White Paper

Cisco Prime Optical and Alarm Profile Deployment

Network Device Alarms

An alarm is an indication of an anomaly in a network device. If the network device is connected to other devices in a network, problems with it could cause an impairment in the network. Alarms can also be caused by situations such as improper removal of line cards, misconfiguration and operations outside the normal range.

Alarm Management Challenges

The operating software in network devices is very sophisticated. Network devices monitor traffic flow, chassis and line cards, internal and external environmental conditions, and many points of performance measurement.

Each of these network devices come with a list of alarms that it can generate with a perceived severity. This is called a default alarm profile; in SONET this is based on Telcordia GR-474-CORE, and default alarm profiles are available to every customer that owns and operates the devices.

Network operators usually build a unique network that suits their business objectives, so network operators do not need or desire all of the alarms in the network devices.

There are several challenges to managing alarms in devices and networks; following are two of them:

- Changing some of the alarms in the default alarm profile from “Reported” to “Not Reported” or changing the alarm status from a higher level to a lower level (for example, “Critical” to “Major” or “Minor”) or vice versa.
- Deploying the newly created customized alarm profile network wide on devices of the same type.

There are two reserved alarm profiles that come with ONS15xxx Cisco® Transport Controller-based devices:

- Default: The Default alarm profile list contains alarm and condition severities that correspond when applicable to default values established in Telcordia GR-474-CORE.
- Inherited: The reserved inherited profile allows port alarm severities to be governed by card-level severities or card alarm severities to be determined by the node-level severities.

Up to 10 profiles, including the two reserved profiles (Inherited and Default) can be stored in the devices.

The default profile and inherited profile are reserved by the network element and cannot be edited. They must first be loaded on the devices and cloned, and the clone can then be edited for customization.

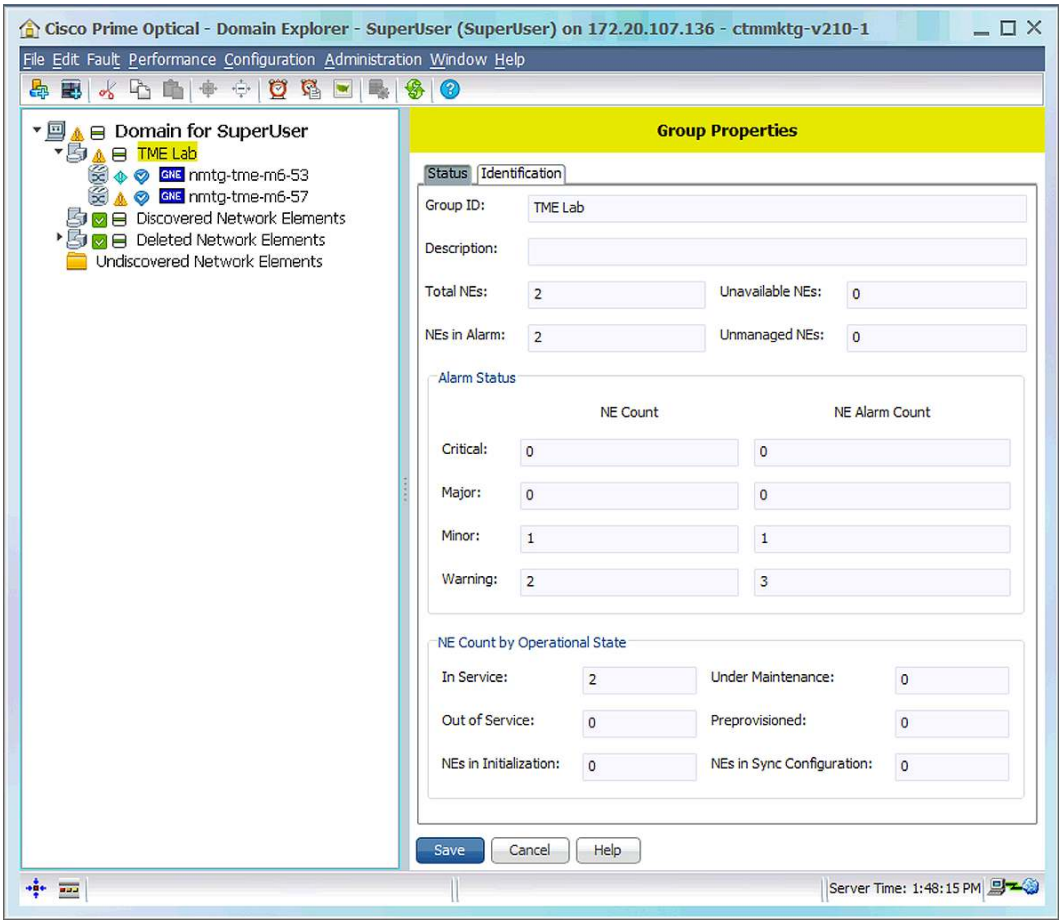
Cisco Prime™ Optical has features that help to create customized alarm profiles and deploy them to all ONS15xxx devices that support alarm profiles with a few clicks.

