



## Online Diagnostics Commands

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Online diagnostics test the accessibility of the components on the Cisco ONS 15540 ESPx. Use the following commands to configure and monitor online diagnostic operations.

# diag online

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

**diag online**

**no diag online**

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**Syntax Description** This command has no other arguments or keywords.

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**Defaults** Disabled

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**Command Modes** Global configuration

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

- EV-Release
- SV-Release
- S-Release

EV-Release	Modification
12.1(10)EV	This command was first introduced.
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.

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**Usage Guidelines** Use this command to enable or disable online diagnostics for the system. Online diagnostics run in background mode or during OIR (online insertion and removal). Any slot level diagnostics previously configured with the **diag online slot** command take precedence over the **diag online** command.

When online diagnostics are disabled, no further diagnostics can run.

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**Examples** The following example shows how to enable online diagnostics.

```
Switch# configure terminal
Switch(config)# diag online
```

Related Commands	Command	Description
	<a href="#">debug diag online</a>	Enables debugging of the online diagnostics.
	<a href="#">diag online slot</a>	Enables online diagnostics for a specified slot number.
	<a href="#">diag online subslot</a>	Enables online diagnostics for a specified subslot number.
	<a href="#">show diag online</a>	Displays the configuration and status of the online diagnostics.
	<a href="#">show diag online detail</a>	Shows detailed online diagnostic test results for the shelf.
	<a href="#">show diag online slot</a>	Shows detailed online diagnostic test results for a specific slot.

# diag online slot

To enable online diagnostics for a specified slot number, use the **diag online slot** command. To disable online diagnostics for a specified slot number, use the **no** form of this command.

**diag online slot** *slot-number* [**timer** *seconds*]

**no diag online slot** *slot-number* [**timer** *seconds*]

## Syntax Description

<b>slot-number</b>	Specifies the number of the slot on which to run online diagnostics. The range is 0 to 11.
<b>timer</b> <i>seconds</i>	Specifies a timer the background tests. The range is 30 to 600 seconds. The default value is 60 seconds.

## Defaults

Disabled.  
The timer default is 60 seconds.

## Command Modes

Global configuration

## Command History

This table includes the following release-specific history entries:

- EV-Release
- SV-Release
- S-Release

EV-Release	Modification
12.1(10)EV	This command was first introduced.
12.1(12c)EV	The timer option was added.
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.

## Usage Guidelines

Use this command to enable or disable online diagnostics for a specified slot number. It can be useful to disable online diagnostics on a particular slot when there is a spurious error that causes excessive console messages.

## Examples

The following example shows how to enable online diagnostics for a specific slot number.

```
Switch# configure terminal
Switch(config)# diag online subslot 2
```

The following example shows how to enable online diagnostics on all the slots and then disable online diagnostics for a specific slot number.

```
Switch# configure terminal
Switch(config)# diag online
Switch(config)# no diag online subslot 10
```

#### Related Commands

Command	Description
<a href="#">debug diag online</a>	Enables debugging of the online diagnostics.
<a href="#">diag online</a>	Enables online diagnostics for the system.
<a href="#">diag online subslot</a>	Enables online diagnostics for a specified subslot number.
<a href="#">show diag online</a>	Displays the configuration and status of the online diagnostics.
<a href="#">show diag online detail</a>	Shows detailed online diagnostic test results for the shelf.
<a href="#">show diag online slot</a>	Shows detailed online diagnostic test results for a specific slot.

# diag online subslot

To enable online diagnostics for a specified subslot number, use the **diag online subslot** command. To disable online diagnostics for a specific slot number, use the **no** form of this command.

**diag online subslot** *slot/subcard* [**timer** *seconds*]

**no diag online subslot** *slot/subcard* [**timer** *seconds*]

## Syntax Description

slot	Specifies the number of the slot on which to run online diagnostics. The range is 0 to 11.
subcard	Specifies the number of the subslot on which to run online diagnostics. The range is 0 to 1.
<b>timer</b> <i>seconds</i>	Specifies a timer the background tests. The range is 30 to 600 seconds. The default value is 60 seconds.

