Troubleshooting the Network

Cisco E-DI provides diagnostic tools to allow you to troubleshoot the network by providing diagnostics on connectivity and performance. This chapter includes the following information:

Diagnostics

Diagnostic tools allow you to diagnose potential connectivity issues in the network or for each individual device. Cisco E-DI provides the following diagnostics tools:

- Ping an NE to check IP connectivity
- Trace a route to an NE to check IP connectivity
- SNMP and Telnet/SSH connectivity check between Cisco E-DI and an NE

You can also specify the credential set to be used for checking connectivity to the device.

Detailed information about connectivity and any problems encountered are displayed.

Using ping

To send a ping request to a device with a given IP address or hostname, and display the response from the device, enter:

```
[SVR:/server]# ping {ip_address | hostname}
```

Using traceroute

Tracing the route to the device with the given IP address or the hostname is useful in detecting where the problem exists in the path to the device.To trace a route to a device, enter:

```
[SVR:/server]# traceroute {ip_address | host_name}
```

Verifying Procedures

Cisco E-DI provides commands that can be used to verify that commands have been completed successfully. See Table 11-1.

Table 11-1 Commands to Verify Procedures

Action	Command
To check that the SNMP server community string is set up correctly:	`[SVR:/server]# diag device server_ip`
To verify that the hostname has changed.	`[SVR:/server]# show running-config | include hostname`
To verify that the IP address has changed.	`[SVR:/server]# show running-config`
To verify that the DNS server is configured.	`[SVR:/server]# show running-config`
To verify that the DNS server is removed. This command should be unsuccessful.	`[SVR:/server]# ping device-name`
You can also use the command **show running-config** to verify that there is no DNS server listed. Enter the command to trace the route to the device.	`[SVR:/server]# traceroute host-name`

Table 11-1 Commands to Verify Procedures (continued)

Action	Command
To verify that the mail server is set up correctly.	[SVR:/server]# **sh run** | *email username@cisco.com*
To verify that a script will run successfully.	[NET:/network]# **run file Script_path**
To verify that a lock is created successfully.	[SVR:/server]# **show locks**
To verify that a lock is cleared successfully.	[SVR:/server]# **show locks**
To verify that the change-log contains performed operations on the server or network only if the priority of the task is greater than or equal to the defined change-log level setting.	[SVR:/server]# **show change-log**
To verify that the directory was created successfully, enter this command to show the contents of the current directory in the server file system.	[SVR:/server]# **dir**
To verify that the directory no longer exists in the server file system.	[SVR:/server]# **dir**
To verify that the file has been deleted from the server file system.	[SVR:/server]# **dir**
To verify that the directory has been copied.	[SVR:/server]# **dir**
To verify that the file has been saved to the destination directory.	[SVR:/server]# **dir**
To verify that changes have been saved.	[SVR:/server] # **show** {**startup-config** | **running-config** | **all**} list-archives
To verify that a label has been created. The output should display the label if it is applicable to at least one device under the current context.	[SVR:/server] # **show labels** details server_conf | network_conf
To verify that a configuration is restored.	[SVR:/server] # **show** {**startup-config** | **running-config** | **all**} list-archives
To verify that the installation is successful by viewing the installation status and upgrade log report.	[NET:/network] # **show report upgrade-log**
To verify the version on the device.	[NET:/network] # **show version**
To verify that the scheduled job has been created.	[SVR:/server]# **show job list**
To verify that the scheduled job has been deleted.	[SVR:/server]# **show job list**

Verifying Connectivity

You can verify connectivity:

- To a Specified Device
- To All Devices

To a Specified Device

To verify connectivity to a specified device with a correct credential set using SNMP and Telnet, enter:

```
[NETWORK | SERVER]# diag device IP-Address [credential-set
credential-set-name]
```

Note Optionally, a credential set to be used for connection can be provided.

To All Devices

To perform SNMP and Telnet connectivity tests to all the devices currently managed by the Cisco E-DI server, enter:

```
[NET:/network]# diag connectivity [credential-set credential-set-name]
```

Note Optionally, a credential set to be used for connection can be provided.

Finding a Managed Device in the Network

To find a managed device on the network, enter the following command:

```
[NET:/network]# find devices {by-ip A.B.C.D | by-mac H.H.H | by-name
name}
```

This command is used to find the device based on the IP address or the MAC address or the name of the device.