



Debug Commands

Use the following commands to debug the Cisco ONS 15540 ESP. For information on other debug commands refer to the [Cisco IOS Debug Command Reference](#) document.

debug aps

To debug APS operation, use the **debug aps** command. To disable APS debugging, use the **no** form of this command.

debug aps

no debug aps

Syntax Description This command has no other arguments or keywords.

Defaults Disabled

Command Modes Privileged EXEC

Command History This table includes the following release-specific history entries:

- EY-Release
- E-Release
- EV-Release
- SV-Release
- S-Release

EY-Release	Modification
12.1(7a)EY2	This command was introduced.
E-Release	Modification
12.1(11b)E	This command was integrated in this release.
EV-Release	Modification
12.1(10)EV	This command was integrated in this release.
SV-Release	Modification
12.2(18)SV	This command was integrated in this release.
S-Release	Modification
12.2(22)S	This command was integrated in this release from release 12.2(22)SV.

Usage Guidelines To turn off all debugging, use the **undebug all** command.

Examples The following example shows how to enable debugging of APS operations.

```
Switch# debug aps
```

Related Commands	Command	Description
	associate group	Creates or specifies an APS interface group and enters APS configuration mode.
	associate interface	Associates wavepatch interfaces for APS splitter protection.
	undebug all	Disables all debugging.

debug cpu

To debug IPC (interprocess communication) initialization and switchover events, use the **debug cpu** command. To disable debugging IPC initialization and switchover events, use the **no** form of this command.

debug cpu { ipc | redundancy | ehsa | sub-ipc }

no debug cpu { ipc | redundancy | ehsa | sub-ipc }

Syntax Description

ipc	Enables debugging for processor IPC (interprocessor communications) initialization and switchover events.
redundancy	Enables debugging for processor card redundancy initialization and operation.
ehsa	Enables debugging for processor EHSA (enhanced high system availability) services such as hostname, config register, and calendar synchronizing to the standby processor card.
sub-ipc	Enables debugging for the IPC channel layer below the IPC level.

Defaults

Disabled

Command Modes

Privileged EXEC

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S-Release	Modification
12.2(22)S	This command was integrated in this release from release 12.2(22)SV.

Usage Guidelines

Use this command to enable debugging of IPC initialization and switchover events. To debug redundancy software operations, use the **debug redundancy** command.

To turn off all debugging, use the **undebug all** command.

Examples

The following example shows how to enable redundancy state debugging.

```
Switch# debug cpu redundancy
```

Related Commands

Command	Description
debug redundancy	Enables debugging of redundancy software operation.
undebug all	Disables all debugging.

debug diag online

To enable debugging for online diagnostics, use the **debug diag online** command. To disable debugging for online diagnostics, use the **no** form of this command.

debug diag online [**online-insertion-removal** | **background** | **redundancy**]

no debug diag online [**online-insertion-removal** | **background** | **redundancy**]

Syntax Description		
	online-insertion-removal	Enables debugging of OIR (online insertion and removal) tests for online diagnostics.
	background	Enables debugging of background tests for online diagnostics.
	redundancy	Enables debugging of redundancy tests for online diagnostics.

Defaults Disabled

Command Modes Privileged EXEC

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SV-Release	Modification
12.2(18)SV	This command was integrated in this release.
S-Release	Modification
12.2(22)S	This command was integrated in this release from release 12.2(22)SV.

Usage Guidelines Use this command to enable debugging for online diagnostics.

To turn off all debugging, use the **undebug all** command.

Examples

The following example shows how to enable debugging of background tests for online diagnostics.

```
Switch# debug diag online background
```

Related Commands

Command	Description
diag online	Enables online diagnostics for the system.
diag online slot	Enables online diagnostics for a specified slot number.
undebug all	Disables all debugging.

debug oscp

To debug OSCP operations, use the **debug oscp** command. To disable debugging for OSCP operations, use the **no** form of this command.

```
debug oscp { events | hello-packet | transport } [wave slot]
```

```
no debug oscp { events | hello-packet | transport } [wave slot]
```

Syntax Description

events	Enables debugging for OSCP events.
hello-packet	Enables printing of the information contained in the OSCP Hello packets.
transport	Enables debugging for OSCP transport services.
wave slot	Specifies the OSC interface on which to enable debugging. (Optional)

Defaults

Disabled

Command Modes

Privileged EXEC

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S-Release	Modification
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Usage Guidelines

Use this command to enable debugging for OSCP activity.

To disable all debugging, use the **undebug all** command.

**Caution**

This command can generate a significant amount of output and may interfere with other activity on the system once the command is invoked.