## Defaults

Disabled.  
The timer default is 60 seconds.

## Command Modes

Global configuration

## Command History

This table includes the following release-specific history entries:

- EV-Release
- SV-Release
- S-Release

EV-Release	Modification
12.1(12c)EV	This command was first introduced.
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.

## Usage Guidelines

Use this command to enable or disable online diagnostics for a specific subslot. You can disable online diagnostics on a particular subslot when there is a spurious error that causes excessive console messages.

## Examples

The following example shows how to enable online diagnostics for a specific slot number.

```
Switch# configure terminal
```

```
Switch(config)# diag online subslot 0/0
```

The following example shows how to enable online diagnostics on all the slots and then disable online diagnostics for a specific slot number.

```
Switch# configure terminal
Switch(config)# diag online
Switch(config)# no diag online subslot 0/1
```

#### Related Commands

Command	Description
<a href="#">debug diag online</a>	Enables debugging of the online diagnostics.
<a href="#">diag online</a>	Enables online diagnostics for the system.
<a href="#">diag online slot</a>	Enables online diagnostics for specified slot number.
<a href="#">diag online subslot</a>	Enables online diagnostics for a specified subslot number.
<a href="#">show diag online</a>	Displays the configuration and status of the online diagnostics.
<a href="#">show diag online detail</a>	Shows detailed online diagnostic test results for the shelf.
<a href="#">show diag online slot</a>	Shows detailed online diagnostic test results for a specific slot.

# show diag online

To display current online diagnostic test results, use the **show diag online** command. Information displayed includes the cards installed, their current status, and the status of online tests performed on the cards.

## show diag online

**Syntax Description** This command has no other arguments or keywords.

**Defaults** None

**Command Modes** EXEC and privileged EXEC

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

- EV-Release
- SV-Release
- S-Release

EV-Release	Modification
12.1(10)EV	This command was first introduced.
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.

**Usage Guidelines** Use this command whenever a card is unavailable or is not coming up, to determine card status and the status of various background online tests performed on them.

**Examples** The following example shows how to display online diagnostic test results for the hardware components. (See [Table 4-1](#) for field descriptions.)

```
Switch# show diag online
Online Diagnostics Current Summary Information
~~~~~
On ACTIVE CPU card Slot: 6
CPU Uptime:    21 hours, 52 minutes