Note: Validate your alarm profile changes in the lab before deploying them on a live network.

Uses of Cisco Prime Optical

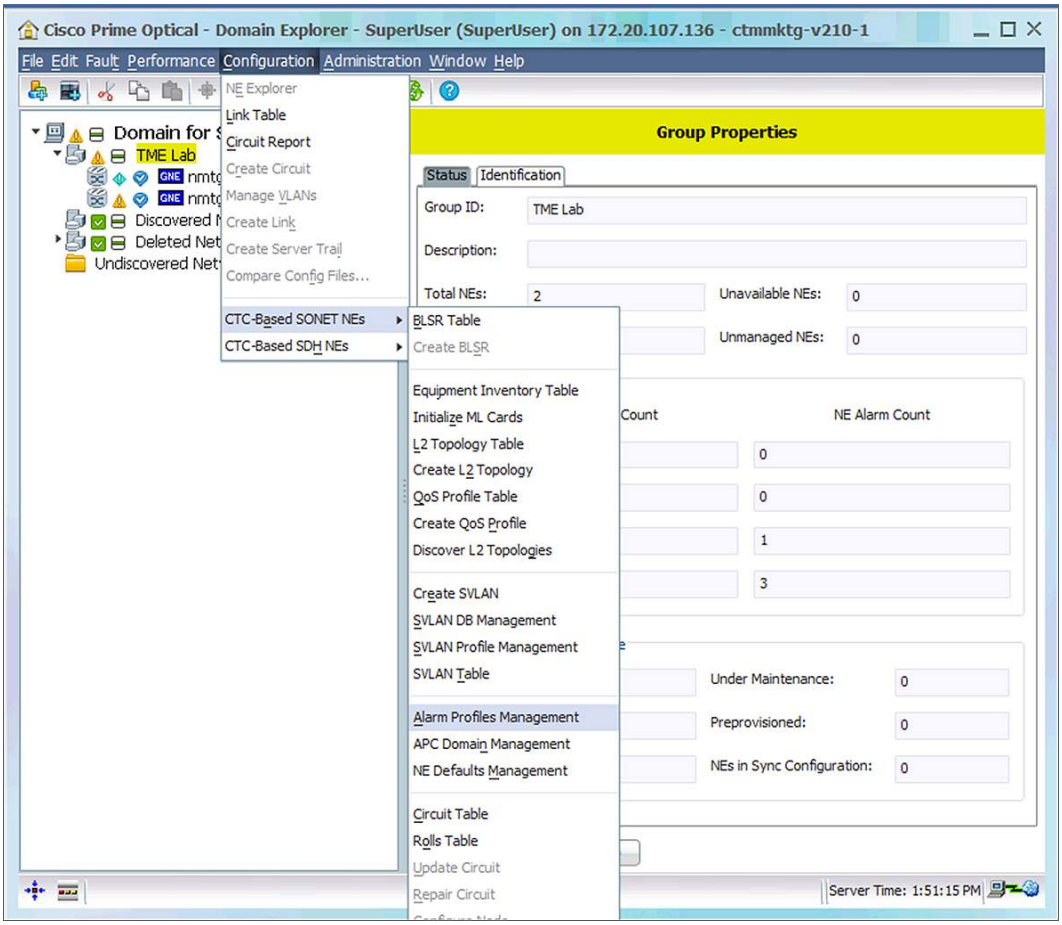
Create and Save New Alarm Profiles (Cisco Transport Controller-Based Devices)

