This chapter contains the procedures for viewing and managing the alarms and conditions on a Cisco ONS 15454 SDH.

Cisco Transport Controller (CTC) detects and reports SDH alarms generated by the Cisco ONS 15454 SDH and the SDH network. You can use CTC to monitor and manage alarms at a card, node (default login), or network level. You can also view alarm counts on the LCD screen located on the fan-tray assembly.

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Before You Begin

This section lists the chapter procedures (NTPs). Turn to a procedure for applicable tasks (DLPs).

1. NTP-D195 Document Existing Provisioning-Complete this procedure as needed to print or export node data.
2. NTP-D196 View Alarms, History, Events, and Conditions-Complete this procedure as needed to see alarms and conditions occurring on the node and a complete history of alarm and condition messages.
3. NTP-D68 Delete Cleared Alarms from Display-Complete this procedure as needed to delete cleared alarm information.
4. NTP-D69 View Alarm-Affected Circuits-Complete this procedure as needed to find circuits that are affected by a particular alarm or condition.
5. NTP-D70 View Alarm Counts on the LCD for a Node, Slot, or Port-Complete this procedure as needed to see a statistical count of alarms that have occurred for a slot or port.
6. NTP-D71 Create, Download, and Assign Alarm Severity Profiles-Complete this procedure as needed to change the default severity for certain alarms, to assign the new severities to a port, card, or node, and to delete alarm profiles.
7. NTP-D168 Enable, Modify, or Disable Alarm Severity Filtering-Complete this procedure as needed to enable, disable, or modify alarm severity filtering in the Conditions, Alarms, or History windows at the node or network level.
8. NTP-D72 Suppress Alarms or Discontinue Alarm Suppression-Complete this procedure as needed to suppress reported alarms at the port, card, or node level and to disable the suppress command to resume normal alarm reporting.
9. NTP-D247 Provision External Alarms and Controls on the Alarm Interface Controller-International-Complete this procedure as needed to provision external alarms and controls on the AIC-I card.

NTP-D195 Document Existing Provisioning

Purpose	Use this procedure to print or export card, node, or network CTC information in graphical or tabular form on a Windows-provisioned printer. This procedure is useful for network record keeping and troubleshooting.
Tools/Equipment	A printer connected to the CTC computer by a direct or network connection.
Prerequisite Procedures	Turn Up a Node
Required/As needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

1. Complete "DLP-D60 Log into CTC" task at the node where you want to record or save data. If you are already logged in, continue with Step 2.
2. As needed, complete the "DLP-D146 Print CTC Data" task.
3. As needed, complete the "DLP-D147 Export CTC Data" task.

Stop. You have completed this procedure.

NTP-D196 View Alarms, History, Events, and Conditions

Purpose	Use this procedure to view current or historical alarms and conditions for a card, node, or network. This information is useful for monitoring and troubleshooting hardware and software events.
Tools/Equipment	None
Prerequisite Procedures	None
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

1. Complete "DLP-D60 Log into CTC" task at the node that contains the alarms you want to view. If you are already logged in, continue with Step 2.
2. Complete the "DLP-D82 View Alarms" task as needed.
3. Complete the "DLP-D424 View Alarm or Event History" task as needed.
4. Complete the "DLP-D111 Changing the Maximum Number of Session Entries for Alarm History" task as needed.
5. Complete the "DLP-D112 Display Alarms and Conditions Using Time Zone" task as needed.
6. Complete the "DLP-D113 Synchronize Alarms" task as needed.
7. Complete the "DLP-D114 View Conditions" task as needed.

Stop. You have completed this procedure.

NTP-D68 Delete Cleared Alarms from Display

Purpose	This procedure deletes Cleared (C) status alarms from the alarms window or transient messages from the CTC History window.
Tools/Equipment	None
Prerequisite	None

Procedures	
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

1. Complete the "DLP-D60 Log into CTC" task. If you are already logged in, continue with Step 2.
2. To delete cleared node-level alarms:
    1. In the node view, click the **Alarms** tab.
    2. Click **Delete Cleared Alarms**, referring to the following rules:
        - ◊ If the Autodelete Cleared Alarms check box is checked, an alarm disappears from the window when it is cleared.
        - ◊ If the Autodelete Cleared Alarms check box is not checked, an alarm remains in the window when it is cleared. The alarm appears white in the window and has a Clear (C) severity. The alarm can be removed by clicking the **Delete Cleared Alarms** button.