Slot          CardType          Enabled    Bootup/
              ~~~~~          ~~~~~    Insertion
              ~~~~~          ~~~~~    tests
              ~~~~~          ~~~~~    Periodic
              ~~~~~          ~~~~~    Background
              ~~~~~          ~~~~~    tests
              ~~~~~          ~~~~~    Previous
              ~~~~~          ~~~~~    Failures
              ~~~~~          ~~~~~    ~~~~~
0/*/*        Mx-DMx-Mthrbd    Yes       Pass       Pass       No
```



0/ 3/*Mx-DMx-8Mod-Plus1-W	Yes	Pass	Pass	No
1/*/* Mx-DMx-Mthrbd	Yes	Pass	Pass	No
1/ 3/*Mx-DMx-8Mod-Plus1-W	Yes	Pass	Pass	No
6/*/* Queens CPU	Yes	Pass	Pass	No
7/*/* Queens CPU	Yes	Pass	Pass	No
10/*/* XpndrMotherboard	Yes	Pass	Pass	No
10/ 0/* NPlugXpndrMonitor	Yes	Pass	Pass	No
10/ 1/* NPlugXpndrMonitor	Yes	Pass	Pass	No
10/ 2/* NPlugXpndrMonitor	Yes	Pass	Pass	No
10/ 3/* NPlugXpndrMonitor	Yes	Pass	Pass	No

**Table 4-1** *show diag online Field Descriptions*

Field	Description
Slot	Shows the slot on which online diagnostics have been run.
CardType	Shows the card type on which online diagnostics have been run. Card types include: <ul style="list-style-type: none"> <li>• Mx-DMx-Mthrbd (Mux/demux motherboard)</li> <li>• Mx-DMx-8Mod-Plus1-W (8-channel mux/demux module with OSC)</li> <li>• XpndrMotherboard (Line card motherboard)</li> <li>• NPlugXpndrMonitor (Transponder module)</li> <li>• Queens CPU (Processor card)</li> </ul>
Enabled	Indicates whether online diagnostic tests are enabled on the slot.
Bootup/Insertion tests	Indicates whether the card passed the test run at system bootup or when the component is inserted in the chassis.
Periodic Background tests	Indicates whether the card passed the periodic background tests.
Previous Failures	Shows when the last failure occurred for the component.

#### Related Commands

Command	Description
<a href="#">diag online</a>	Enables online diagnostics for the system.
<a href="#">diag online slot</a>	Enables online diagnostics for the specified slot.
<a href="#">show diag online detail</a>	Shows detailed online diagnostic test results for the shelf.
<a href="#">show diag online slot</a>	Shows detailed online diagnostic test results for a specific slot.

# show diag online detail

To display the cards currently installed on the system and the detailed results of online diagnostic tests performed on them, use the **show diag online detail** command.

## show diag online detail

**Syntax Description** This command has no other arguments or keywords.

**Defaults** None

**Command Modes** EXEC and privileged EXEC

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

- EV-Release
- SV-Release
- S-Release

EV-Release	Modification
12.1(10)EV	This command was first introduced.
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.

**Usage Guidelines** Use this command to display detailed status information about all the online diagnostic tests run on the hardware in the system. Information displayed includes the number of times background tests passed or failed, as well as the status of OIR tests.

Use this command to debug possible hardware problems on the cards or subcards installed.

**Examples** The following example shows how to display current, detailed online diagnostics for the system. (See [Table 4-2](#) for field descriptions.)

```
Switch# show diag online detail

Online Diagnostics Detailed Information
~~~~~
On ACTIVE CPU card Slot: 6
CPU Uptime:    21 hours, 57 minutes

Slot[0]:Mx-DMx-Mthrbd
```

Enabled: Yes

Online Insertion Tests					
Slot	CardType	TestType	Status	LastRunTime	LastFailTime
0/*/*	Mx-DMx-Mthrbd	lrcAccess	Pass	0 minutes	never
		idpromAccess	Pass		
0/ 3/*	Mx-DMx-8Mod-Plus1-	idpromAccess	Pass	0 minutes	never

Online Background Tests					
Slot	CardType	TestType	Status	LastRunTime	LastFailTime
0/*/*	Mx-DMx-Mthrbd	lrcAccess	Pass	21 hours, 57	never
		idpromAccess	Pass		
0/ 3/*	Mx-DMx-8Mod-Plus1-	idpromAccess	Pass	21 hours, 57	never

Slot[1]:Mx-DMx-Mthrbd

Enabled: Yes

Online Insertion Tests					
Slot	CardType	TestType	Status	LastRunTime	LastFailTime
1/*/*	Mx-DMx-Mthrbd	lrcAccess	Pass	0 minutes	never
		idpromAccess	Pass		
1/ 3/*	Mx-DMx-8Mod-Plus1-	idpromAccess	Pass	0 minutes	never

Online Background Tests					
Slot	CardType	TestType	Status	LastRunTime	LastFailTime
1/*/*	Mx-DMx-Mthrbd	lrcAccess	Pass	21 hours, 57	never
		idpromAccess	Pass		
1/ 3/*	Mx-DMx-8Mod-Plus1-	idpromAccess	Pass	21 hours, 57	never

Slot[6]:Queens CPU

Enabled: Yes

Online Insertion Tests					
Slot	CardType	TestType	Status	LastRunTime	LastFailTime
6/*/*	Queens CPU	srcStatus	Pass	0 minutes	never
		PCIAccess	Pass		
		PCMCIAAccess	Pass		

