStar NMS starts up using the user's predefined view.

Task Complete the following task to expand the area view.

1 On the Network Map, right-click in the center of an area icon.

Result:

The Area node pop-up menu displays.

2 Select **Expand**.

Result:

The Network Map will alter the user view to include the Expanded Area panel. Refer to the next page for an example of the expanded area map.

END OF STEPS

The Network Map

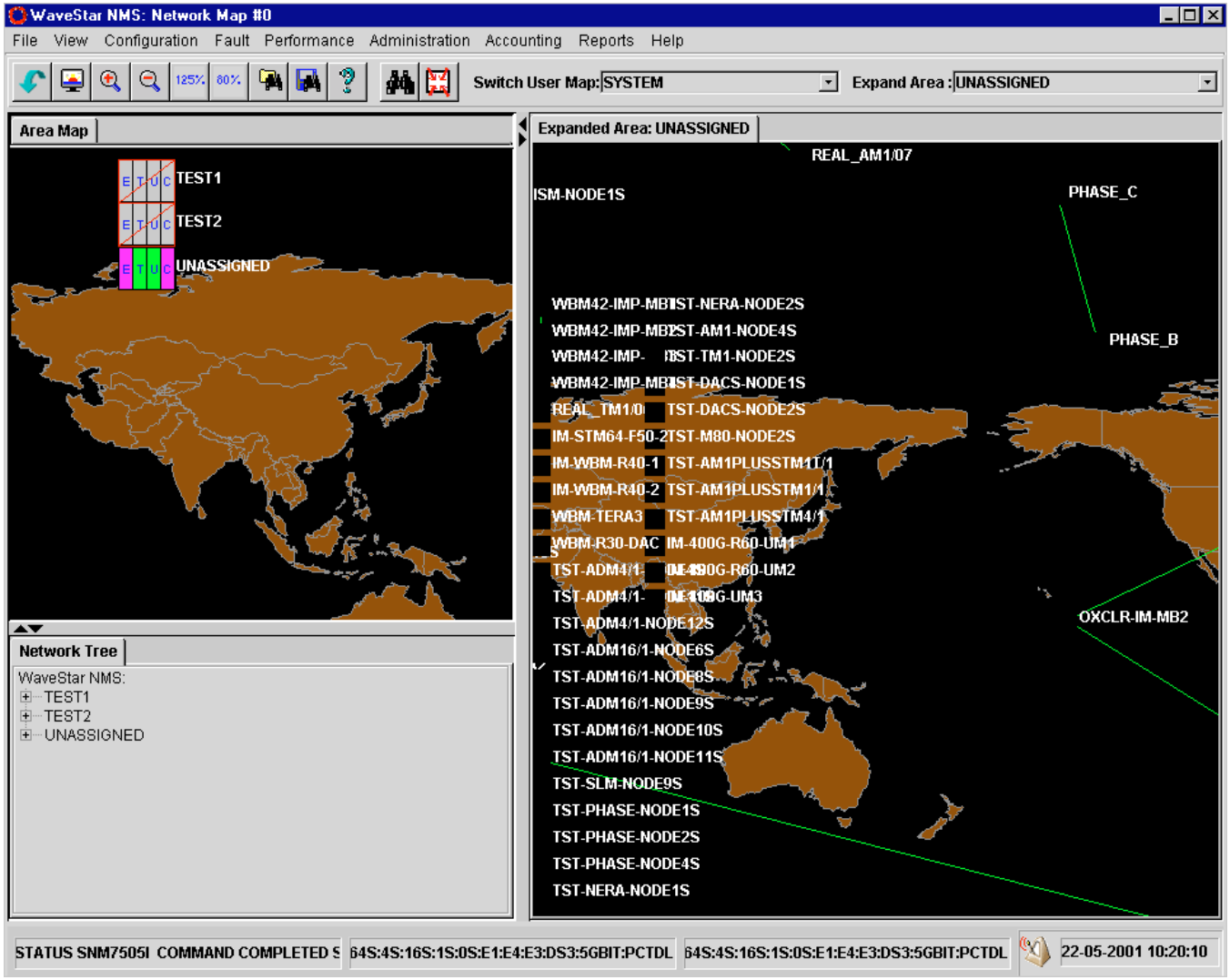
Overview

This section describes the features and functionality of the WaveStar NMS Network Map. The Network Map allows administrators and users to operate and simultaneously view different aspects of a network.

Main interface

The following figure shows the Network Map and its features.

Figure 1-4 The WaveStar NMS Network Map

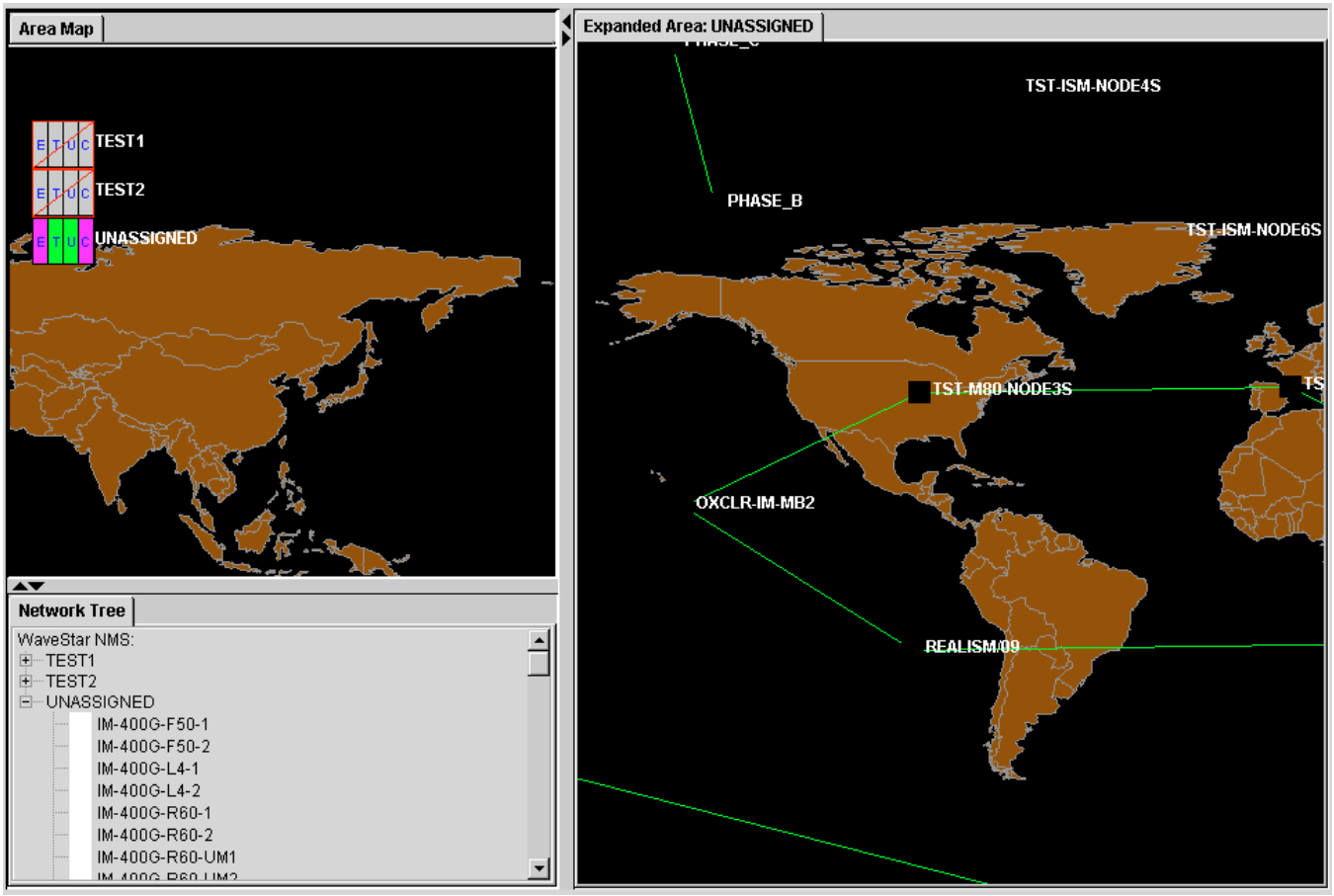


Three maps

The Network Map contains three maps that depict a network:

- ***Area Map***: depicts existing areas on the network. In the bottom example, three areas (TEST1, TEST2, and UNASSIGNED) exist.
- ***Expanded Area Map***: depicts the aggregates and network elements that comprise a single area at one time. Users can toggle between viewing the Expanded Area map when selecting Expand/Collapse by right-clicking on an area. See "Expand an area" (1-6). In the previous figure, area UNASSIGNED is shown expanded.
- ***Network Tree Map***: provides a hierarchical file view of the Network Map's areas, aggregates, and network elements.

Figure 1-5 Network Map Sections



Resize the maps

Purpose Users can resize the area map windows.

Task Complete the following task to resize the area map window.

1 On the Network Map, place the mouse pointer directly upon one of the arrow icons on the window panes.

Result:

The mouse pointer changes to a resize arrow (with dual arrow heads).

2 While pressing and holding the left mouse button, drag the arrow icon.

Important! Users can totally collapse or expand a map view by clicking directly on the arrow icons.

Result:

The window pane resizes to the desired dimensions.

END OF STEPS

□

Manipulate the map view

Purpose Users can move around a Network Map view to locate and view network icons. The act of moving around a map view is also referred to as ***panning***.

Task Complete the following task to move around the Network Map view.

1 On the Network Map, place the mouse pointer within either the Area Map or Expanded Area Map.

2 Press and hold the right mouse button.

Result:

The mouse pointer changes to a resize arrow (with quadruple arrow heads).

