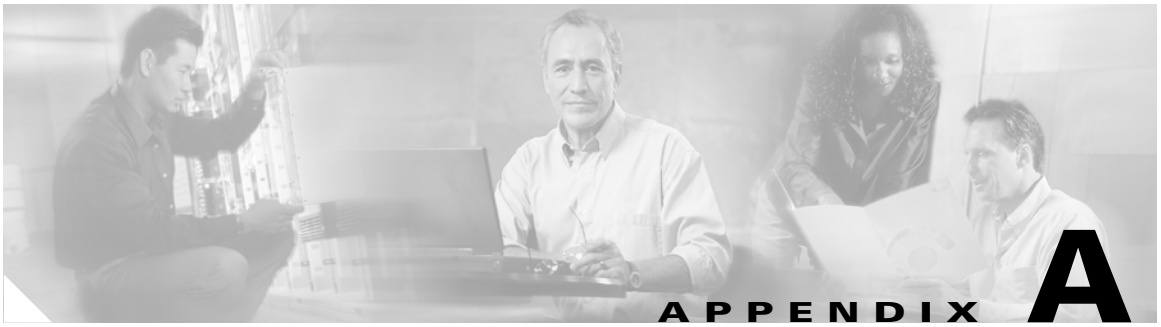

CTC Information and Shortcuts

This appendix describes how to navigate in the Cisco Transport Controller (CTC), change CTC table data displays, and lists menu and tool options for the Cisco ONS 15454. This appendix also describes the shelf inventory data presented in CTC. For information about CTC, refer to the Cisco Transport Controller Operation chapter in the *Cisco ONS 15454 Reference Manual*.

Note Except where noted, the reference material in this chapter applies to both DWDM (Software Release 4.5) and non-DWDM (Software R4.1 and earlier) nodes.

Displaying Node, Card, and Network Views

The Cisco Transport Controller provides three views of the ONS 15454 and ONS network:

- Node view appears when you first log into an ONS 15454. This view shows a graphic of the ONS 15454 shelf and provides access to tabs and subtabs that you use to manage the node.
- Card view provides access to individual ONS 15454 cards. This view provides a graphic of the card and provides access to tabs and subtabs that you use to manage the card.
- Network view shows all the nodes in a ring. A Superuser can set up this feature so each user will see the same network view, or the user can create a custom view with maps. This view provides access to tabs and subtabs that you use to manage the network.

Table A-1 lists different actions for changing CTC views.

Table A-1 Change CTC Views

To display:	Perform one of the following:
Node view	• Log into a node; node view is the default view. • In network view, double-click a node icon, or right-click the node and select **Open Node from the shortcut menu**. • In network view, single-click a node icon, then select **Go to Selected Object from the View menu**. • From the CTC View menu, select **Go to Other Node**, then select the node you want from the shortcut menu. • Use the arrows on the CTC toolbar to navigate up or down views. For example, in network view, click a node, then click the down arrow.
Network view	• In node view, click the up arrow or the Network View tool on the CTC toolbar. • From the View menu, select **Go To Network View**.
Card view	• In node view, double-click a card or right-click the card and select **Open Card**. • In node view, single-click a card icon, then select **Go to Selected Object from the View menu**. • Use the arrows on the CTC toolbar to navigate up or down views. For example, in node view, click a card, then click the down arrow.

Node Icons on the Network View Map

Table A-2 Description of Node Icons on Network View Map

Node Name	Icon	Description
SONET Node		A SONET node icon (in Software R4.1 and earlier) is represented as a cylinder with crossed arrows. SONET nodes can include OC-N cards, electrical cards, cross-connects, and more. DWDM cards do not inter operate with SONET cards in Software Release 4.5 or earlier.
Hube Node		A DWDM hub node icon (only in Software Release 4.5) is represented as a three dimensional cylinder with amplifiers. A hub node contains at least two 32 channel demultiplexor, two 32 channel multiplexor and no OADM cards are provisioned.
OADM Node		A DWDM OADM node icon (only in Software Release 4.5) is represented as a three dimensional cylinder with arrows. An OADM node contains at least one AD-xC or AD-xB and no 32 channel multiplexor and 32channel demultiplexor cards are provisioned.