    This action removes any cleared ONS 15454 SDH alarms from the Alarms display. The rows of cleared alarms turn white and have a C in their status (ST) column (Figure 18-5).
3. To delete cleared card-level alarms:
    1. In the node view, double-click the card graphic for the card you want to open.
    2. Click the **Alarms** tab and then click **Delete Cleared Alarms**, referring to the rules in Step 2.
4. To delete cleared network-level alarms:
    1. Choose **Go to Network View** from the View menu.
    2. Click the **Alarms** tab and then click **Delete Cleared Alarms**, referring to the rules in Step 2.
5. To remove the transient messages from the History window, click **Delete Cleared Alarms**. Transient messages are single messages and not raise-and-clear pairs (that is, they do not have companion messages stating they are cleared).

    Stop. You have completed this procedure.

NTP-D69 View Alarm-Affected Circuits

Purpose	Use this procedure to view all circuits, if any, that are affected by an alarm or condition.
Tools/Equipment	None
Prerequisite Procedures	NTP-D196 View Alarms, History, Events, and Conditions
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

1. Complete the "DLP-D60 Log into CTC" task. If you are already logged in, continue with Step 2.
2. In network, node, or card view, click the **Alarms** tab or **Conditions** tab and then right-click anywhere in the row of an active alarm or condition.

    Note: The node view is the default, but you can also navigate to the Alarms tab in the network view or card view to perform Step 2.

    The Select Affected Circuit option appears in the shortcut menu (Figure 9-1).

Figure 9-1: Select Affected Circuits Option

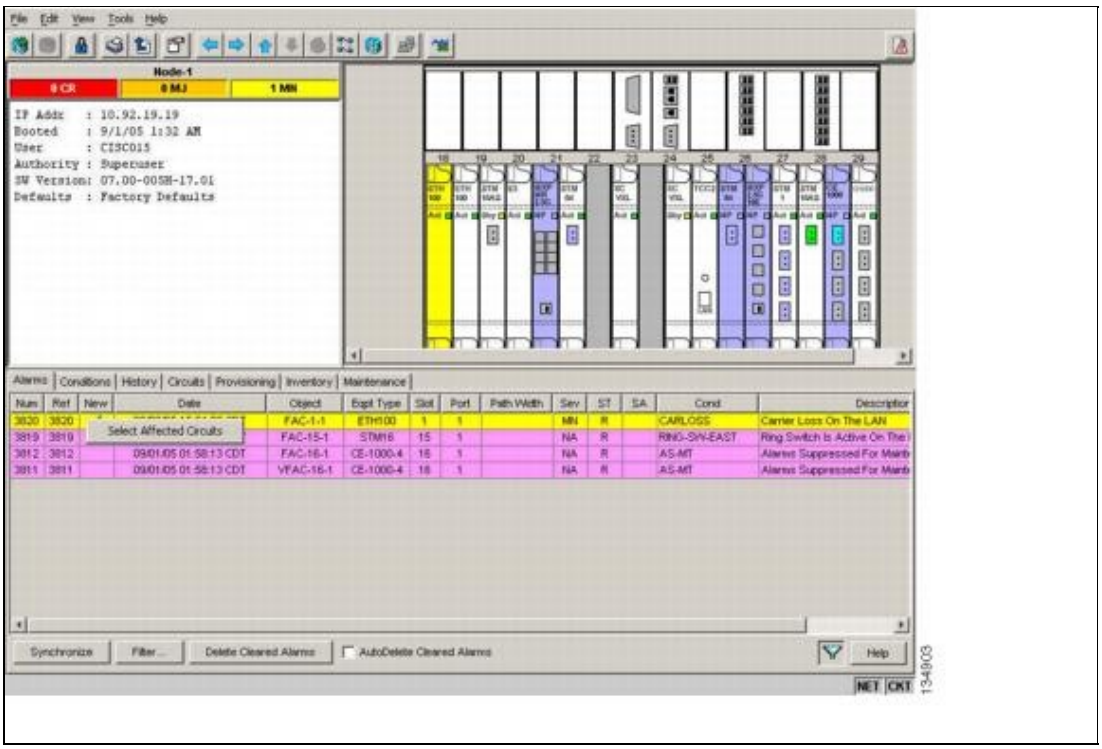


Figure 9-1: Select Affected Circuits Option

3. Click **Select Affected Circuits**.

   The **Circuits** window appears with the affected circuits highlighted.
4. If you want to search for particular circuits, see the "DLP-D131 Search for Circuits" task.