1. Launch Cisco Prime Optical Domain Explorer.

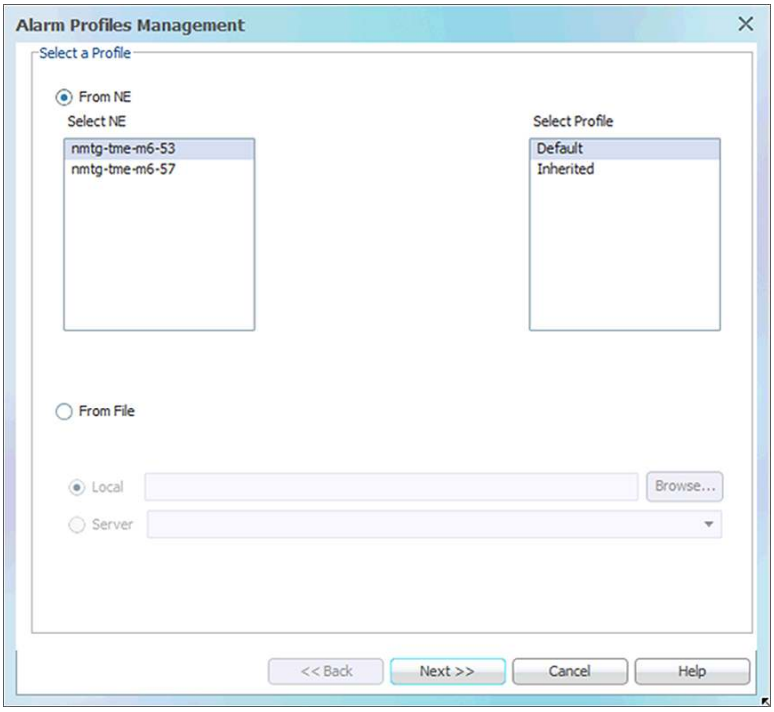


2. Select a group of devices or a single device.

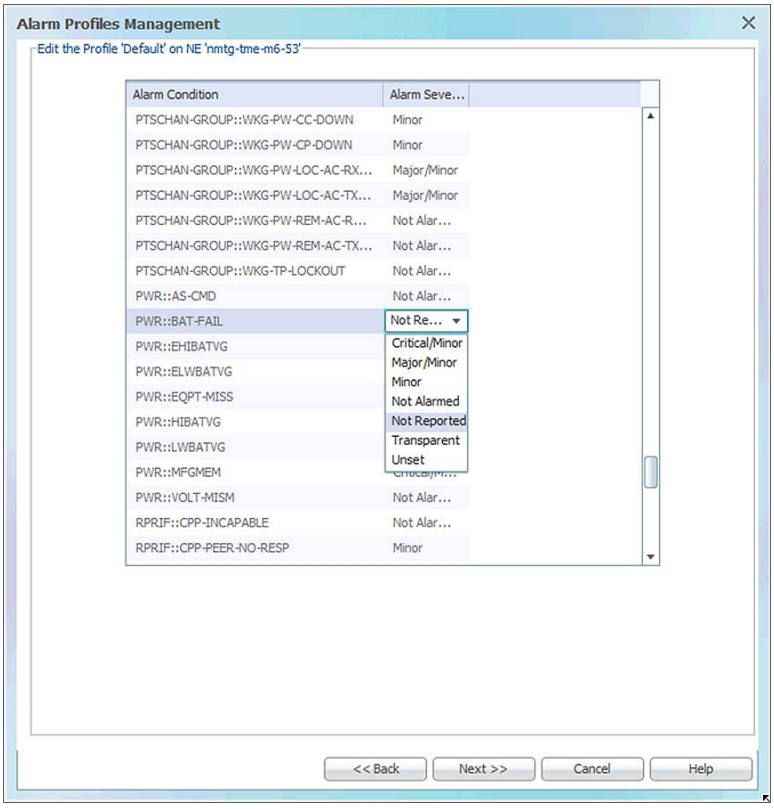
3. In the **Configuration menu**, select **CTC-Based SONET NEs**, and select **Alarm Profiles Management**.