Table A-2 Description of Node Icons on Network View Map (continued)

Node Name	Icon	Description
Terminal Nodes (West		A DWDM west terminal node icon (only in Software Release 4.5) is represented as a three dimensional cylinder with one amplifier on the west-side of the icon. A terminal node contains one 32 channel demultiplexor and one 32 channel multiplexor. No OADM cards are provisioned.
Terminal Nodes (East)		A DWDM east terminal node icon (only in Software Release 4.5) is represented as a three dimensional square with one amplifier on the east-side of the icon. A terminal node contains one 32 channel demultiplexor and one 32 channel multiplexor. No OADM cards are provisioned.
Line		A DWDM line node icon (only in Software Release 4.5) is represented as a three dimensional cylinder with one arrow pointing west and another arrow pointing east. A line node only has OPT-PRE or OPT-BST amplifiers provisioned.
Unknown		An unknown DWDM node icon (only in Software Release 4.5) is represented as a three dimensional cylinder with one arrow pointing north. An unknown node means that the provisioned cards do not allow the node to fit in with any of the defined DWDM node categories.

Manage the CTC Window

Different navigational methods are available within the CTC window to access views and perform management actions. You can double-click and right-click objects in the graphic area and move the mouse over nodes, cards, and ports to view popup status information.

CTC Menu and Toolbar Options

The CTC window menu bar and toolbar provide primary CTC functions. Table A-3 shows the actions that are available from the CTC menu and toolbar.

Table A-3 CTC Menu and Toolbar Options

Menu	Menu Option	Toolbar	Description
File	Add Node		Adds a node to the current session.
	Delete Selected Node		Deletes a node from the current session.
	Lock CTC		Locks CTC without closing the CTC session. A user name and password are required to open CTC.
	Print		Prints CTC data.

Table A-3 CTC Menu and Toolbar Options (continued)

Menu	Menu Option	Toolbar	Description
	Export		Exports CTC data.
	Exit		Closes the CTC session. The exit icon only appears in the File menu.
Edit	Preferences		Displays the Preferences dialog box: General tab—Allows you to change event defaults and manage preferences. Login Node Groups tab—Allows you to create login node groups. Map—Allows you to customize the network view. Circuit—Allows you to change the color of circuit spans. Firewall—Sets the IIOP listener ports for access to the ONS 15454 through a firewall.
View	Go to Previous View		Displays the previous CTC view.
	Go to Next View		Displays the next CTC view. Available only after you navigate to a previous view. Go to Previous and Go to Next are similar to forward and backward navigation in a web browser.
	Go to Parent View		References the CTC view hierarchy: network view, node view, and card view. In card view, this command displays the node view; in node view, the command displays network view. Not available in network view.
	Go to Selected Object View		Displays the object selected in the CTC window.
	Go to Home View		Displays the login node in node view.
	Go to Network View		Displays the network view.
	Go to Other Node		Displays a dialog box allowing you to type in the node name or IP address of a a network node that you want to view.
	Show Status Bar	—	Click this item to display or hide the status bar at the bottom of the CTC window.
	Show Tool Bar	—	Click this item to display or hide the CTC toolbar.
—	Network View	—	In Software Release 4.5, the network view drop-down menu has three options: DWDM, TDM, or All. If you select DWDM, only DWDM nodes are displayed on the network view map. If you select TDM, only TDM nodes are displayed on the network view map. If you select All, every node on the network is displayed on the network view map.
—	—		Decreases the size of the map area in network view (toolbar only).
—	—		Increases the size of the map area in network view (toolbar only).
—	—		Increases the size of a selected area of the map in network view (toolbar only).