   Stop. You have completed this procedure.

NTP-D70 View Alarm Counts on the LCD for a Node, Slot, or Port

Purpose	Use this procedure to view an alarm summary for a node, slot, or port without using CTC.
Tools/Equipment	None
Prerequisite Procedures	None
Required/As Needed	As needed
Onsite/Remote	Onsite
Security Level	None

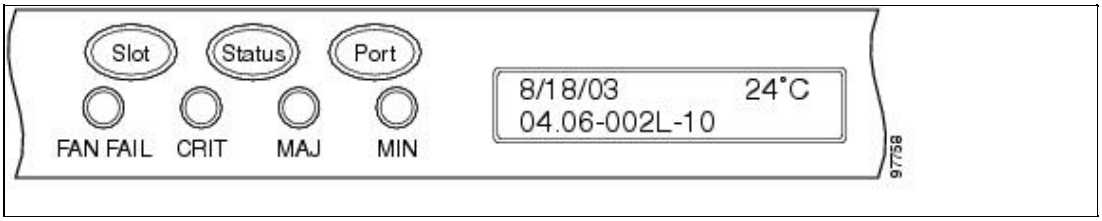
1. If you want to view the entire alarm summary for the node, press either the **Slot** button or **Port** button on the LCD panel until "Node" appears on the LCD. You will also see the direction, "Status=Alm Ct." This means that if you press the Status button at this time, as directed in Step 2, you will see an alarm count for the node.
2. Press the **Status** button. You will see a message similar to, "Alm CT: 2: MJ:2 MN:2," meaning there are two critical alarms, two major alarms, and two minor alarms.
3. If you want to see alarm counts for a particular slot, such as the alarms for an STM-1 card in Slot 2, press the **Slot** button until you see "Slot-3" on the LCD. You will also see the direction, "Status=Alm Ct."
4. Press the **Status** button to see a summary of alarms and severities against the slot. For example, you might see, "Slot-3 Alm CT:0 MJ:1 MN:2," meaning that there are no critical alarms, one major

alarm, and two minor alarms against the slot.

5. If you want to view the alarms against a port on the card, such as Port 3 of the STM-3 card you viewed previously, press **Port** until you see "Port-3 Status=Alm Ct."
6. Press **Status** to view alarm count against the port. You will see a message similar to, "Port-3 Alm CT:0 MJ:1 MN:0." This means that there is one major alarm against this port.

   Figure 9-2 shows the shelf LCD panel.

Figure 9-2: Shelf LCD Panel



To return to the previous view from the Port screen, continue to press **Port** until the display cycles through all the ports on the slot. For instance, on the STM-3 card, press Port until it cycles past Slot 4 and you see "Slot."

To return to the node menu from the Slot screen, press **Slot** until you cycle through all the slots and see "Node."

If you do not press any buttons, the LCD display will return to its default display with the node name. However, if you did not cycle through the options to return to the node status, you will see the slot or port where you last checked status.

Stop. You have completed this procedure.

NTP-D71 Create, Download, and Assign Alarm Severity Profiles

Purpose	This procedure creates a customized alarm profile at the network, node, or card level.
Tools/Equipment	None
Prerequisite Procedures	None
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

1. Complete the "DLP-D60 Log into CTC" task at the node where you want to create an alarm profile. If you are already logged in, go to Step 2 to create, clone or modify an alarm profile, or continue with Step 3 to download an alarm profile.
2. Complete the "DLP-D425 Create a New or Cloned Alarm Severity Profile" task. This task clones a current alarm profile, renames the profile, and customizes the new profile.
3. Complete the "DLP-D223 Download an Alarm Severity Profile" task. This task downloads an alarm severity profile from a CD or a node.

   Note: After storing a created or downloaded alarm profile, you must go to the node (either by logging into it or clicking on it from the network view) and activate the profile by applying it to the shelf, one or more cards, or one or more ports.
4. As necessary, complete the "DLP-D426 Apply Alarm Profiles to Ports" task or the "DLP-D117 Apply Alarm Profiles to Cards and Nodes" task.