3 Drag the mouse in the desired direction.

Result:

The map view will move with the mouse's movements.

4 Drag the view up, down, right, or left until the desired map view is achieved.

Result:

The desired map view displays within the Area map or Expansion panel.

END OF STEPS

□

Zoom in on the map view

Purpose Users may increase the size of a section of the Network Map with the Network Map's zoom feature.

Important! The Network Map offers two different zoom tools for magnification: the ***magnification*** tool (see task explanation later in this chapter) and the 125% zoom tool. The magnification tool allows the user to magnify a particular area while the 125% zoom tool increases the size of a map's entire viewable area. If the user repeatedly clicks on the mouse (after the 125% zoom button is pressed), there is a zoom for each subsequent click.

Task Complete the following task to zoom in on the Network Map.

1 On the Network Map, press the 125% zoom tool with the left mouse button.

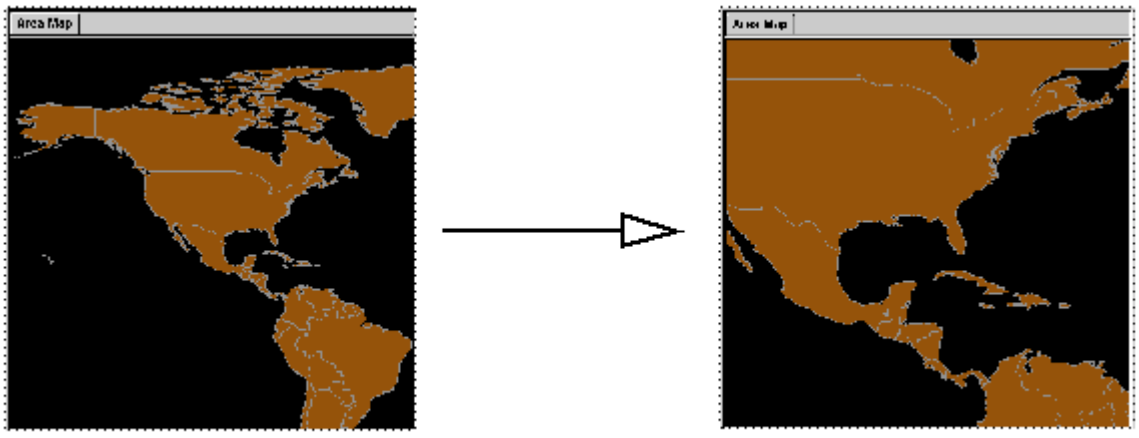
Result:

The cursor will change to a pointed index finger, and the 125% zoom tool button will become indented.

2 Place the mouse pointer on the desired map and press the left mouse button once.

Result:

The system will zoom in the entire map area by 125%.



3 To stop zooming, return to the 125% zoom tool and click the left mouse button.

Result:

The cursor's shape changes back to an arrow for normal operation, and the 125% zoom button becomes unindented.

END OF STEPS

□

Zoom out on the map view

Purpose Users may decrease the size of a section on a Network Map with the Network Map's zoom out feature. If the user repeatedly clicks on the mouse (after the 80% zoom button is pressed), there is a zoom for each subsequent click.

Task Complete the following task to zoom out the view of the Network Map.

1. On the Network Map, press the 80% zoom tool with the left mouse button.

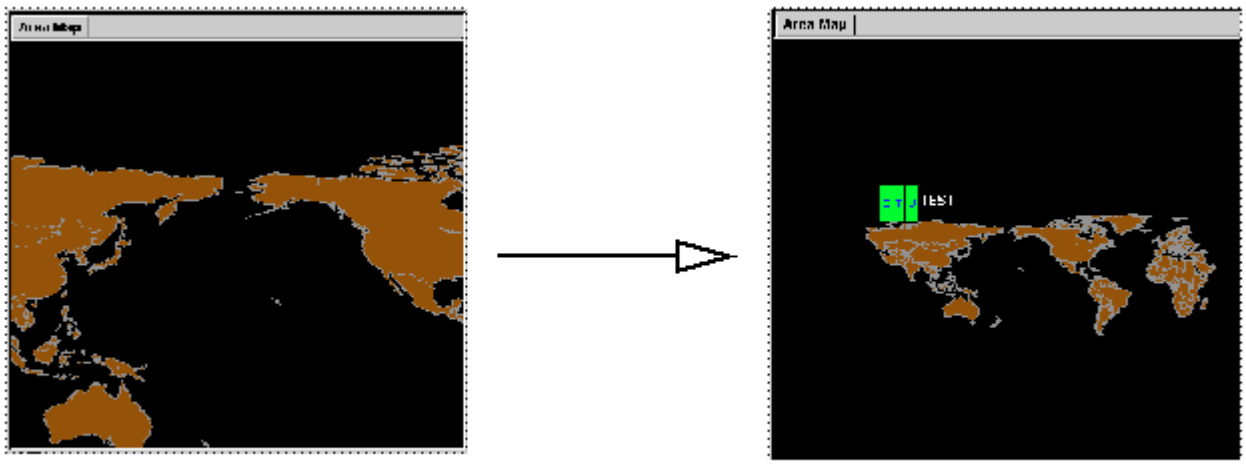
   Result:

   The cursor will change to a pointed index finger, and the 80% zoom button will become indented.

2. Place the mouse pointer on the desired map and press the left mouse button once.

   Result:

   The system will zoom out the entire map view by 80%.



Before After

3 To stop zooming, return to the 80% zoom tool and click the left mouse button.

Result:

The cursor's shape changes back to an arrow for normal operation, and the 80% zoom button becomes unindented.

END OF STEPS

□

Magnify the map view

Purpose Users may magnify a portion of the Network Map with the Network Map's magnification feature.

Task Complete the following task to magnify an area on the Network Map.

1 On the Network Map, press the magnification tool with the left mouse button.

Result:

When you place the mouse pointer on a map, the pointer displays as a cross.

2 After selecting an area on the map to magnify, press and hold the left mouse button at the top left corner of the desired area and enclose the area with the lightly flashing open box from the cursor-cross.

3 Release the mouse button.

Result:

The map dynamically alters to reflect the magnification.

Note: To undo the magnification, press the decrease magnification icon. A user must press the decrease magnification icon immediately after magnifying the window, otherwise the undo magnify will not work.

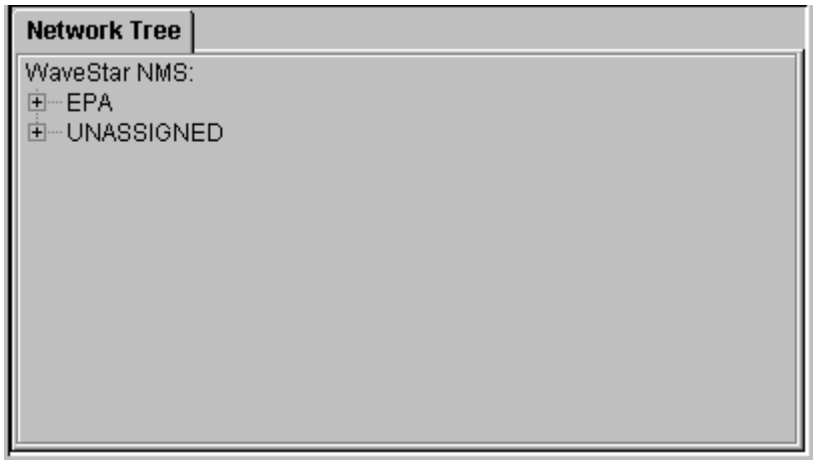
END OF STEPS

Expand an area on the Network Tree map

Purpose Users may quickly view the network elements associated with a particular area by viewing the Network Tree map.

Task Complete the following task to view an area's network elements through the Network Tree map.

1 On the Network Tree map, place the mouse pointer on the **+** sign that lies to the left of the area you wish to expand.



2 Click the mouse button.

Result:

The **+** sign becomes a **-** sign, and the network tree panel displays all the network elements and aggregates currently part of the area.

3 Use the scroll bar, located to the Network Tree map's right, to scroll through the complete listing of network elements.

Result:

The complete listing of network elements associated with the area is displayed.

END OF STEPS

Note

To collapse an area, so that the network elements associated with it are hidden, click the **-** sign. The - sign becomes a **+** sign and the area collapses.

□

Display node menus

Purpose The icons displayed on the WaveStar NMS Network Map, that correspond to areas and network elements, have Node menus associated with them.

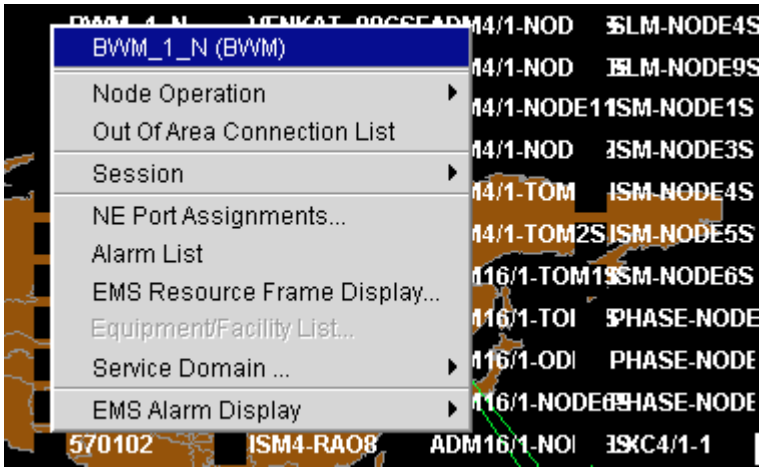
Task Use the following task to access the Node menu for an area or network element.