Examples

The following example shows how to enable debugging for OSCP events.

```
Switch# debug oscp events
01:53:59:Control interface Wavel is going up
01:54:00:OSCP:Adding neighbor on wave Wavel
```

The following example shows how to display information contained in the OSCP Hello packets.

```
Switch# debug oscp hello-packet wave 0
01:53:08:OSCP:Hello at Wavel Tx, state 2way
01:53:08:  NodeId:0202.0304.0506  Port:10000
01:53:08:  Remote:NodeId:0202.0304.0506  Port:10000
01:53:08:OSCP:Hello at Wavel Rx, state 2way
01:53:08:  NodeId:0202.0304.0506  Port:10000
01:53:08:  Remote:NodeId:0202.0304.0506  Port:10000
01:53:08:OSCP:Hello event 2wayd
```

Related Commands

Command	Description
show oscp info	Displays OSCP configuration information.
show oscp neighbor	Displays OSCP neighbor information.
show oscp statistics	Displays OSCP activity statistics.
show oscp traffic	Displays OSCP message traffic information.
undebug all	Disables all debugging.

debug ports

To debug port operations, use the **debug ports** command. To disable debugging for port operations, use the **no** form of this command.

```
debug ports {connect | errors [type slot[/subcard[/port]]] | events [type slot[/subcard[/port]]] | patch}
```

```
no debug ports {connect | errors [type slot[/subcard[/port]]] | events [type slot[/subcard[/port]]] | patch}
```

Syntax Description		
connect		Enables debugging for cross connection.
errors		Enables debugging for internal software error conditions.
<i>type slot[/subcard[/port]]</i>		Specifies an interface on which debugging is enabled. Valid <i>type</i> values are filter , filterband , filtergroup , thru , transparent , wave , wavepatch , and wdm . (Optional)
events		Enables debugging for internal software event conditions.
patch		Enables debugging for patch connections.

Defaults	
	Disabled

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S-Release	Modification
12.2(22)S	This command was integrated in this release from release 12.2(22)SV.

Usage Guidelines

Use this command to debug common software errors and events, patch connection activity, and cross connection activity. If the interface option is not specified, debugging is enabled for all interfaces.

To disable all debugging, use the **undebbug all** command.

Examples

The following example shows how to enable error debugging for transparent interface 2/0/0.

```
Switch# debug ports errors transparent 2/0/0
```

Related Commands

Command	Description
clock rate	Configures a clock rate on a transparent interface.
encapsulation	Configures the encapsulation of the client signal on the transparent interface.
monitor enable	Enables signal monitoring for certain protocol encapsulations.
patch	Configures patch connections for a shelf.
undebbug all	Disables all debugging.

debug redundancy

To debug redundancy operations, use the **debug redundancy** command. To disable debugging for redundancy operations, use the **no** form of this command.

debug redundancy {ehsa | errors | fsm | kpa | msg | progression | status | timer}

no debug redundancy {ehsa | errors | fsm | kpa | msg | progression | status | timer}

Syntax Description

ehsa	Enables debugging for early software initialization suspend points associated with EHSA (enhanced high system availability).
errors	Enables debugging for redundancy internal software error conditions.
fsm	Enables debugging for redundancy finite state machine transition events.
kpa	Enables debugging for redundancy keepalive messaging events.
msg	Enables debugging for general redundancy messaging software.
progression	Enables debugging for redundancy internal state progression software.
status	Enables debugging for redundancy internal status notification software.
timer	Enables debugging for redundancy internal timers.

Defaults

Disabled

Command Modes

Privileged EXEC

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12.2(18)SV	This command was integrated in this release.
S-Release	Modification
12.2(22)S	This command was integrated in this release from release 12.2(22)SV.

Usage Guidelines

Use this command to debug redundancy software operations. Use the **debug cpu** command to debug processor card redundancy.

To disable all debugging, use the **undebug all** command.

**Caution**

This command can generate a significant amount of output and may interfere with other activity on the system once the command is invoked.

Examples

The following example shows how to debug finite state machine transition events.

```
Switch# debug redundancy fsm
```

Related Commands

Command	Description
debug cpu	Enables debugging of processor card redundancy.
show redundancy summary	Displays processor card redundancy status and configuration information.
undebug all	Disables all debugging.

undebug all

To disable all debugging, use the **undebug all** command.

undebug all

Syntax Description This command has no other arguments or keywords.

Defaults None

Command Modes Privileged EXEC

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S-Release	Modification
12.2(22)S	This command was integrated in this release from release 12.2(22)SV.

Usage Guidelines Use this command to turn off all debugging.

Examples The following example shows how to turn off all debugging.

```
Switch# undebug all
```

Related Commands	Command	Description
	debug aps	Enables debugging of APS and APS Channel Protocol activity.
	debug cpu	Enables debugging of IPC initialization and switchover events.
	debug diag online	Enables debugging of the online diagnostics.
	debug oscp	Enables debugging of OSCP activity.
	debug ports	Enables debugging of optical port activity.
	debug redundancy	Enables debugging of redundancy software operation.

■ `undebug all`