5. As necessary, complete the "DLP-D427 Delete Alarm Severity Profiles" task.
   Stop. You have completed this procedure.

NTP-D168 Enable, Modify, or Disable Alarm Severity Filtering

Purpose	This procedure starts, changes, or stops alarm filtering for one or more severities in the Alarms, Conditions, and History windows in all network nodes.
Tools/Equipment	None
Prerequisite Procedures	None
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

1. Complete the "DLP-D60 Log into CTC" task at the node where you want to enable alarm severity filtering. If you are already logged in, continue with Step 2.
2. As necessary, complete the "DLP-D225 Enable Alarm Filtering" task. This task enables alarm filtering at the card, node, and network views for all nodes in the network. Alarm filtering can be enabled for alarms, conditions, or events.
3. As necessary, complete the "DLP-D428 Modify Alarm, Condition, and History Filtering Parameters" task to modify the alarm filtering for network nodes to show or hide particular alarms or conditions.
4. As necessary, complete the "DLP-D227 Disable Alarm Filtering" task to disable alarm profile filtering for all network nodes.
   Stop. You have completed this procedure.

NTP-D72 Suppress Alarms or Discontinue Alarm Suppression

Purpose	This procedure prevents alarms from being reported for a port, card, or node in circumstances when an alarm or condition is known to exist but you do not want to include it in the Alarms or History display.
Tools/Equipment	None
Prerequisite Procedures	None
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

1. Complete the "DLP-D60 Log into CTC" task. If you are already logged in, continue with Step 2.
2. Complete the "DLP-D430 Suppress Alarm Reporting" task to enable the node to send autonomous messages that clear specific raised alarms and cause suppressed alarms to appear in the Conditions window.
   Note: Suppressing one or more alarms prevents them from appearing in Alarm or History windows or in any other clients. The suppress command causes CTC to display them in the Conditions window with their severity, their severity color code, and service-affecting status.
3. Complete the "DLP-D431 Discontinue Alarm Suppression" task to discontinue alarm suppression and resume normal alarm reporting.
   Stop. You have completed this procedure.

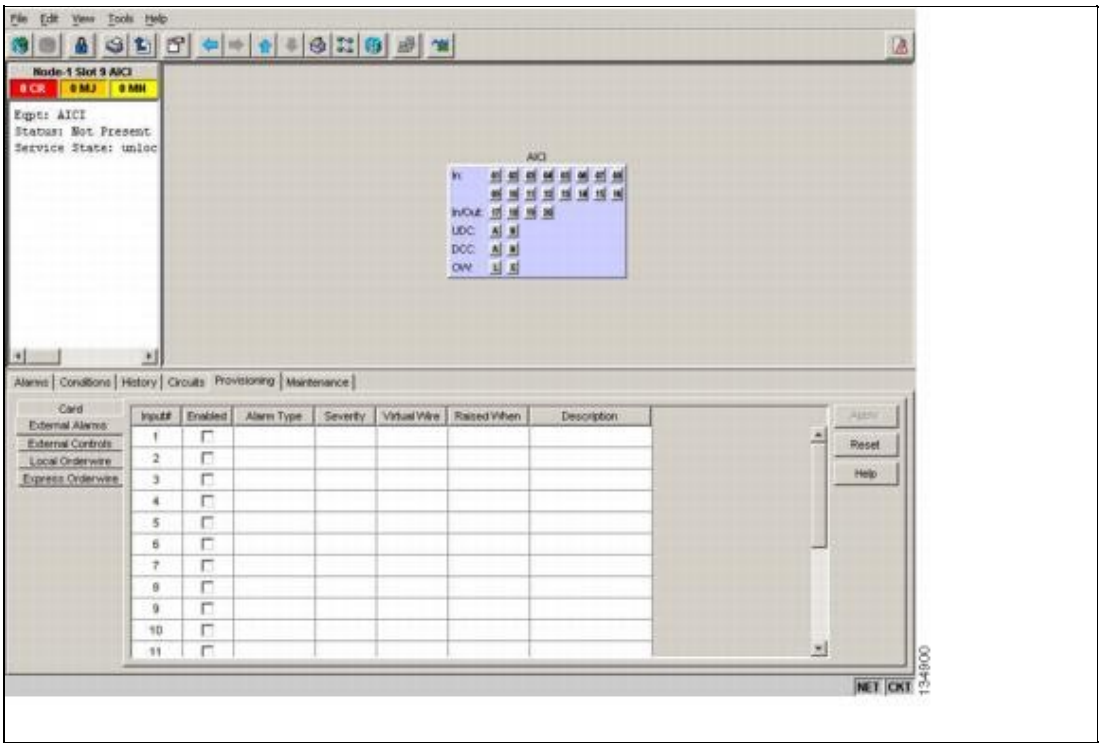
NTP-D247 Provision External Alarms and Controls on the Alarm Interface Controller-International