1 On the Network Map, place your mouse pointer directly in the center of an area or network element.

2 Right-click and hold the mouse button.

Result:

A Node menu displays. The name of the node is displayed at the top of the Node menu, and the menu displays menu items usable with the associated area or network element.



END OF STEPS

Specify icon label locations

Purpose Users may specify the location of an icon label in relation to the icon itself. By default, labels are placed to the right of an icon.

Task Complete the following task to specify an icon label location. This task applies to areas and network elements.

1 On the Area Map, locate an area whose label you wish to alter.

2 While placing the mouse pointer directly on the area's center, press and hold the right mouse button.

Result:

A Node menu displays.

3 Select **Move Label > Left** (for left) or **Bottom** (for bottom), **Top** (for top), etc.

Result:

The icon label dynamically alters to reflect the positioning choice.

4 To make the new position permanent, select **File > Save Node and Label Positions**.

Result:

The new position becomes part of the current user-defined map. Note that only system administrators can make the new position permanent.

END OF STEPS

□

Move an icon

Purpose Use the following procedure to move an icon's position on the Network Map.

Before you begin Before you move an icon's position, note the following:

- The placement of a moved icon is temporary, that is, it lasts for the duration of the user's session only. To permanently move an icon to a new position on the Network Map, you must have the appropriate privileges.

Task Complete the following task to permanently move an icon to a new position on the Network Map.

1 On the Network Map, select the icon to be repositioned.

2 Drag and drop the network element to a new location.

Result:

The icon and its connecting links are repositioned.

Note: This task only provides a temporary repositioning of a network element. In order to make the positioning permanent, a user must have administrator privileges. Refer to the ***WaveStar NMS Administration Guide*** for details.

END OF STEPS

□

Select/unselect multiple icons

Purpose WaveStar NMS allows users to select multiple icons for repositioning or provisioning. Once selected, selected icons can be unselected.

Important! This task does not apply to area icons.

Task To select multiple icons and then unselect them all at once, perform the following steps.

1 From the Network Map, use the mouse to select an icon (for example, a network element).

Result:

The icon is highlighted.

2 While pressing and holding the **Shift** key, select multiple map icons in addition to the icon selected in Step 1.

Result:

The selected icons are highlighted.

3 While holding the **Shift** key, maneuver the multiple icons to a desired location.

Important! If at any time you wish to unselect the map icons, select **File > Unselect Objects**. This causes all currently selected objects, except areas, to become unselected. You may also unselect the selected icons by separately clicking on each icon.

4 Release the **Shift** key and mouse control.

Result:

The map icons reside in their new locations on the Network Map.

END OF STEPS

□

View the Network Map legend

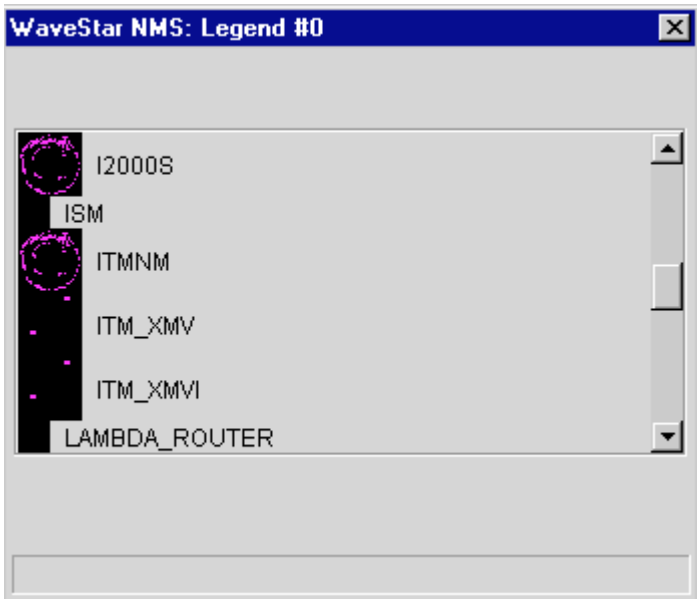
Purpose When first using WaveStar NMS, it is recommended that you view the Network Map legend, which shows which network elements are represented by which icons.

Task Perform the following task to view the Network Map Legend.

1 From the Network Map, select **View > Legend View**.

Result:

A window displays and lists all the icons and the network elements to which they are associated. Use the scrollbar to view the complete listing.



END OF STEPS

Create a user-defined area map

Purpose WaveStar NMS allows users to save a user-specific view of the Network Map that displays only the areas in which the user is interested. This saved view is called a user-defined area map. The following task explains how to create a user-defined area map.

Task Use the following procedure to create a user-defined area map.

1 On the Network Map, select **Administration > User Defined Area Map > Add**.

Result:

A query window displays for you to specify a name for the user-defined area map and member areas that will be part of the user-defined area map.

2 Specify a name for the user-defined area map.

3 Using the window's arrow icons, select areas from the **Non-Members List** and place them (by clicking on the left arrow) in the **Members** list.

Result:

The **Members** list becomes populated with names of areas.

4 Click **OK**.

Result:

The User Defined Area Map is saved.

END OF STEPS

□

Update the Network Map

Purpose Whenever a user alters the Network Map, for example, (repositioning nodes or labels; modifying the association of nodes within an area or aggregate, or creating user-defined Area Maps and sub-maps, etc.), it is necessary to update the view of the Network Map.

Task Perform the following procedure whenever you need to view the most recent instance of the Network Map, which reflects any alterations that have been made.

1 From the Network Map, select **File > Query Again**.

Result:

The updated view is displayed.

END OF STEPS

□

View the software version

Purpose Use the following procedure to view the version of the currently running WaveStar NMS software. This is useful in cases where patches were loaded, and the user wishes to see if the patches have taken effect in the software.

Task Perform the following task to view the version of the currently running WaveStar NMS software.

1 From the Network Map, select **Help > Version**.

Result:

A pop-up window displays the software version number of the currently running WaveStar NMS software on the host computer.

END OF STEPS

□

View the date format

Purpose Use the following procedure to view the date format currently being used by WaveStar NMS.

Task Perform the following steps to verify the date format currently being used by WaveStar NMS.

1 From the Network Map, select **Help > Date Format**.

Result:

A pop-up window displays the current date format being used by WaveStar NMS.

END OF STEPS

□

Access the on-line documentation

Purpose

WaveStar NMS includes a library of on-line user documents.

The documentation library contains the following documents in HTML and PDF format:

- ***WaveStar NMS Getting Started Guide***
- ***WaveStar NMS Applications and Planning Guide***
- ***WaveStar NMS Provisioning Guide***
- ***WaveStar NMS Maintenance Guide***
- ***WaveStar NMS Administration Guide***

HTML format is most appropriate for viewing a document on-line, and PDF format is most appropriate for printing out a paper copy of a document.

Task

1 From the Network Map, select **Help > Help Contents**.

Result:

The computer's web browser will automatically launch and the online documentation library will display.

2 From the online library, select the link associated with the desired format (HTML or PDF).

Result:

Depending on your computer's configuration, the appropriate document automatically displays within your web browser.

END OF STEPS

□

Access the screen help

Purpose WaveStar NMS contains screen help for each of the WaveStar NMS forms. The screen help is accessed from the form and displays in the computer's web browser.

Task

1 To access help for the Network Map form:

- From the Network Map, select **Help > This Window**.

Result:

A browser window opens and displays screen help for that form.

2 To access help for any form:

- Click the **Help** button at the bottom of the form.

Result:

A browser window opens and displays screen help for that form.

END OF STEPS

□

2 Network Map Features

Overview

Purpose

This chapter describes the features of the WaveStar NMS Network Map.

Contents

Network Map graphical display	2-2
Network Map features	2-4

Network Map graphical display

Overview

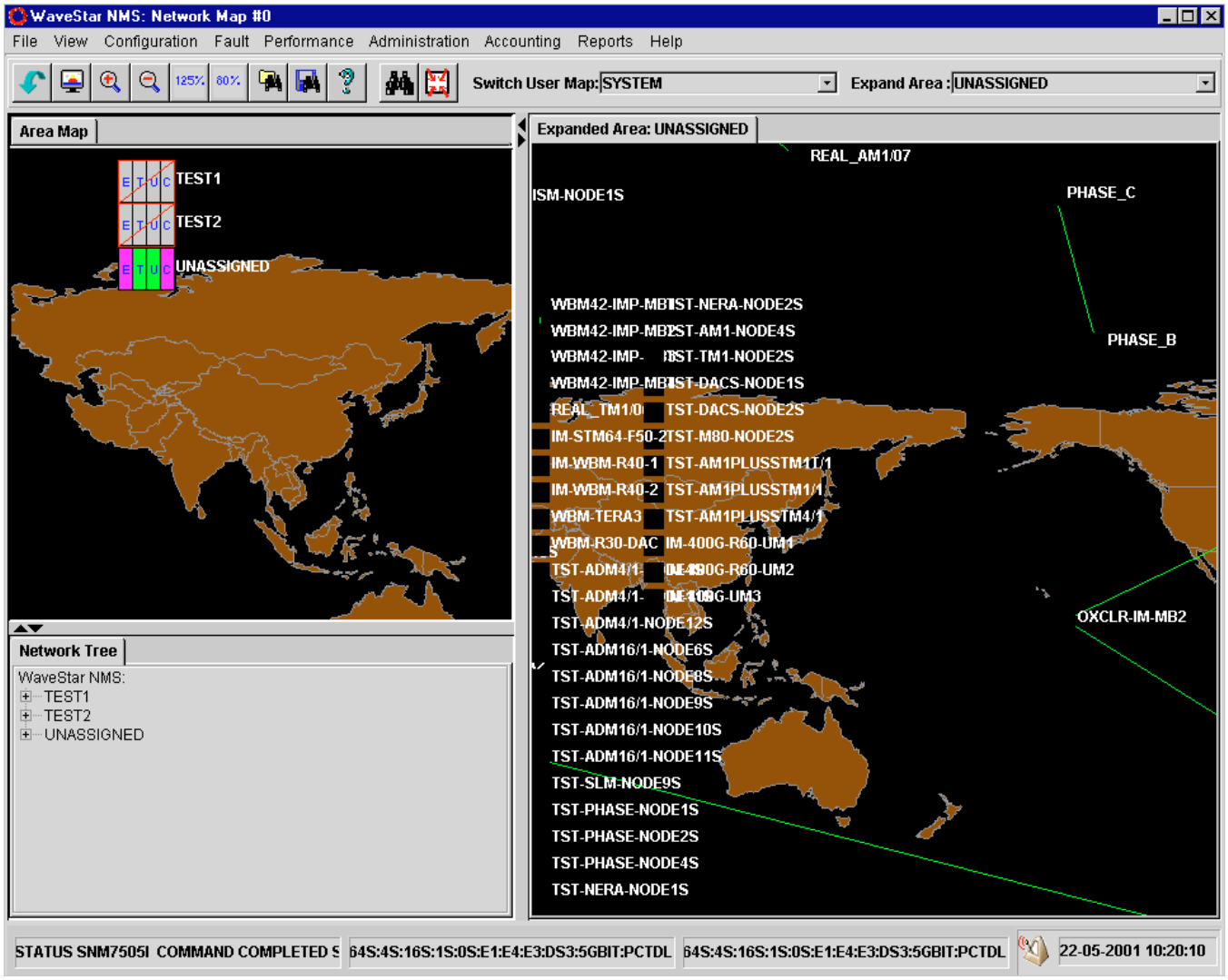
The WaveStar Network Map displays when WaveStar NMS is started and allows users to interface with the system and perform all the functions allowed by the security settings of their User ID.