Table A-3 CTC Menu and Toolbar Options (continued)

Menu	Menu Option	Toolbar	Description
Tools	Circuits	—	Displays the following options: • Repair Circuits—Repairs incomplete circuits following replacement of the ONS 15454 AIP board. Refer to the *Cisco ONS 15454 Troubleshooting Guide* for more information. • Set Path Selector Attributes—Allows you to edit UPSR circuit path selector attributes. • Set Circuit State—Allows you to change a circuit state. • Convert CTC Circuits to TL1 Cross Connects—If a cross-connect in a circuit gets deleted, this menu option allows a user to repair a circuit by separating an incomplete CTC circuit into TL1 cross-connects. Then, the user can replace the missing cross-connect. • Upgrade TL1 Cross Connects to CTC Circuits—Allows you to convert TL1 cross-connects to CTC circuits. • Roll Circuit—Allows you to reroute live traffic without interrupting service. This feature requires an ONS 15600 on your network. Refer to the *Cisco ONS 15600 Procedure Guide*. • Delete Rolls —This feature requires an ONS 15600 on your network. Refer to the *Cisco ONS 15600 Procedure Guide.*
	Manage VLANs	—	Displays a list of VLANs that have been created and allows you to delete or create new VLANs.
	Open TL1 Connection		Displays the TL1 session dialog box so you can create a TL1 session to a specific node. Refer to the *Cisco ONS 15454 and Cisco ONS 15327 TL1 Command Guide*.
	Open IOS Connection		Displays the IOS command line interface dialog box if an IOS capable card (ML1000-2 or ML100T-12) is installed in the node. Refer to the *Cisco ONS 15454 SONET/SDH ML-Series Multilayer Ethernet Card Software Feature and Configuration Guide*.
Help	Contents and Index	—	Displays the online help window.
	Manage Help	—	Displays the versions of online help loaded on your computer.
	About CTC	—	Displays the software version and the nodes in the CTC session.

CTC Mouse Options

In addition to the CTC menu bar and toolbar, you can invoke actions by double-clicking CTC window items with your mouse, or by right-clicking an item and selecting actions from shortcut menus. Table A-4 lists the CTC window mouse shortcuts.

Table A-4 CTC Window Mouse Shortcuts

Technique	Description
Double-click	• Node in network view—Displays the node view. • Card in node view—Displays the card view. • Alarm/Event—Displays the object that raised the alarm or event. • Circuits—Displays the Edit Circuit window.
Right-click	• Network view graphic area—Displays a menu that you can use to create a new domain, change the position and zoom level of the graphic image, save the map layout (if you have a Superuser security level), reset the default layout of the network view, and set, change, or remove the background image and color. • Node in network view—Displays a menu that you can use to open the node, reset the node icon position to the longitude and latitude set on the Provisioning > General tab, delete the node, fix the node position for auto layout, provision circuits, provision channels, and update circuits or channels with a new node. • Span in network view—Displays a menu that you can use to view information about the span's source and destination ports, the protection scheme, and the optical or electrical level. You can display the Circuits on Spans dialog box, which displays additional span information and allows you to perform UPSR protection switching. You can also perform span upgrades from this menu. • Card in node view—Displays a menu that you can use to open, delete, reset, and change cards. The card that is selected determines the commands that are displayed. • Card in card view—Displays a menu that you can use to reset the card, or go to the parent view (node view). • Empty slot in node view—Displays a menu with cards that you can select to preprovision the slot.

Table A-4 CTC Window Mouse Shortcuts (continued)

Technique	Description
Move mouse cursor	• Over node in network view—Displays a summary of node alarms and provides a warning if the node icon has been moved out of the map range. • Over span in network view—Displays circuit (node, slot, port) bandwidth and protection information. In Software R4.5, on DWDM spans the optical direction and optical ring ID are displayed. If the span terminates on the trunk port of a transponder card (TXP/MXP), the associated DWDM wavelength is also displayed. • Over card in node view—Displays card type and card status. In Software R4.5, on DWDM cards the number of bands or channels are displayed depending on the card type. The card type and card status are also displayed. • Over card port in node view—Displays card name, port state, and alarm profile status. • Over card port in card view—Displays port state, protection status (if applicable), and alarm profile status. In Software R4.5, on DWDM cards the port number is labeled as channel, band, or line depending on the card type along with the port state and alarm profile status display.

Node View Shortcuts

Table A-5 shows actions on ONS 15454 cards that you can perform by moving your mouse over the CTC window.