Online Background Tests					
Slot	CardType	TestType	Status	LastRunTime	LastFailTime
6/*/*	Queens CPU	srcStatus	Pass	21 hours, 57	never
		PCIAccess	Pass		
		PCMCIAAccess	Pass		

Slot[7]:Queens CPU

Enabled: Yes

Online Insertion Tests					
Slot	CardType	TestType	Status	LastRunTime	LastFailTime
7/*/*	Queens CPU	srcStatus	Pass	0 minutes	never
		PCIAccess	Pass		
		PCMCIAAccess	Pass		

Online Background Tests					
Slot	CardType	TestType	Status	LastRunTime	LastFailTime

## show diag online detail

```

~~~~~
7/*/*      Queens CPU      srcStatus      Pass21 hours, 51      never
                        PCIAccess      Pass
                        PCMCIAAccess      Pass
-----
Slot[10]:XpndrMotherboard
Enabled: Yes

Online Insertion Tests
Slot      CardType      TestType      Status      LastRunTime      LastFailTime
~~~~~
10/*/*    XpndrMotherboard      lrcAccess      Pass      0 minutes      never
                        idpromAccess      Pass
10/ 0/*   NPlugXpndrMonitor      scAccess      Pass      0 minutes      never
                        idpromAccess      Pass
10/ 1/*   NPlugXpndrMonitor      scAccess      Pass      0 minutes      never
                        idpromAccess      Pass
10/ 2/*   NPlugXpndrMonitor      scAccess      Pass      0 minutes      never
                        idpromAccess      Pass
10/ 3/*   NPlugXpndrMonitor      scAccess      Pass      0 minutes      never
                        idpromAccess      Pass

Online Background Tests
Slot      CardType      TestType      Status      LastRunTime      LastFailTime
~~~~~
10/*/*    XpndrMotherboard      lrcAccess      Pass21 hours, 57      never
                        idpromAccess      Pass
Slot      CardType      TestType      Status      LastRunTime      LastFailTime
~~~~~
10/ 0/*   NPlugXpndrMonitor      scAccess      Pass21 hours, 57      never
                        idpromAccess      Pass
10/ 1/*   NPlugXpndrMonitor      scAccess      Pass21 hours, 57      never
                        idpromAccess      Pass
10/ 2/*   NPlugXpndrMonitor      scAccess      Pass21 hours, 57      never
                        idpromAccess      Pass
10/ 3/*   NPlugXpndrMonitor      scAccess      Pass21 hours, 57      never
                        idpromAccess      Pass

```

**Table 4-2** *show diag online detail Field Descriptions*

Field	Description
On ACTIVE CPU card Slot:	Shows the chassis slot that contains the active processor card.
CPU Uptime	Shows the amount of time since the system booted.
Slot	Shows the slot on which the online diagnostics are being run.
Enabled	Indicates whether online diagnostics are enabled on the slot.
CardType	Shows the card type on which the online diagnostics are being run. Card types include: <ul style="list-style-type: none"> <li>• Mx-DMx-Mthrbd (Mux/demux motherboard)</li> <li>• Mx-DMx-8Mod-Plus1-W (8-channel mux/demux module with OSC)</li> <li>• XpndrMotherboard (Line card motherboard)</li> <li>• NPlugXpndrMonitor (Transponder module)</li> <li>• Queens CPU (Processor card)</li> </ul>

Table 4-2 *show diag online detail Field Descriptions (continued)*

Field	Description
TestType	Shows the type of test run. Test types can be: <ul style="list-style-type: none"> <li>• lrcAccess (Accesses the LRC)</li> <li>• idpromAccess (Accesses the IDPROM)</li> <li>• srcAccess (Accesses the SRC)</li> <li>• PCMCIAAccess (Accesses Flash PC Cards)</li> <li>• scAccess (Accesses transponder modules)</li> </ul>
Status	Shows the result of the diagnostic test (Pass/Fail).
LastRunTime	Shows the amount of time since the test was last run.
LastFailTime	Shows the amount of time since the test failed.