The Network Map:

- Displays areas, nodes, bridges, digital links, paths, and facilities
- Allows access to forms, lists, and menus
- Allows users to provision areas, nodes, digital links, paths, facilities, circuits, user-defined area maps, and user-defined submaps
- Performs subnet management, allowing the WaveStar NMS to manage rings created with Synchronous Digital Hierarchy (SDH) multiplexers
- Allows the system administrator to perform their functions
- Provides the dynamic fault status of nodes, links, and trails in the network
- Allows users to perform performance monitoring
- Allows users to cut-through to the EMS (Element Management System) to manage network element-specific data

Figure The following figure shows an example of the Network Map and its features.

Figure 2-1 The WaveStar Network Map



Network Map features

Overview

The Network Map provides several key features that are necessary for successful operation of WaveStar NMS. This section discusses those features: the menu bar, the toolbar, the map areas, and the status line.

Menu bar

The Network Map has a menu bar that contains nine menus that allow users to perform a variety of tasks, including area administration, provisioning of digital links and circuits, fault management, and performance monitoring.

Figure

The following figure shows the Network Map's menu bar.

Figure 2-2 The Network Map Menu Bar

Menus

The menus are:

- **File**: which contains selections to display the Network Controller Map, make new node/label positions permanent, and refresh/close the Network Map.
- **View**: which contains selections to specify the view characteristics of any variation of the data displayed on the Network Map.
- **Configuration**: which provides selections that allow users to provision, configure, and display information about the network.
- **Fault**: which provides selections to that allow users to perform fault monitoring and fault management.
- **Performance**: which provides menu items related to performance monitoring, data collection, and reporting.
- **Administration**: which provides administration-related functions, such as creating users, creating user profiles, and administering areas and aggregates. It also manages the user defined views.
- **Accounting**: Not used in this release.

- **Reports**: which provides selections to print predefined summary reports.
- **Help**: which provides access to screen help, on-line documentation, date format, and version information.

Important! Not all menus may be accessible to all users.

Toolbar

The toolbar, located directly underneath the menu bar, consists of a series of icons that provide text editing shortcuts and access to common forms. Detailed information on the toolbar is provided in the screen help for the Network Map.

Important! Users can toggle between displaying and hiding the Network Map toolbar by selecting **View > Toolbar**.

Buttons

The following button icons appear in the Network Map toolbar:

	**Query Again**: any changes to the data are updated on the Network Map by the server.
	**Redraw the Map**: refreshes the Network Map if the display has become corrupted. This button, however, does not update certain portions of the Network Map, particularly the tree panel because it does not access the server.
	**Select a region for zooming**: magnifies a user-specified portion of the Network Map using the cursor.
	**Undo the previous zooming**: reverts the user-specified zooming action of the Network Map.
	**Zoom in at 125%**: enlarges a specified map's view in 125% increments when the user clicks the left mouse button in the map view.
	**Zoom out at 80%**: shrinks a specified map's view in 80% increments when the user clicks the left mouse button in the map view.
	**Load a predefined View (from system)**: loads the saved login view.

	**Save the Current View (to disk)**: allows the user to save the login view onto the database of the server or to the hard disk of the computer or terminal. This option is also available through the **Administration > Preferences** selection.
	**Help**: accesses Screen Help files for the Network Map window. To access all on-line documentation, use **Help > Help Contents**.
	**Find Node**: displays the Find Node Query box, to display Node to Area association.
	**All Nodes into Current View**: displays all the areas within the Area Map window and all the expanded nodes within the Expansion Panel window.
	Map View (pull down list): automatically displays system area maps and user-defined sub maps.
	Expand Area (pull down list): automatically expands the area specified by this field.

Map area

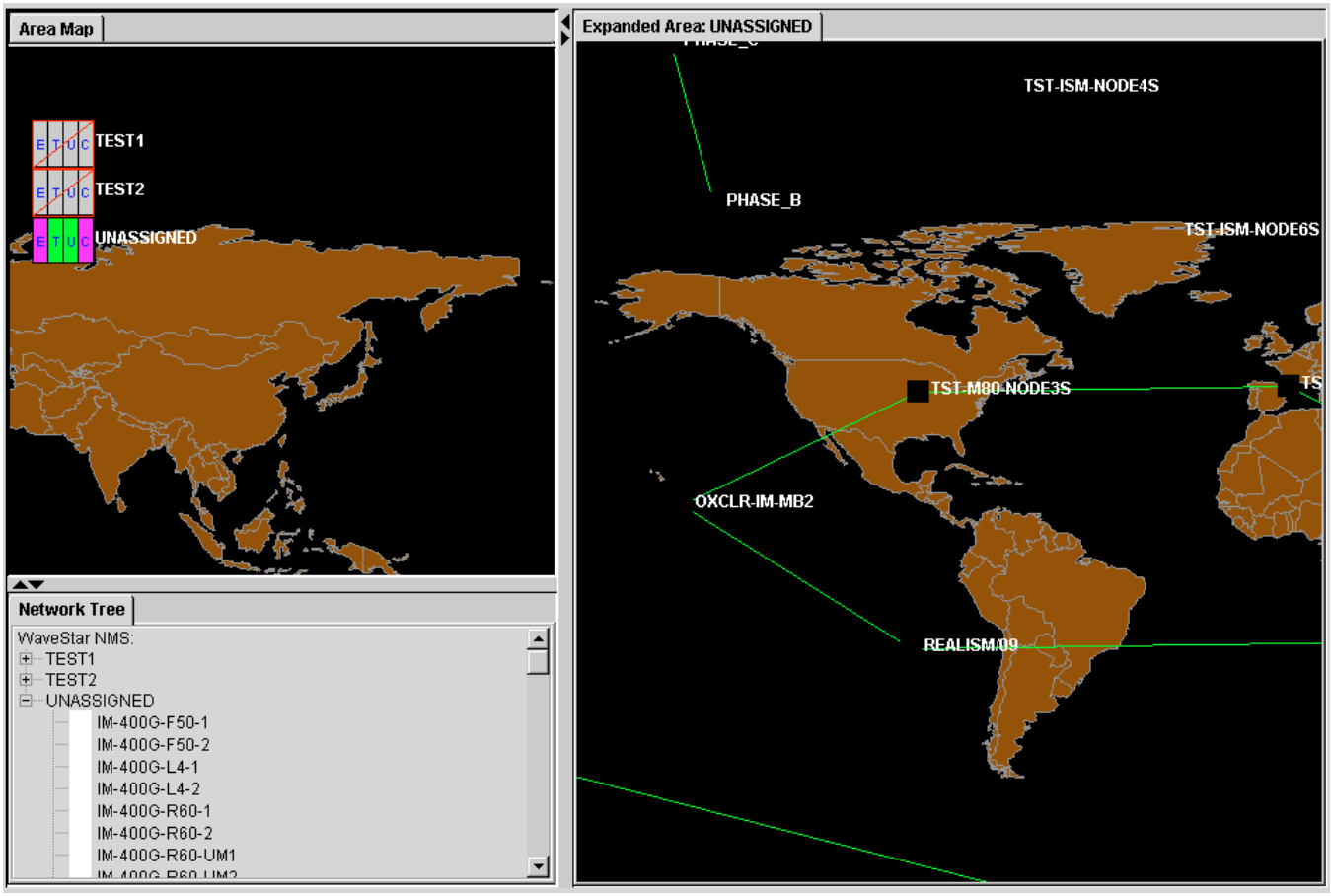
The Network Map's map area is a graphical depiction of the network managed by WaveStar NMS. It is divided into three sections: an Area map, an Expanded Area map, and a Network Tree map.

Important! The information displayed on the Network Map is controlled by the privileges associated with the user ID that is logged onto the system.

About the map area

The following figure shows the map area.