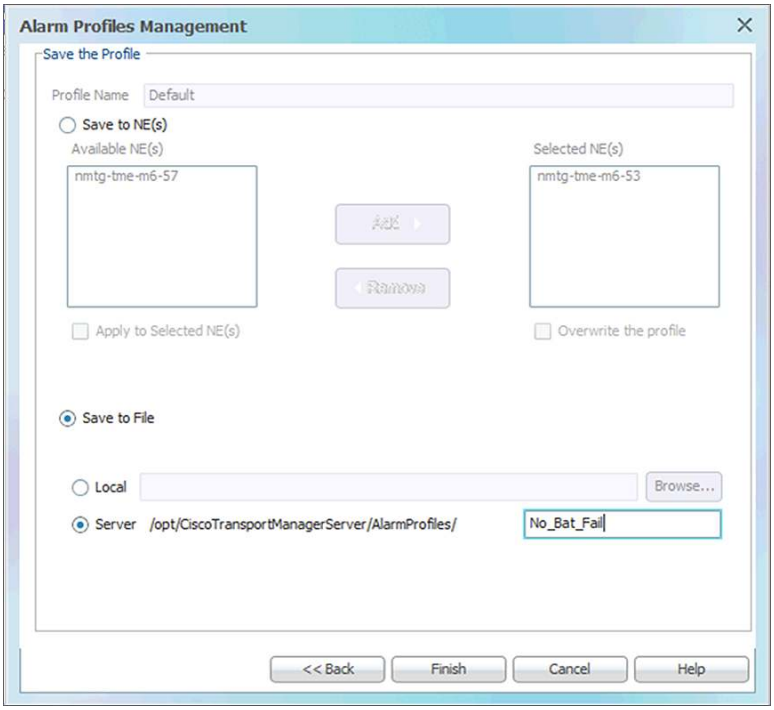
4. The **Alarm Profiles Management wizard** opens.



