



Diagnostic Commands

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Running Diagnostic Tests

To perform a diagnostic test, follow these high-level steps:

-
- | | |
|---------------|---|
| Step 1 | Enter the appropriate configuration submode for the port or card that you want to test. |
| Step 2 | Configure the properties of the test: <ul style="list-style-type: none">• data-pattern• data-size• iterations• source-wwpn (Fibre Channel only)• target-wwpn (Fibre Channel only) |
| Step 3 | Configure the type of test: <ul style="list-style-type: none">• internal-loopback• external-loopback• echo• self-test |

**Note**

Available test types vary by card type and interface type.

- Step 4** Start and stop tests as needed. See the “start” section on [page 7-223](#) and the “stop” section on [page 7-224](#).

diagnostic

To enter Diagnostic Configuration submode, enter the **diagnostic** command in Global Configuration mode.

```
diagnostic { card { card-selection | all } | chassis | interface { fc | ib | ethernet } { interface-selection
| all } | fan { fan-number | all } | power-supply { supply | all } | rack-locator { locator | all } }
```



Note

Not all syntax applies to all hardware platforms. Enter Diagnostic submode to run test on cards and interfaces.

Syntax Description

card	Enters Card Diagnostic Configuration submode.
<i>card-selection</i>	Card, list of cards, or range of cards to diagnose.
chassis	Configures chassis-specific diagnostic tests.
fan	Configures fan-specific diagnostic tests.
interface	Enters Interface Diagnostic Configuration submode.
fc	Specifies Fibre Channel interfaces.
ib	Specifies InfiniBand interfaces.
ethernet	Specifies Ethernet interfaces.
<i>interface-selection</i>	Interface, list of interfaces, or range of interfaces to diagnose.
all	Specifies all interfaces of the technology type that you specified for all cards.
power-supply	Configures power supply-specific diagnostic tests.
rack-locator	Configures rack locator-specific diagnostic tests.

Defaults

This command has no default settings.

Command Modes

Global Configuration (config) mode.

Usage Guidelines

Platform Availability:

Cisco SFS 3001, Cisco SFS 7000, Cisco SFS 7008, Cisco SFS 3012, Cisco 4x InfiniBand Switch Module for IBM BladeCenter



Note

The SFS 3001 and SFS 3012 can run card and interface tests only. For the SFS 7000 and SFS 7008, the **rack-locator** keyword supports only 12x, not 4x.

Privilege Level:

Read-write user for the appropriate technology.

Examples

The following example enters Diagnostic Configuration submode for Ethernet port 2/1:

```
SFS-7000P(config)# diagnostic interface ethernet 2/1  
SFS-7000P(config-diag-if-ether-2/1)#
```

Related Commands

[show diagnostic](#)
[show card](#)
[start](#)
[stop](#)
[test](#)

data-pattern

To specify a data pattern when you run a diagnostic test on an interfaces, enter the data-pattern command in Interface Diagnostic Configuration submenu. To clear the data pattern, use the no form of this command.

data-pattern *pattern*

no data-pattern *pattern*

Syntax Description

<i>pattern</i>	Artificial traffic pattern to create for testing purposes.
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Defaults

This command has no default settings.

Command Modes

Interface Diagnostic Configuration (config-diag-if) mode.

Usage Guidelines

Platform Availability:

Cisco SFS 3001, Cisco SFS 7000, Cisco SFS 7008, Cisco SFS 3012, Cisco 4x InfiniBand Switch Module for IBM BladeCenter

Privilege Level:

Unrestricted and general read-write user.

Examples

The following example configures the data pattern that runs during a diagnostic test:

```
SFS-7000P(config-diag-if-fc-4/1)# data pattern 11:22:33:44
```

Related Commands

[test](#)
[diagnostic](#)
[start](#)
[stop](#)
[show interface ethernet](#)
[show interface fc](#)
[show interface ib](#)

data-size

Configure the data size property of your test to customize the size of packets, frames, or IB packets that your Server Switch uses for your test. To configure the payload size of an interface, enter the **data-size** command in Interface Diagnostic Configuration submode. To clear the data size, use the **no** form of this command.

data-size *size*

no data-size *size*

Syntax Description

Data size defaults to 4 octets.

<i>size</i>	Integer value that represents the payload size, in octets.
-------------	--

Command Modes

Interface Diagnostic Configuration submode.