Figure 2-3 Network Map



The map area is split into three sections:

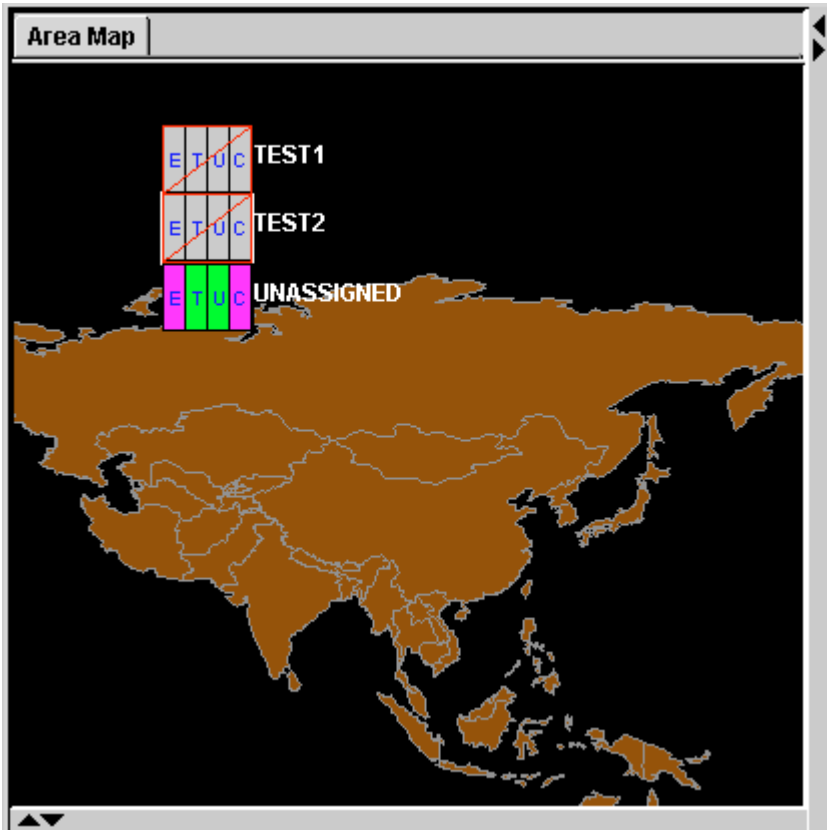
- **Area Map**: depicts the network from an area point-of-view. This map will only show existing areas on the network. Note that if the network only contains the UNASSIGNED area, only the Expanded Area and the Tree Panel will be displayed in the Network Map window.
- **Expanded Area Map**: depicts the aggregates and network elements of a selected area. Users can toggle between viewing the Expanded Area Map by selecting Expand/Collapse by right-clicking on an area or by selecting an area. You may also select ***No Expanded Area*** from the Expand Area pull-down list on the toolbar.
- **Network Tree Map**: depicts the network from a hierarchical point-of-view. By default, any currently existing areas are listed and associated items are nested. Items will appear if the user selects a particular area.

Area icons

Areas encompass groups of preassigned network elements. This allows the user to easily see only the network elements associated with a particular area (rather than seeing all the network elements at once). Depicted as squares divided into four sections, areas populate the Area Map. The Expanded Area Map depicts the network elements and aggregates that comprise an area.

The figure below depicts areas as they will appear on the Area Map.

Figure 2-4 Areas on the Area Map



Note that an area has four letters shown on it which specify alarm conditions. These letters will individually change color when such a condition occurs. See "Network element icon colors" (2-12) for a complete description of the alarm colors. The letters are:

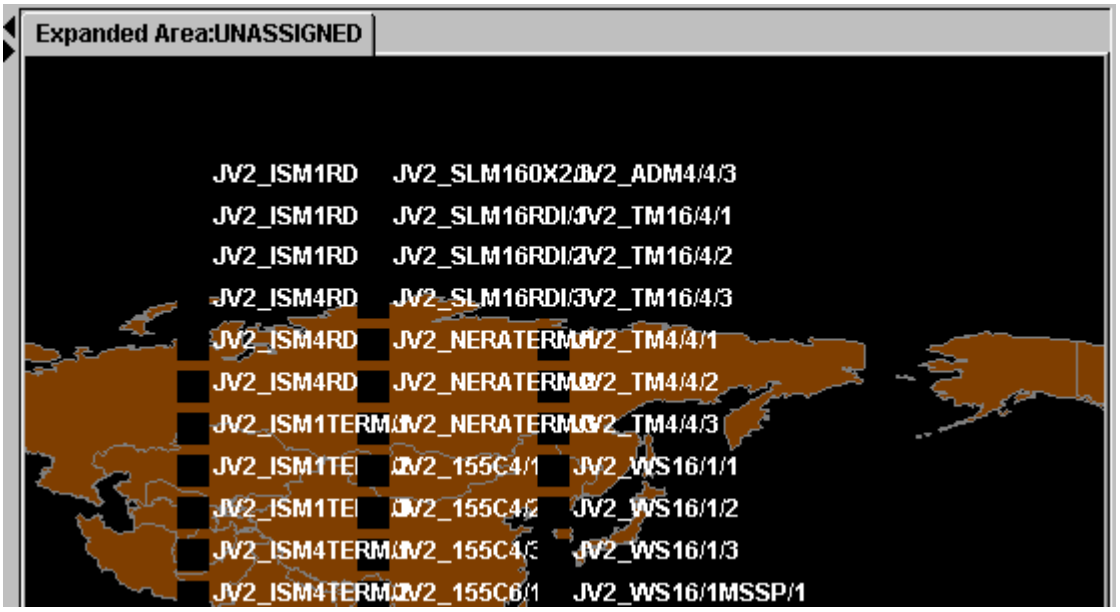
- **E** (equipment alarm): specifies the status of equipment alarms present on any of the nodes in that area.
- **T** (transmission alarm): specifies the status of transmission alarms present on any of the links in that area.
- **U** (uncorrelated cross-connect): specifies the status of uncorrelated cross-connects present on any of the nodes in that area.
- **C** (communication alarm): indicates the status of communication of the nodes within the area to their EMSs.

Important! Users are not allowed to create or delete the UNASSIGNED area.

Network element icons

The following figure shows network element icons as they appear on the expanded area map.

Figure 2-5 Network element icons on the Expanded Area Map



The following icons specify the various network elements managed by WaveStar NMS. A legend showing all the network element icons is accessible through the Network Map: **View > Legend View**.

■	DACS VI; WaveStar DACS (all models); Lambda Router; Lambda Router 128; Lambda Router 256; PHASE LXC 4/1 and 16/1; WaveStar BandWidth Manager; WaveStar TDM 10G.
▼	ISM-1 terminal; ISM-4 terminal; SLM-4 terminal; SLM-16 terminal; PHASE TM 4/4; PHASE TM 16/4; WaveStar TM1; WaveStar AM 1PLUS_T; DWDMs; OLS80G single-ended terminal.

	ISM-1 ADM; ISM-4 ADM; ADM 155c; ADM 155E; ADM 4/1 STM1; ADM 4/1 STM4; WaveStar ADM 16/1; WaveStar ADM 16/1 MSSP; WaveStar AM1STM1; WaveStar AM1PLUS_STM1; LCT; AM1PLUS_STM4, SLM 16 ADM, PHASE ADM 4/4; PHASE ADM 16/4.
	NERA Radio.
	REGEN (all regenerators, repeaters and optical amplifiers); WaveStar OLS400G Repeater; WaveStar OLS400GL Repeater; WaveStar OLS1.6T Repeater; WaveStar OLS1.6TL Repeater
	Physical Link Details: AAA= ODF, LGX, DDF, DSX, or NIE.
	OLS80G DF dual facing terminal. WaveStar OLS400G; WaveStar OLS400GL; WaveStar OLS400G R5; WaveStar OLS1.6TL; WaveStar OLS1.6T.
	Black box.
	Aggregate.
	Customer equipment.
	Out-of-Domain object.
	Nortel network elements: TN 1C, TN 4XE, TN 16X, TN 64X, Optera DX. AL SLTE; AL BU

Network element icon colors

When a user first adds a node to WaveStar NMS, the system always displays the network element as green, regardless of whether equipment or environment alarms exist. It is important that a manual database synchronization is performed after adding a network element, in order to display the new network element's true state.

Note that because network elements are added to the Network Map through their EMS, a database synchronization should first be performed for the EMS, and then for the individual network elements.

A network element's color will dynamically alter to indicate if it has an equipment or communication alarm condition. The color is based upon the worst case existing on the network element.

- **Green**: The communication link between the EMS Controller and the network element is UP. Equipment alarms do not exist.
- **Gray**: The network element has been deleted, but digital links and circuits are still present. The network element cannot be used for further provisioning.
- **Magenta**: The communication link between the WaveStar NMS controller and network element is down.
- **Red**: One or more service affecting equipment alarm condition(s) are on the network element.
- **Yellow**: One or more non-service affecting equipment or environment alarms are on the network element. Service affecting equipment alarms do not exist on the network element.