Purpose	This procedure creates external (environmental) alarms and external controls on the AIC or AIC-I card.
Tools/Equipment	An AIC-I card must be installed in Slot 9.
Prerequisite Procedures	NTP-D24 Verify Card Installation
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Note: For information about the AIC-I external alarms and controls, virtual wire, and orderwire, refer to the *Cisco ONS 15454 SDH Reference Manual*.

1. Verify the alarm contact wiring using the following substeps. See the NTP-D223 Attach Wires to Alarm, Timing, LAN, and Craft Pin Connections for information about the ONS 15454 SDH contacts.
    1. For external alarms, verify that the external device relays are wired to the ENVIR ALARMS IN connector pins.
    2. For external controls, verify the external device relays are wired to the ENVIR ALARMS OUT connector pins.
2. Complete the "DLP-D60 Log into CTC" task. If you are already logged in, continue with Step 3.
3. In the node view, double-click the AIC-I card shelf graphic. The card view appears.
4. Click the **Provisioning > Card** tabs.
5. In the Input/Output area, click one of the following options:
    - **External Alarm**-Select External Alarm if you use external alarms only. Selecting External Alarm gives you 20 external alarm ports.
    - **External Control**-Select External Control if you use both external alarms and external controls. If you select External Control, four of the ports are converted to external control ports, leaving you with 16 external alarm ports.
6. Click **Apply**.
7. If you are provisioning external alarms, click the **External Alarms** tab (Figure 9-3). If you are not provisioning external alarms, skip Steps 9 through 11 and go to Step 12.
8. To add User Defined Alarm Types, complete the "DLP-D291 Create User Defined Alarm Types" task. If you are not adding User Defined Alarm Types continue with Step 9.

Figure 9-3: Provisioning External Alarms on the AIC-I Card



9. Complete the following fields for each external device wired to the ONS 15454 SDH backplane:

   - Enabled - Check the check box to activate the fields for the alarm input number.
   - Alarm Type - Choose an alarm type from the drop-down list.
   - Severity - Choose a severity from the drop-down list.

   The severity determines the severity the alarm has in the Alarms and History tabs and determines whether the LEDs are activated. Critical (CR), Major (MJ), and Minor (MN) alarms activate the LEDs. Not Alarmed (NA) and Not Reported (NR) do not activate LEDs, but do report the information in CTC.

   - Virtual Wire - Choose the virtual wire number from the drop-down list to assign the external device to a virtual wire. Otherwise, do not change the default (None). For information about the AIC-I virtual wire, see the "Alarm Monitoring and Management" chapter in the *Cisco ONS 15454 SDH Reference Manual*.
   - Raised When - From the drop-down list, choose the contact condition (open or closed) that triggers the alarm.
   - Description - A default description is provided; enter a different description if needed.
10. To provision additional devices, complete Step 9 for each additional device.
11. Click **Apply**.
12. If you are provisioning external controls, click the **External Controls** tab and complete the following fields for each external control wired to the ONS 15454 SDH connectors:

    - Enabled - Check this check box to activate the fields for the alarm input number.
    - Control Type - Choose the control type from the drop-down list: air conditioner, engine, fan, generator, heat, light, sprinkler, or miscellaneous.
    - Trigger Type - Choose a trigger type: a local minor, major, or critical alarm; a remote minor, major, or critical alarm; or a virtual wire activation.
    - Description - Enter a description.
13. To provision the other external controls, complete Step 12 for each additional device.
14. Click **Apply**.

Figure 9-3: Provisioning External Alarms on the AIC-I Card

Note: When you provision an external alarm, the alarm object is ENV-IN-*nn*. The variable *nn* refers to the external alarm's number, regardless of the name you assign.
Note: Environmental alarms that you create (and name) should be recorded locally for the network element (NE). Both the alarm name and resolution are node-specific.
Stop. You have completed this procedure.