Usage Guidelines

Platform Availability:
Cisco SFS 3001, Cisco SFS 7000, Cisco SFS 7008, Cisco SFS 3012, Cisco 4x InfiniBand Switch Module for IBM BladeCenter

Privilege Level:
Unrestricted and general read-write user.

Examples

The following example configures the payload size for a diagnostic test:

```
SFS-7000P(config-diag-if-fc-4/1)# data size 8
```

Related Commands

[diagnostic](#)
[show interface ethernet](#)
[show interface fc](#)
[show interface gateway](#)
[start](#)
[stop](#)
[test](#)

iterations

To specify the number of times to run a diagnostic test on an interface, enter the **iterations** command in Interface Diagnostic Configuration submode. If you do not specify a specific number of repetitions for a test to run, use the **stop** command.

iterations *repetitions*

Syntax Description

repetitions

Integer value for the number of times that you want a test to run.

Defaults

The iterations value defaults to zero, which causes the test to run until you stop it with the **stop** command.

Command Modes

Interface Diagnostic Configuration submode.

Usage Guidelines**Platform Availability:**

Cisco SFS 3001, Cisco SFS 7000, Cisco SFS 7008, Cisco SFS 3012, Cisco 4x InfiniBand Switch Module for IBM BladeCenter

Privilege Level:

Unrestricted and general read-write user.

Examples

The following example configures diagnostic tests to run four times and then stop:

```
SFS-7000P(config-diag-if-fc-4/1)# iterations 4
```

Related Commands

[diagnostic](#)
[show interface ethernet](#)
[show interface fc](#)
[show interface gateway](#)
[start](#)
[stop](#)
[test](#)

source-wwpn

To configure an optional WWPN identifier for a Fibre Channel interface Echo test, enter the source-wwpn command in Fibre Channel Interface Diagnostic Configuration submode.

```
source-wwpn wwpn  
  
no source-wwpn wwpn
```

Syntax Description	<i>wwpn</i> Optional 24-bit source identifier to use with the Fibre Channel interface Echo test.
Defaults	This command has no default settings.
Command Modes	Interface Diagnostic Configuration submode.
Usage Guidelines	Platform Availability: Cisco SFS 3001, Cisco SFS 7000, Cisco SFS 7008, Cisco SFS 3012, Cisco 4x InfiniBand Switch Module for IBM BladeCenter Privilege Level: Unrestricted and general read-write user.
Examples	The following example sets the source wwpn: <pre>SFS-7000P(config-diag-if-fc-4/1)# source-wwpn 20:01:00:05:ad:00:40:00</pre>
Related Commands	diagnostic show interface ethernet show interface fc show interface gateway start stop test

start

To begin a diagnostic test, enter the **start** command in the appropriate Interface DiagnosticConfiguration submode.

start

Syntax Description	This command has no arguments or keywords.
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Defaults	This command has no default settings.
-----------------	---------------------------------------

Command Modes	Fibre Channel Interface Diagnostic Configuration (config-diag-if-fc) submode, Ethernet Interface Diagnostic Configuration (config-diag-if-en) submode, or Card Interface Diagnostic Configuration (config-diag-if-card) submode.
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Usage Guidelines	Platform Availability: Cisco SFS 3001, Cisco SFS 7000, Cisco SFS 7008, Cisco SFS 3012, Cisco 4x InfiniBand Switch Module for IBM BladeCenter
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Privilege Level:

Unrestricted and general read-write user.

Examples	The following example starts a LED diag test on a Fibre Channel interface:
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```
SFS-7000P(config-diag-if-fc-4/1)# test led
SFS-7000P(config-diag-if-fc-4/1)# start
```

The following example starts a self-test diagnostic test on a card:

```
FS-7000P (config-diag-card-6)# test self-test
SFS-7000P (config-diag-card-6)# start
```

Related Commands	diagnostic show interface ethernet show interface fc show interface gateway stop test
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stop

To end a diagnostic test, enter the **stop** command in the appropriate Interface DiagnosticConfiguration submode.

stop

Syntax Description

This command has no arguments or keywords.

Defaults

This command has no default settings.

Command Modes

Fibre Channel Interface Diagnostic Configuration (config-diag-if-fc) submode, Ethernet Interface Diagnostic Configuration (config-diag-if-en) submode, or Card Interface Diagnostic Configuration (config-diag-if-card) submode, Card Diagnostic Configuration submode (config-diag-card), Chassis Diagnostic Configuration submode (config-diag-chassis), Fan Diagnostic Configuration submode (config-diag-fan), Power Supply Diagnostic Configuration submode (config-diag-power-supply), Rack Locator Diagnostic Configuration submode (config-diag-rack-locator), InfiniBand Interface Diagnostic Configuration submode (config-diag-if-ib)

Usage Guidelines

Platform Availability:

Cisco SFS 3001, Cisco SFS 7000, Cisco SFS 7008, Cisco SFS 3012, Cisco 4x InfiniBand Switch Module for IBM BladeCenter

Privilege Level:

Fibre Channelread-write user.

Examples

The following example stops the test running on Fibre Channel port 4/1:

```
SFS-7000P(config-diag-if-fc-4/1)# stop
```

The following example stops the test running on card 6:

```
FS-7000P (config-diag-card-6)# stop
```

Related Commands

[diagnostic](#)
[show interface ethernet](#)
[show interface fc](#)
[show interface gateway](#)
[start](#)
[test](#)

target-wwpn

To configure an optional WWPN identifier for a Fibre Channel interface Echo test, enter the **target-wwpn** command in Fibre Channel Interface Diagnostic Configuration submode.

source-wwpn *wwpn*

no source-wwpn *wwpn*

Syntax Description

<i>wwpn</i>	Optional 24-bit source identifier to use with the Fibre Channel interface Echo test.
-------------	--

Defaults

This command has no default settings.

Command Modes

Configuration Diag Interface Fibre Channel (config-diag-if-fc) submode.

Usage Guidelines

Platform Availability:

Cisco SFS 3001, Cisco SFS 7000, Cisco SFS 7008, Cisco SFS 3012, Cisco 4x InfiniBand Switch Module for IBM BladeCenter

Privilege Level:

Fibre Channelread-write user.

Examples

The following example enables database synchronization on the IB fabric:

```
SFS-7000P(config-diag-if-fc-4/1)# ib sm db-sync subnet-prefix fe:80:00:00:00:00:00 enable
```

Related Commands

[diagnostic](#)
[show interface ethernet](#)
[show interface fc](#)
[show interface gateway](#)
[start](#)
[stop](#)
[test](#)

test

Specify a diagnostic test to run with the test command in appropriate Diagnostic Configuration submode.

test {echo | int-loopback | ext-loopback | led | self-test}



Note

The SFS 7000 does not support external loopback tests for InfiniBand interfaces. Table 7-8 describes the different tests that you can run and the interfaces or cards on which you can run them.

Syntax Description

echo	Echo test (Fibre Channel gateway only).
int-loopback	Internal loopback test (unsupported).
ext-loopback	External loopback test (Fibre Channel gateway only).
led	LED test.
self-test	Self test.
ext-cable	External cable test (unsupported).

Defaults

This command has no default settings.

Command Modes

Fibre Channel Interface Diagnostic Configuration (config-diag-if-fc) submode, Ethernet Interface Diagnostic Configuration (config-diag-if-en) submode, InfiniBand Interface Diagnostic Configuration

Usage Guidelines

Platform Availability:
Cisco SFS 3001, Cisco SFS 7000, Cisco SFS 7008, Cisco SFS 3012, Cisco 4x InfiniBand Switch Module for IBM BladeCenter

Privilege Level:
Read-write user.

Examples

The following example specifies a LED test to run on card 11 when the **start** command executes:

```
SFS-7000P (config-diag-card-11)# test LED
```

Related Commands

[diagnostic](#)
[show interface ethernet](#)
[show interface fc](#)
[show interface gateway](#)
[start](#)
[stop](#)

validate

To validate diagnostic tests, enter the **validate** command in the appropriate Diagnostic Configuration submode.

validate

no validate

Syntax Description

This command has no arguments or keywords.

Defaults

This command has no default settings.

Command Modes

Diagnostic Configuration (config-diag) submode.

Usage Guidelines**Platform Availability:**

Cisco SFS 3001, Cisco SFS 7000, Cisco SFS 7008, Cisco SFS 3012, Cisco 4x InfiniBand Switch Module for IBM BladeCenter

Privilege Level:

General read-write user.

Examples

The following example validates diagnostic tests on port 6/2:

```
SFS-7000P (config-diag-if-en-6/2)# validate
```

Related Commands

[diagnostic](#)
[show interface ethernet](#)
[show interface fc](#)
[show interface gateway](#)
[start](#)
[stop](#)

■ validate