Digital links

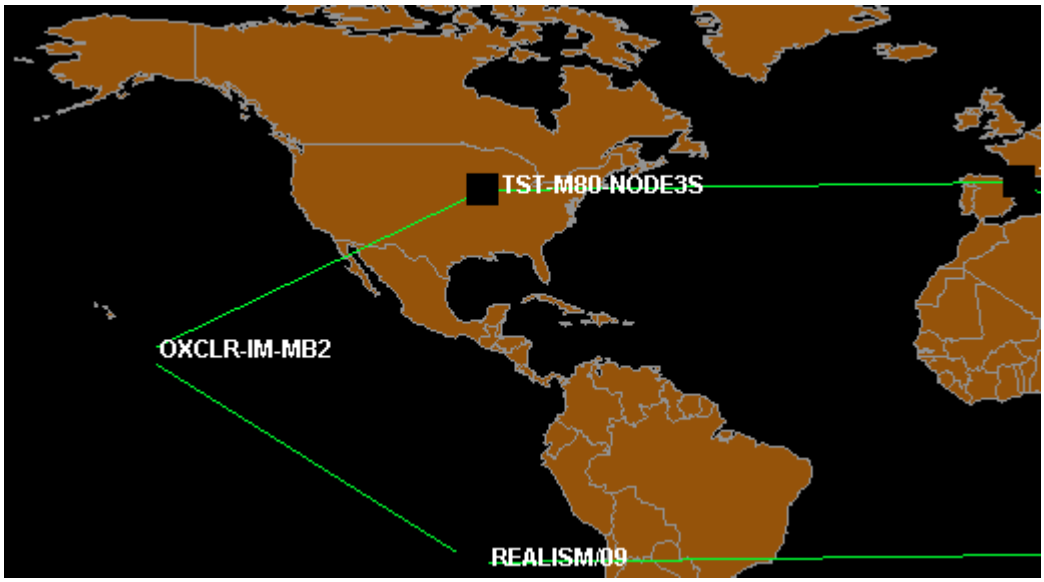
Depicted as lines on the Network Map, digital links are fiber or electrical connections between two points. These transport facilities are assignable to high-order and low-order circuits to carry customer services. Digital links can be of two types: Synchronous Digital Hierarchy (SDH) or Plesiochronous Digital Hierarchy (PDH).

SDH digital links are synonymous with multiplexer sections. They connect two SDH network elements, black boxes or equipment.

PDH digital links are asynchronous connections between two PDH ports of the network elements assignable to the PDH circuits.

The figure below depicts digital links between three network elements.

Figure 2-6 A digital link on the Network Map



Digital link colors

Digital links display alarm conditions dynamically by changing color. A link's colors change to indicate signal alarm conditions.

- **Green**: Clear signal, no alarms.
- **Yellow**: Non-service signal affecting.
- **Red**: Service signal affecting.

Status line

Located at the very bottom of the Network Map, the status line indicates certain logistics pertaining to the current system session.

The following figure shows an example of the Network Map status line and its features.

Figure 2-7 The status line

Features

The Status Line contains the following features:

- **Status**: Displays the system's response message regarding the user's last request.
- **Displayed Channel Types**: An unlabelled field that displays the rate(s) of the signals carried by the lines displayed on the Area maps. For example, if VC4 was selected as the channel type, the links displayed would be: 64S, 16S, 4S, 1S, PCTDL, or 5GBIT.
- **Metronome icon**: specifies that the Network Map is updated automatically.
- **Date and Time**: Dynamically displays the time the information on this screen was last updated.

□

3 Network Map Functionality

Overview

Purpose

This chapter describes general tasks for using the WaveStar NMS Network Map.

Contents

View aggregates	3-2
View nodes by type	3-4
View nodes by name	3-5
Find a specific node	3-6
View links by type	3-7
Reset the map view	3-8
Display Route on Network Map	3-9
Specify members and non-members	3-10

View aggregates

Purpose

Use this task to view aggregates and their members. Note that WaveStar NMS allows two methods for viewing aggregates. One method is from the Network Map's View menu. The second method is by right-clicking on a node. The difference between the two methods is the first method affects only one aggregate family while the second method affects all the aggregates on the Network Map Expansion Panel.

Task: From the Node menu

Complete the following task to view one aggregate family on the Network Map's Expanded Area map.

1 From the Network Map's Expanded Area map, right-click a network element.

Result:

A Node menu is displayed.

2 Select **Node Operations > Collapse One Level** (to view the next level of the aggregate family) ***or*** **Collapse Top Level** (to view the top level of the aggregate family).

Result:

The members of the aggregate family are displayed according to your selection.

END OF STEPS

Task: From the View menu

Complete the following task to view all aggregates on the Network Map's Expanded Area map.

1 From the Network Map, select **View > Aggregate View**.

Result:

Four selections display.

2 Select one of the available options.

Result:

The selected aggregate view displays. For example, you may expand or collapse the aggregate view by one level or to the node level (similar to the method described above in the task). Note that, in contrast with the previous task, this method affects all aggregates on the Network Map Expanded Area map.

END OF STEPS

□

View nodes by type

Purpose In the event there are numerous nodes on the Network Map, you may use the following task to specify your node view by type.

Task Complete the following task to view specific nodes by type on the Network Map.

1 From the Network Map, select **View > Node View > Node Types**.

Result:

The Node Types Selection dialog box displays.

2 Specify a node by either selecting a node type from the selection list or entering a node type within the **Filter** field.

Result:

The node specification is made.

3 Press **OK**.

Result:

The Network Map's Expanded Area map dynamically alters to reflect the node specification so that only those nodes appear within the panel.

END OF STEPS

□

View nodes by name

Purpose In the event there are numerous nodes on the Network Map, you may use the following task to specify your node view by name.

Task Complete the following task to view specific nodes by name on the Network Map.

1 From the Network Map, select **View > Node View > Node Names**.

Result:

The Node Names Selection dialog box displays.

2 Specify a node by either selecting a node name (or multiple node names) from the selection list or entering a node name within the **Filter** field.

Result:

The node specification is made.

3 Press **OK**.

Result:

The Network Map's Expanded Area map dynamically alters to reflect the node specification so that only those nodes appear within the panel.

END OF STEPS

□

Find a specific node

Purpose Use this task to locate a specific node on the Network Map.

Task Complete the following task to find a specific node on the Network Map.

1 From the Network Map, select **View > Node View > Find Node**.

Result:

The **Find Node Query Box** form displays.

2 In the **Node ID** field, enter a valid node name. Enter ***** to get a complete listing of all existing nodes.

3 Press **OK**.

Result:

The **Find Node** form lists the node(s) according to the information made in Step 2.

END OF STEPS

□

View links by type

Purpose In the event there are numerous links on the Network Map, you may use the following task to specify your link view by type.

Task Complete the following task to view specific links on the Network Map.

1 From the Network Map, select **View > Link View**.

Result:

A menu displays.

2 From this menu, select one of the following: **Channel Types** (to specify a particular channel), **SDH DL** (to specify an SDH digital link), **PDH DL** (to specify a PDH digital link), **Optical Layers** (to specify an optical layer), **Other Links** (to specify a link type not covered by the previous selections), or **Services** (to specify a service).

Result:

A menu displays and lists the specific choices according to the selection made. For **Channel Types**, all channel types a user can search for will display.

3 Select a link type to view.

Result:

The Network Map's Expanded Area map dynamically alters so that only the specified links appear.

END OF STEPS

□

Reset the map view

Purpose In the event you make a mistake with specifying a map view based upon a particular node or link, you may use the following task to reset the Network Map Expanded Area map and display a completely refreshed view of the expanded area. This task also clears route or connection displays resulting from the **Display Route on Map** selection.

Task Complete the following task to reset the Network Map view.

1 From the Network Map, select **View > Network View Reset**.

Result:

The Network Map's Expanded Area map dynamically displays a refreshed viewn of all nodes and links within the expanded area.

END OF STEPS

□

Display Route on Network Map

Purpose Use this task to display a connection or route on the Network Map's Expanded Area map. This selection can be made from the Circuit/Trail List, Client Trail List, and Assigned Ports List forms.

Task Complete the following task to display a connection on a Network Map.

1 From the **Configuration** menu on the network map, select **Connection > Display** then choose **Circuit/Trail List** or **Client Trail List**, or **Assigned Ports List**.

Result:

A dialog box displays corresponding to your selection.

2 Enter specific query information in the dialog box, then select **OK**.

Result:

The Circuit/Trail List form, Client Trail List form, or Assigned Ports List form displays.

3 Select a row in the form, then select **Actions > Display Route on Map**.

Result:

The Network Map's Expanded Area map displays the connection or route corresponding to the selected port or trail list.

4 To refresh the display, use the "Reset the map view" (3-8).

END OF STEPS

□

Specify members and non-members

Purpose

There are many WaveStar NMS-related tasks that require users to group items, such as network elements, to form areas or aggregates. The windows associated with these tasks often require users to specify the items that belong to the group. A network element, for example, belonging to an area or aggregate (the group) is considered a ***member*** of that area or aggregate; a network element not belonging to an area or aggregate (the group) is considered a ***non-member***.

The following task shows you the generic way of specifying members and non-members for many WaveStar NMS-related tasks.