Table A-5 Node View Card-Related Shortcuts

Action	Shortcut
Display card information	In node view, move your mouse over cards in the graphic to display tooltips with the card type, card present or card provisioned but not present, the highest level of alarm (if any), and the alarm profile used by the card.
Open, reset, or delete a card	In node view, right-click a card. Select Open to display the card in card view, Delete to delete it, or Reset to reset the card.
Preprovision a slot	In node view, right-click an empty slot. Select the card type that you want to provision the slot from the shortcut menu.
Change a card	In node view, right-click an OC-N card or a DS3 card, and select Change Card. In the Change Card dialog box, select the card type. Change card retains all card provisioning, including DCC terminations, protection, circuits, and ring.

Network View Tasks

Right-click the network view graphic area or a node, span, or domain to display shortcut menus. Table A-6 lists the actions that are available from the network view.

Table A-6 Network Management Tasks in Network View

Action	Task
Open a node	Any of the following: • Double-click a node icon. • Right-click a node icon and choose Open Node from the shortcut menu. • Click a node and choose Go to Selected Object View from the CTC View menu. • From the View menu, choose Go To Other Node. Select a node from the Select Node dialog box. • Double-click a node alarm or event in the Alarms or History tab.
Move a node icon	Press the Ctrl key and the left mouse button simultaneously and drag the node icon to a new location.
Reset node icon position	Right-click a node and choose Reset Node Position from the shortcut menu. The node icon moves to the position defined by the longitude and latitude fields on the Provisioning > General tab in node view.
Provision a circuit	Right-click a node. From the shortcut menu, choose Provision Circuit To and select the node where you want to provision the circuit.
Update circuits with new node	Right-click a node and choose Update Circuits With New Node from the shortcut menu. Use this command when you add a new node and want to pass circuits through it.
Display a link end point	Right-click a span. From the shortcut menu, select Go To [node/slot/port] for the drop port you want to view. CTC displays the card in card view.
Display span properties	Do any of the following: • Move mouse over a span; the properties appear near the span. • Click a span; the properties appear in the upper left corner of the window. • Right-click a span; the properties appear at the top of the shortcut menu.
Perform a UPSR protection switch for an entire span	Right-click a network span and click Circuits. In the Circuits on Span dialog box, switch options are displayed in the UPSR Span Switching field.
Display DWDM span properties	Right-click a DWDM network span and click Circuits. The OCHNC channel, optical direction, and circuit are displayed.
Upgrade a span	Right-click a span and choose Upgrade Span from the shortcut menu.

Table Display Options

Right-clicking a table column displays a menu. Table A-7 shows table display options, which include rearranging or hiding CTC table columns and sorting table columns by primary or secondary keys.

Table A-7 Table Display Options

Task	Click	Right-Click Shortcut Menu
Resize column	Left-click while dragging the header separator to the right or left.	—
Rearrange column order	Left-click while dragging the column header to the right or left.	—
Reset column order	—	Choose Reset Columns Order/Visibility.
Hide column	—	Choose Hide Column.
Show column	—	Choose Show Column > *column_name*.
Display all hidden columns	—	Choose Reset Columns Order/Visibility.
Sort table (primary)	Click a column header; each click changes sort order (ascending or descending).	Choose Sort Column.
Sort table (secondary sorting keys)	Press the **Shift** key and simultaneously click the column header.	Choose Sort Column (incremental).
Reset sorting	—	Choose Reset Sorting.
View table row count	—	View the number listed next to "Row Count," it is the last item on the shortcut menu.

Equipment Inventory

In node view, the Inventory tab displays information about the ONS 15454 equipment, including:

- Delete Button—After highlighting a card with your mouse, use this button to delete the card from node view.
- Reset Button—After highlighting a card with your mouse, use this button to reset the card.
- Location—Identifies where the equipment is installed, either chassis or slot number.
- Eqpt Type—Displays the type of equipment but not the specific card name, for example, OC-12 or DS-1.
- Actual Eqpt Type—Displays the actual equipment type, for example, OC12 IR/STM4 SH 1310.
- HW Part #—Displays the hardware part number; this number is printed on the top of the card or equipment piece.
- HW Rev—Displays the hardware revision number.
- Serial #—Displays the equipment serial number; this number is unique to each card.

- CLEI Code—Displays the Common Language Equipment Identifier code.
- Firmware Rev—Displays the revision number of the software used by the ASIC chip installed on the ONS 15454 card.