## Related Commands

Command	Description
<b>diag online</b>	Enables online diagnostics for the system.
<b>diag online slot</b>	Enables online diagnostics for the specified slot.
<b>diag online subslot</b>	Enables online diagnostics for a specified subslot number.
<b>show diag online</b>	Shows a summary of the online diagnostic test results for the shelf.
<b>show diag online slot</b>	Shows detailed online diagnostic test results for a specific slot.

# show diag online slot

To display the results of online diagnostic tests performed on a card in a specific slot, use the **show diag online slot** command.

**show diag online slot** *slot-number*

<b>Syntax Description</b>	slot-number	Specifies the slot number. The range is 0 to 11.
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<b>Defaults</b>	None
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<b>Command Modes</b>	EXEC and privileged EXEC
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<b>Command History</b>	This table includes the following release-specific history entries: <ul style="list-style-type: none"> <li>• EV-Release</li> <li>• SV-Release</li> <li>• S-Release</li> </ul>
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EV-Release	Modification
12.1(10)EV	This command was first introduced.
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.

<b>Usage Guidelines</b>	Use this command to display the status of online diagnostics performed on components installed in a specific slot.
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<b>Examples</b>	The following example shows how to display the results of online diagnostic tests performed on slot 0. (See <a href="#">Table 4-3</a> for field descriptions.)
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```
Switch# show diag online slot 0
Online Diagnostics Information Per Slot
~~~~~
Slot[0]:Mx-DMx-Mthrbd
Enabled: Yes
CPU Uptime:    21 hours, 59 minutes

Online Insertion Tests
Slot          CardType          TestType          Status  LastRunTime  LastFailTime
~~~~~
0/*/*        Mx-DMx-Mthrbd    lrcAccess        Pass    0 minutes    never
                                idpromAccess    Pass
```

```

0/ 3/* Mx-DMx-8Mod-Plus1- idpromAcces      Pass      0 minutes      never

Online Background Tests
Slot          CardType          TestType      Status      LastRunTime    LastFailTime
~~~~~        ~~~~~
0/*/*        Mx-DMx-Mthrbd    lrcAccess     Pass21 hours, 58      never
              idpromAccess     Pass
0/ 3/* Mx-DMx-8Mod-Plus1- idpromAcces     Pass21 hours, 58      never

```

**Table 4-3** *show diag online slot Field Descriptions*

Field	Description
Slot	Shows the slot on which online diagnostics were performed.
Enabled	Indicates whether online diagnostics are enabled on the slot.
CPU Uptime	Shows the amount of time since the system booted.
CardType	Shows the card type on which the online diagnostics are being run. Card types include: <ul style="list-style-type: none"> <li>Mx-DMx-Mthrbd (Mux/demux motherboard)</li> <li>Mx-DMx-8Mod-Plus1-W (8-channel mux/demux module with OSC)</li> <li>XpndrMotherboard (Line card motherboard)</li> <li>NPlugXpndrMonitor (Transponder module)</li> </ul> Queens CPU (Processor card)
TestType	Shows the type of test run. Test types can be: <ul style="list-style-type: none"> <li>lrcAccess (Accesses the LRC)</li> <li>idpromAccess (Accesses the IDPROM)</li> <li>srcAccess (Accesses the SRC)</li> <li>PCMCIAAccess (Accesses Flash PC Cards)</li> <li>scAccess (Accesses transponder modules)</li> </ul>
Status	Shows the result of the diagnostic test (Pass/Fail).
LastRunTime	Shows the amount of time since the test was last run.
LastFailTime	Shows the amount of time since the test failed.

**Related Commands**

Command	Description
<a href="#">diag online</a>	Enables online diagnostics for the system.
<a href="#">diag online slot</a>	Enables online diagnostics for the specified slot.
<a href="#">diag online subslot</a>	Enables online diagnostics for a specified subslot number.
<a href="#">show diag online</a>	Shows a summary of the online diagnostic test results for the shelf.
<a href="#">show diag online detail</a>	Shows detailed online diagnostic test results for the shelf.

■ show diag online slot