Task

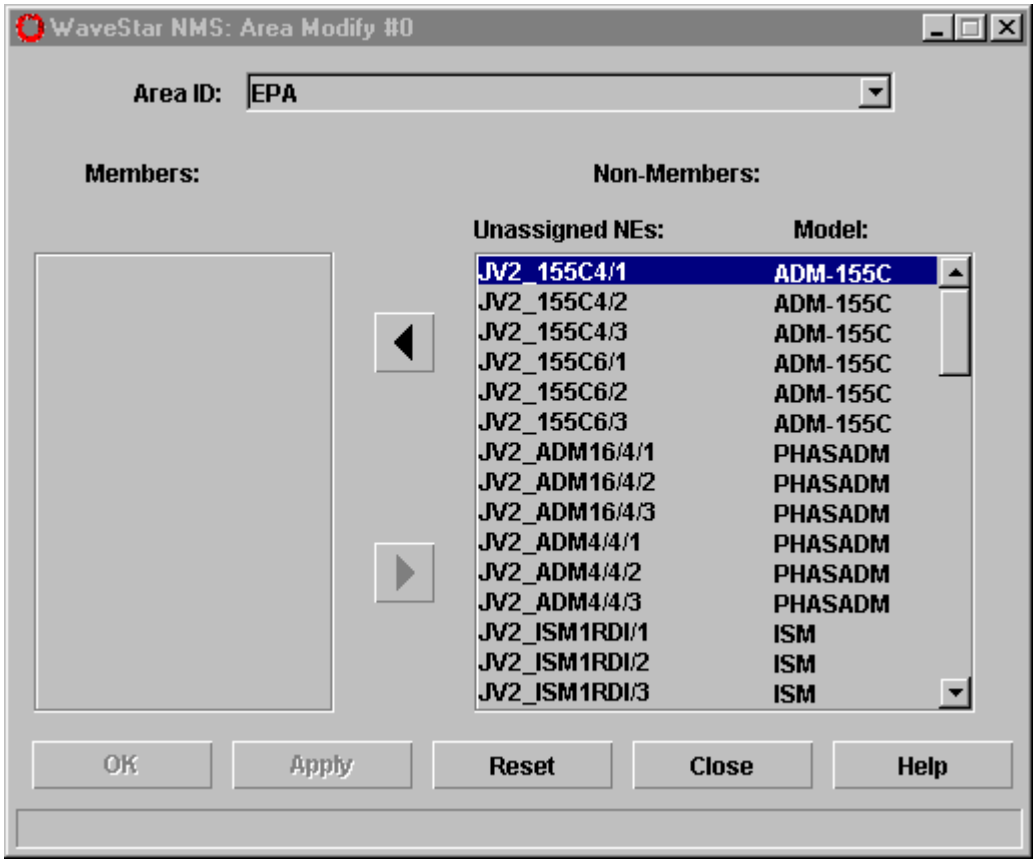
Important! This task assumes that you are working from a window with a member/non-member panel.

Use this task to specify a member or a non-member when using a window that requires a member/non-member designation.

1 In the **Non-Members** column, select an item to be specified as a member by clicking on it.

Result:

The item becomes highlighted, and the left arrow button becomes enabled.

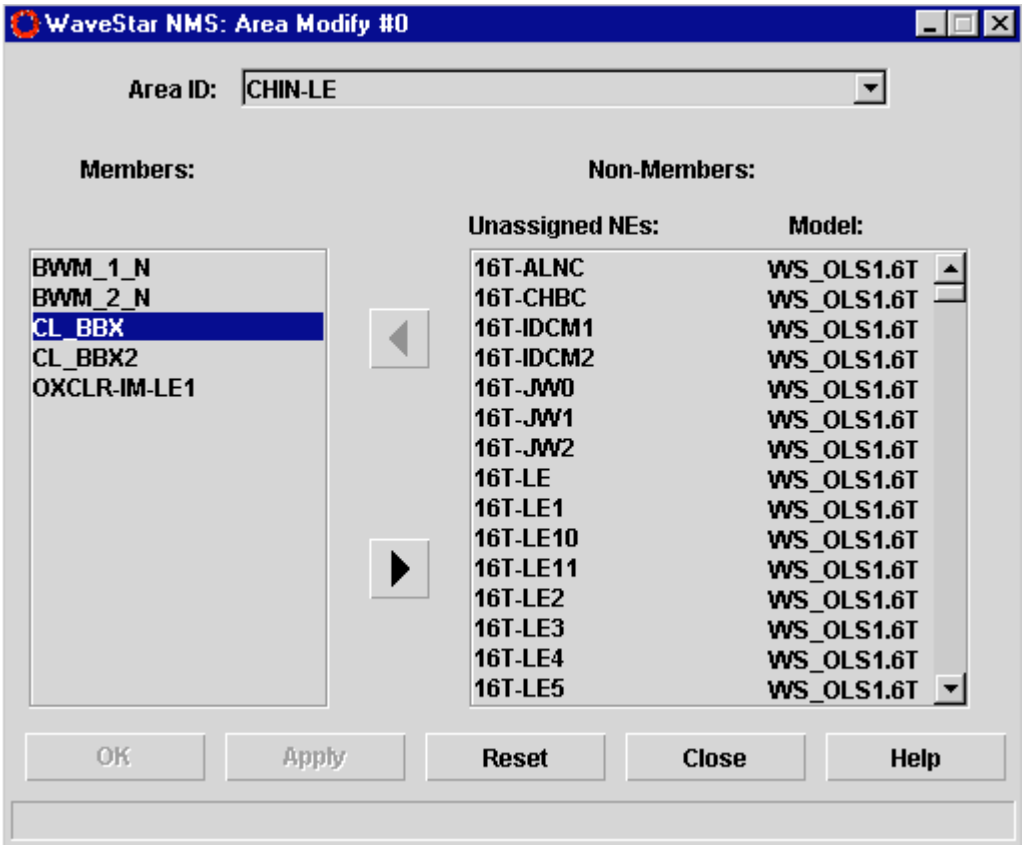


2 Press the window's left arrow button.

Result:

The system moves the selected item from the **Non-Members** list to the **Members** list, and the **Apply** button is enabled. Click **Apply** to store this change in the WaveStar NMS database and keep the window open for further modification. Or, click the **OK**

button to store this change in the WaveStar NMS database and close the window.



3 To make the member item a non-member, in the **Members** column, select the item and press the right arrow button.

Result:

The member item becomes a non-member, and the **Apply** button is enabled. Click **Apply** to store this change in the WaveStar NMS database.

END OF STEPS

4 Network Controller Map Features

Overview

Purpose

This chapter describes the features and functionality of the WaveStar NMS Network Controller Map.

The Network Controller Map provides information concerning Element Management System (EMS) status.

Contents

Open the Network Controller Map	4-2
The Network Controller Map	4-3
EMS Controller icon	4-6
Reposition an EMS icon	4-7
View network elements controlled by a particular EMS	4-8
Start or stop communication between WaveStar NMS and an EMS	4-9
Perform a database synchronization between WaveStar NMS and an EMS	4-10
Cut-through to an EMS from WaveStar NMS	4-11

Open the Network Controller Map

Purpose The Network Controller Map displays the element management controllers that are under WaveStar NMS management.

Task Complete the following task to display the Network Controller Map.

1 From the Network Map, select **File > Open Network Controller Map**.

Result:

The Network Controller Map displays.

END OF STEPS

□

The Network Controller Map

Purpose

This section describes the Network Controller Map.

Functionality

The Network Controller Map:

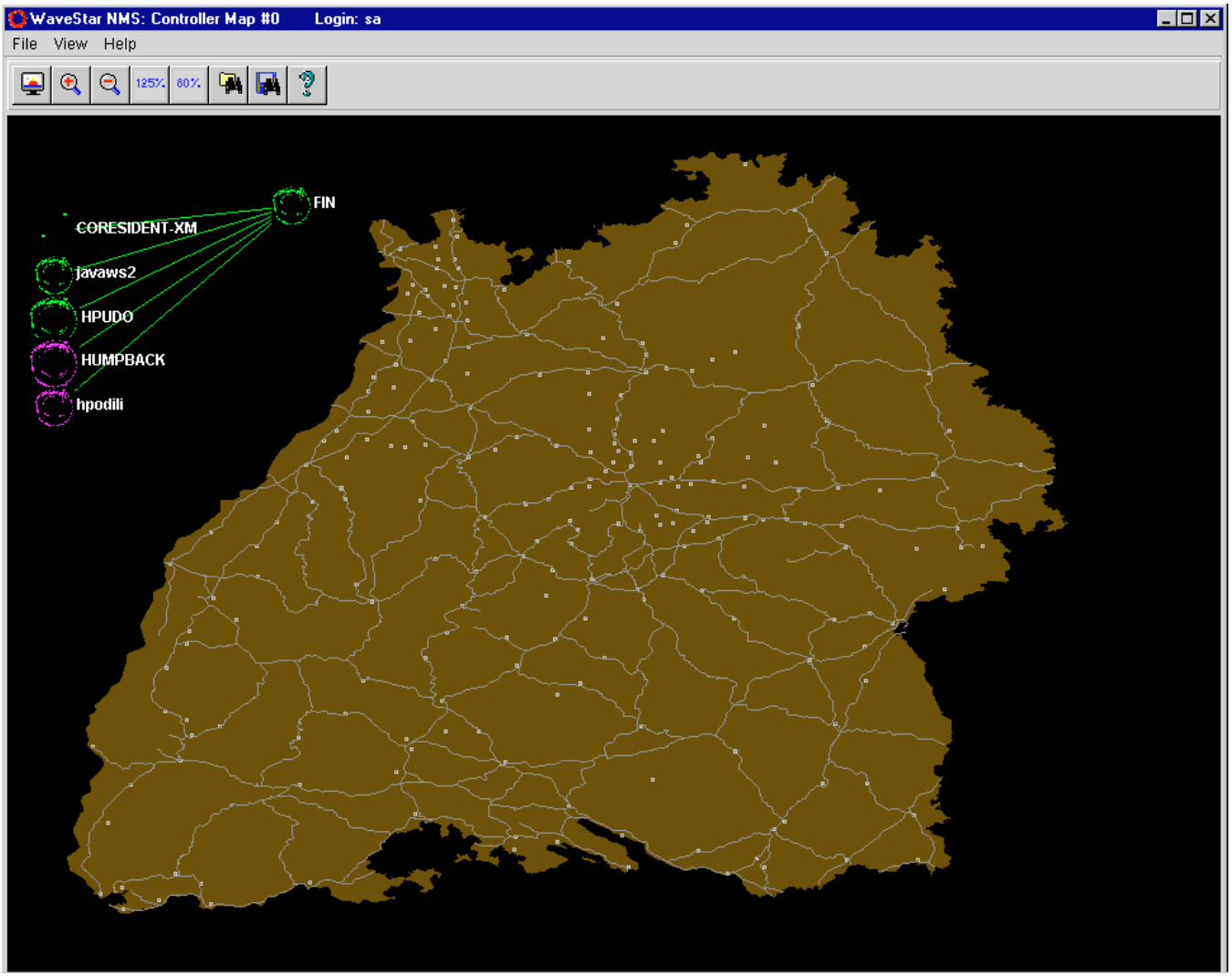
- Displays the Element Management Systems
- Provides information concerning EMS status
- Provides access to menus and forms from menu bar menus and the Node menus

Parts of the Network Controller Map

This section describes the features that comprise the Network Controller Map: the ***menu bar***, the ***toolbar***, and the ***map area***.