5. Select a profile from the device or from the file location that you would like to modify.

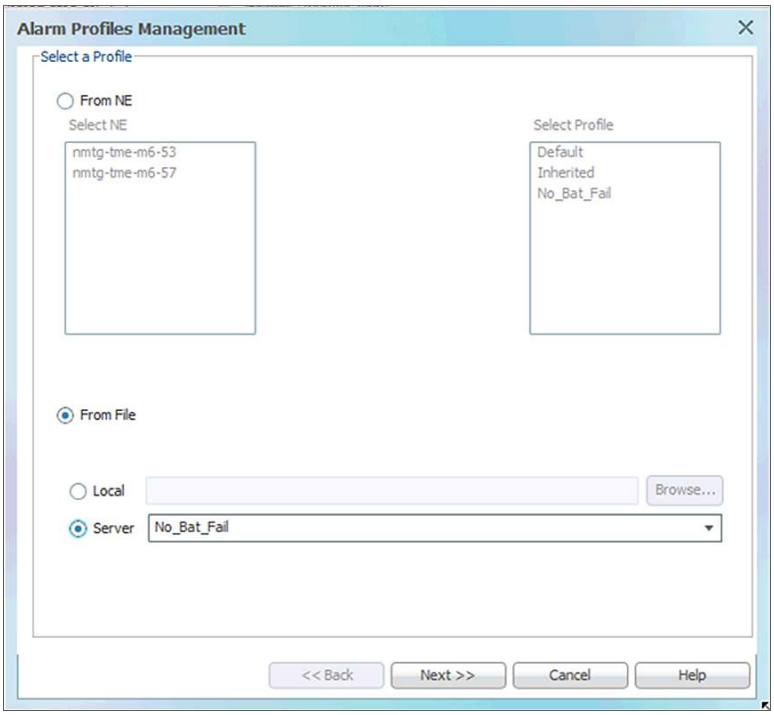


6. Make your required changes.
7. Save the profile to the selected device or save it to a file location.

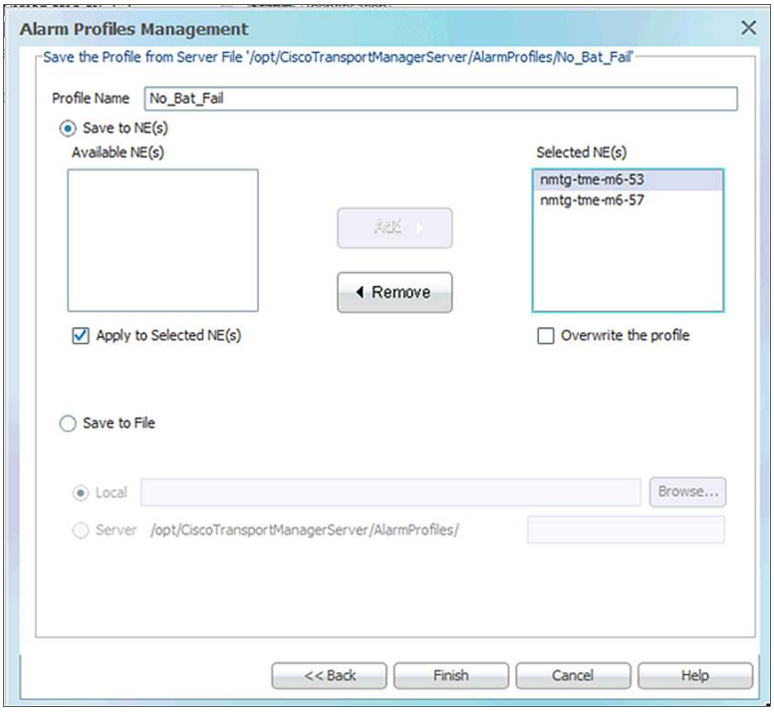


Store and Load the New Alarm Profile to a Device or Group of Devices

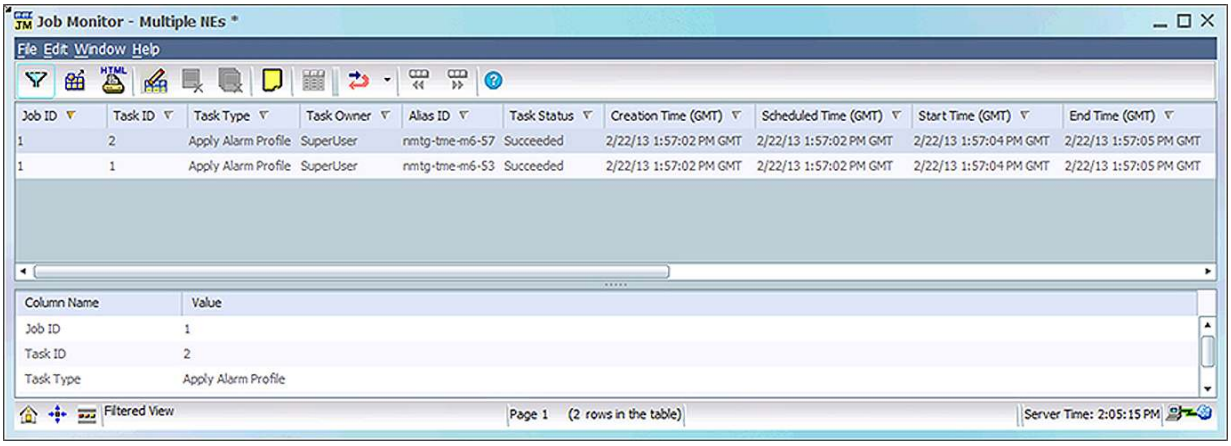
1. From the **Alarm Profile Management wizard**, select the new alarm profile from a device or a file location.