The following figure shows an example of the Network Controller Map.

Figure 4-1 The Network Controller Map



Menu bar

The menu bar provides access to several window-related functions. Refer to the Network Controller Map's screen help for complete descriptions of the Network Controller Map menu options.

Toolbar

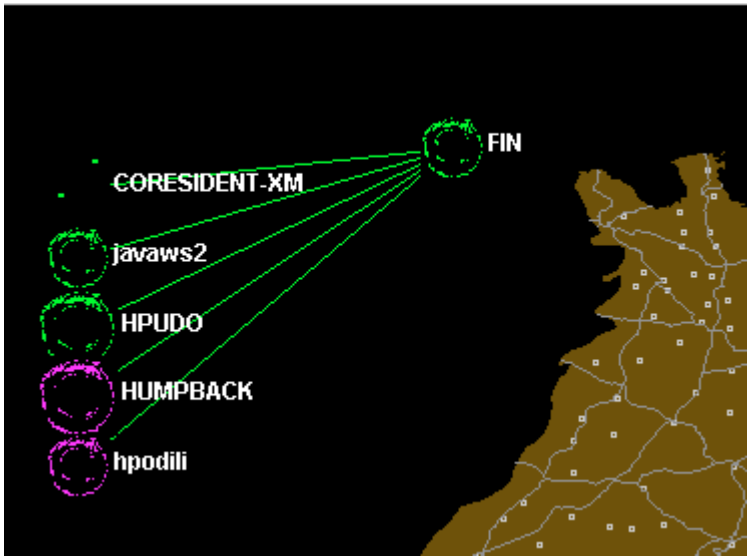
The toolbar provides user access to commonly used functions. It is the same toolbar that displays on the Network Map. See "Toolbar" (2-5) for a description of the icons in the toolbar.

Map area

The Network Controller Map:

- Shows the Element Management Systems
- Provides information concerning EMS status

Figure 4-2 The Network Controller Map display



EMS Controller icon

Purpose

This section describes non-Lucent, EMS Controller icons.

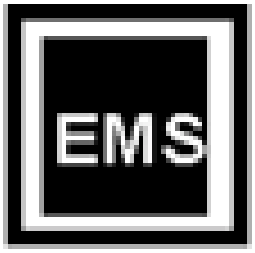
EMS Controller icon features

The figure below shows how icons used for non-Lucent, EMS Controllers, such as Nortel, Alcatel, and NERA display on the Network Controller Map. Note that the figure below displays a ***white*** border and ***white*** letters inside the icon, however the color of the border and letters will change to indicate the status of the Network Controller. See "Network element icon colors" (2-12) for a complete description of the alarm colors.

Note that the vendor name does not display on the icon. Instead, text in all capital letters will be positioned outside of the icon to indicate the name assigned to the controller.

The following figure shows a non-Lucent, EMS Controller icon.

Figure 4-3 Non-Lucent, EMS Controller icon



□

Reposition an EMS icon

Purpose Use the following procedure to reposition an EMS icon on the Network Controller Map.

Before you begin Before you reposition an icon, note the following items:

- This task only provides a temporary repositioning of an icon. In order to make the positioning permanent, a user must have system administrator privileges. See the ***WaveStar NMS Administration Guide*** for details.

Task Complete the following task to reposition an EMS icon on the Network Controller Map.

1 On the Network Controller Map, select the icon of the EMS you want to reposition.

Result:

A white square displays around the icon.

2 Drag and drop the icon to a new location.

Result:

The icon and its connecting links are repositioned.

END OF STEPS

□

View network elements controlled by a particular EMS

Purpose Use the following procedure to view the network elements controlled by a particular EMS.

Task Complete the following task to view the network elements controlled by a particular element management system.

1 On the Network Controller Map, right-click the icon for which you want to view the network elements.

Result:

A Node menu displays.

2 From the menu, select **Node Operation > Controlled NEs**.

Result:

The **Controlled Network Element List** form displays and lists all the original and currently assigned network elements.

3 Press **Close**.

Result:

The form closes.

END OF STEPS

□

Start or stop communication between WaveStar NMS and an EMS

Purpose Use the following procedure to start or stop communication between WaveStar NMS and an EMS.

Before you begin Before you start or stop communication between WaveStar NMS and an EMS, consider the following items:

- When communication has started, the EMS icon is green.
- When communication has been stopped, the EMS icon is magenta.

Task Complete the following task to start or stop communcation between WaveStar NMS and an EMS.

1 On the Network Controller Map, right-click on the EMS icon with which you wish to start or stop communcation.

Result:

A Node menu displays.

2 Select **Session > (Start or Stop) Communication**. Note that “Start” or “Stop” will depend if communication currently exists. If communication currently exists, users will have the option to “Stop” communication.

Result:

A confirmation window displays.

3 Press **OK**.

Result:

The window closes, and the management system icon changes color depending on whether communcation was started or stopped.

END OF STEPS

□

Perform a database synchronization between WaveStar NMS and an EMS

Purpose Use the following procedure to perform a database synchronization between WaveStar NMS and an EMS.

Task Complete the following task to perform a database synchronization between WaveStar NMS and an EMS.

1 On the Network Controller Map, right-click on the EMS icon with which you wish to synchronize.

Result:

A Node menu displays.

2 From the menu, select **Session > Start EMS Synchronization**.

Result:

The **Database Download/Synchronization** form displays.

3 Press **Apply**.

Result:

A confirmation message displays.

4 Press **Yes**.

Result:

The database synchronization is started. A window with a revolving globe displays. When the synchronization is done, the globe disappears and a message is displayed on both windows as to the success or failure of the synchronization.

END OF STEPS

□

Cut-through to an EMS from WaveStar NMS

Purpose Use the following procedure to cut-through to an EMS from WaveStar NMS.

Task Complete the following task to cut-through to an EMS from WaveStar NMS.

1 On the Network Controller Map, right-click on the EMS icon to which you wish to cut through.

Result:

A menu displays.

2 From the menu, select **Session > Login to EMS**.

Result:

The EMS display appears if the cut through is successful, otherwise a message displays if the cut through is unsuccessful.

END OF STEPS

□

Index

A

Aggregates, 3-2

Alcatel EMS icon, 4-6

Area map, 1-5, 2-8

Areas

displaying the network elements in an area, 1-6

expanding, 1-6

C

Colors

digital link icons, 2-13

network element icons, 2-12

Commenting on user documents, xi

Comments, xii

Communication with EMSs

database synchronization, 4-10

starting, 4-9

stopping, 4-9

Conventions

typographical, x

Cut-throughs to EMSs, 4-11

D

Database synchronization, 4-10

Date format

viewing, 1-27

Digital link icons

colors, 2-13

Display route, 3-9

Documentation

font usage, x

how to comment, xi, xii

list of, xi

on-line version, xi

E

Element Management Systems (EMSs)

cut-throughs, 4-11

database synchronization, 4-10

starting or stopping communications with, 4-9

viewing network elements controlled by an EMS, 4-8

EMS Controller icon, 4-6

EMS icons, 4-6

moving, 4-7

EMSs

See: Element Management Systems (EMSs)

Expanded Area map, 2-8

F

Font usage, x

H

Help, 1-29

screen help, xi

I

icon

Alcatel, 4-6

NERA, 4-6

Network Controller Map, 4-6

non-Lucent EMS Controller, 4-6

Nortel, 4-6

Icons

moving, 1-21

selecting, 1-22

specifying location of label, 1-20

unselecting, 1-22
Information products
font usage, x
how to comment, xi, xii
how to order, xii
list of, xi
on-line version, xi

L Links
viewing by type, 3-7

M Magnify the map view, 1-15
Map area
Network Controller Map, 4-5
Maps
magnify, 1-15
moving around within, 1-10
resizing, 1-9
zoom in, 1-11
zoom out, 1-13
Members
moving to non-members, 3-10
Menu bar, 2-4
Network Controller Map, 4-4
Move around the map, 1-10

N NERA EMS icon, 4-6
Network Controller Map
icon, 4-6
opening, 4-2, 4-3
parts of, 4-3
Network element icons
colors, 2-12
Network elements
finding a specific one, 3-6
listing per EMS, 4-8
viewing by name, 3-5
viewing by type, 3-4
Network Map, 2-2
display route, 3-9
overview, 1-7
parts of, 2-4
reset view, 3-8
start-up appearance, 1-3
updating, 1-25
viewing the legend, 1-23
Network Tree, 1-5
Network Tree map, 2-8
Node menus, 1-19
Nodes
finding a specific one, 3-6
viewing by name, 3-5
viewing by type, 3-4
Non-members
moving two members, 3-10
Nortel EMS icon, 4-6

O On-line documentation, xi, 1-28
On-line help
See: Screen help
Ordering
information products, xii

Q Query Again, 1-25

R Resize the maps, 1-9

S Screen help, xi, 1-29
Software version, 1-26
Status line, 2-13

T Toolbar, 2-5
Network Controller Map, 4-5
Typographical conventions, x

U User-defined area maps, 1-24

V Version number
viewing, 1-26

Z Zoom
maps, 1-11, 1-13