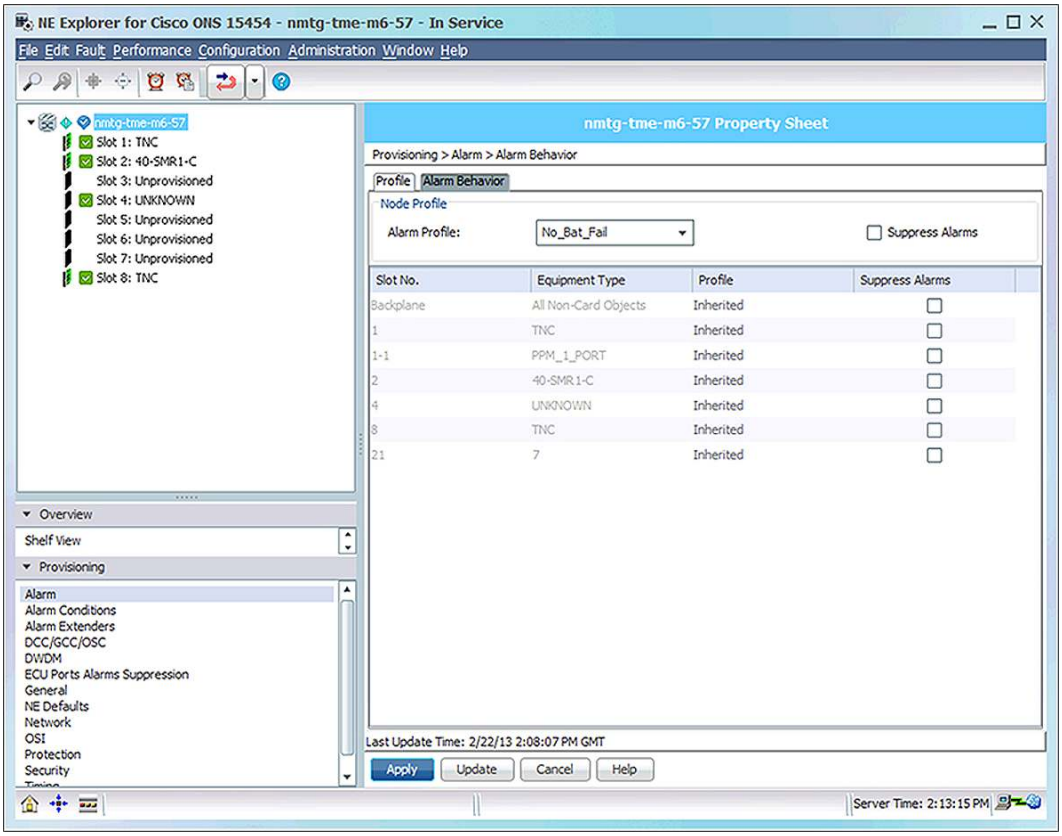
2. Select a device or all the devices for which you want to apply the new alarm profile.
3. Make sure that the **Apply to Selected NE(s)** check box is selected.



4. The **Overwrite the profile** option overwrites the copy that exists on the devices.
5. Click **Finish**.
6. The operation is submitted as a job, and you can view the status from the Job Monitor.
7. To view the Job Monitor, select the **Administration** tab then **Job Monitor**.



8. You can validate that the new alarm is now active by either selecting a device or launching NExplorer. In the **Alarm** tab, select **Alarm Behavior**, which should show the new profile; or you can launch Cisco Transport Controller, select the **Provisioning** tab, select **Alarm Profiles** then select **Alarm Behavior**.



About Cisco Prime

The Cisco Prime™ portfolio of IT and service provider management offerings empowers organizations to more effectively manage their networks and the services they deliver. Built on a service-centric foundation, Cisco Prime supports integrated lifecycle management through an intuitive workflow-oriented user experience - providing A-to-Z management for IP Next-Generation Networks, Mobility, Video, and Managed services.

For More Information

For additional information on Cisco Prime Optical, visit http://www.cisco.com/go/transport or contact your local account representative.

To download a copy of Cisco Prime Optical for evaluation, please contact your Cisco account representative or send an email to prime-optical@cisco.com and discover the benefits of this powerful solution with a no cost, 120-day evaluation license.

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