



## APPENDIX **B**

# Cisco ME 3800X and ME 3600X Switch Debug Commands

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This appendix describes the **debug** privileged EXEC commands that have been created or changed for use with the Cisco ME 3800X and ME 3600X switch. These commands are helpful in diagnosing and resolving internetworking problems and should be enabled only under the guidance of Cisco technical support staff.



### Caution

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Because debugging output is assigned high priority in the CPU process, it can render the system unusable. For this reason, use the **debug** commands only to troubleshoot specific problems or during troubleshooting sessions with Cisco technical support staff. It is best to use the **debug** commands during periods of lower network traffic and fewer users. Debugging during these periods decreases the likelihood that increased **debug** command processing overhead will affect system use.

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Although visible in the command-line help, the switch does not support the **debug platform** commands.

# debug bridge-domain

To enable debugging of bridge domains, use the **debug bridge-domain** command in privileged EXEC mode. To disable debugging, use the **no** form of this command.

```
debug bridge-domain {number mac {security | table} {errors | events} | configuration | errors |
ipc}
```

```
no debug bridge-domain {number mac {security | table} {errors | events} | configuration |
errors | ipc}
```

## Syntax Description

<i>number</i>	Enter the bridge domain number to debug. The range is 1 to 8000.
<b>mac security</b>	Displays MAC security debug messages.
<b>mac table</b>	Displays MAC address table debug messages.
<b>errors</b>	Displays MAC security or MAC address table error debug messages.
<b>events</b>	Displays MAC security or MAC address table event debug messages.
<b>configuration</b>	Displays bridge domain configuration event debug messages.
<b>errors</b>	Displays bridge domain error debug messages.
<b>ipc</b>	Displays bridge domain IPC error and event debug messages.

## Defaults

Debugging is disabled.

## Command Modes

Privileged EXEC

## Command History

Release	Modification
12.2(52)EY	This command was introduced.

## Usage Guidelines

The **undebug bridge-domain** command is the same as the **no debug bridge-domain** command.

## Related Commands

Command	Description
<b>show debugging</b>	Displays information about the types of debugging that are enabled.

# debug etherchannel

To enable debugging of the EtherChannel/PAGP shim, use the **debug etherchannel** command in privileged EXEC mode. This shim is the software module that is the interface between the Port Aggregation Protocol (PAGP) software module and the port manager software module. To disable debugging, use the **no** form of this command.

**debug etherchannel** [**all** | **detail** | **error** | **event** | **idb**]

**no debug etherchannel** [**all** | **detail** | **error** | **event** | **idb**]

## Syntax Description

<b>all</b>	(Optional) Displays all EtherChannel debug messages.
<b>detail</b>	(Optional) Displays detailed EtherChannel debug messages.
<b>error</b>	(Optional) Displays EtherChannel error debug messages.
<b>event</b>	(Optional) Displays major EtherChannel event messages.
<b>idb</b>	(Optional) Displays PAGP interface descriptor block debug messages.



## Note

Though visible in the command-line help strings, the **linecard** keyword is not supported.

## Defaults

Debugging is disabled.

## Command Modes

Privileged EXEC

## Command History

Release	Modification
12.2(52)EY	This command was introduced.

## Usage Guidelines

If you do not specify a keyword, all debug messages appear.

The **undebug etherchannel** command is the same as the **no debug etherchannel** command.

## Related Commands

Command	Description
<b>show debugging</b>	Displays information about the types of debugging that are enabled.
<b>show etherchannel</b>	Displays EtherChannel information for the channel.

## debug ethernet service

To enable debugging of Ethernet customer service instances, use the **debug ethernet service** command in privileged EXEC mode. To disable debugging, use the **no** form of this command.

```
debug ethernet service { all | api | error | evc [id evc-id] | instance [id id interface-id | interface interface-id] | interface [interface-id] | oam-mgr }
```

```
no debug ethernet service { all | api | error | evc [id evc-id] | instance [id id interface-id | interface interface-id] | interface [interface-id] | oam-mgr }
```

Syntax Description		
<b>all</b>		Displays all Ethernet customer-service debug messages.
<b>api</b>		Displays debug messages about the interaction between the Ethernet infrastructure and its clients.
<b>error</b>		Displays Ethernet customer-service error messages occurring in the Ethernet infrastructure subsystem.
<b>evc</b>		Displays Ethernet virtual connection (EVC) debug messages
<b>id</b> <i>evc-id</i>	(Optional)	Displays EVC debug messages relevant to a specific EVC identifier. The EVC identifier can be a string of from 1 to 100 characters.
<b>instance</b>		Displays debug messages related to Ethernet customer-service instances.
<b>id</b> <i>id interface-id</i>	(Optional)	Displays Ethernet service-instance debug messages for a specific Ethernet service instance ID and interface. The service identifier range is 1 to 4294967295. The interface is a physical interface.
<b>interface</b> <i>interface-id</i>	(Optional)	When entered after the <b>instance</b> keyword, displays service-instance debug messages for the interface. You must enter an interface ID.
<b>interface</b> [ <i>interface-id</i> ]		Displays debugging for Ethernet services on all interfaces or the specified interface.
<b>oam-mgr</b>		Displays debug messages for the Ethernet operation, administration, and maintenance (OAM) manager component of the infrastructure.

**Command Default** Ethernet service debugging is disabled.

**Command Modes** Privileged EXEC

Command History	Release	Modification
	12.2(52)EY	This command was introduced.

**Usage Guidelines** The **undebug ethernet service** command is the same as the **no debug ethernet service** command.

Related Commands	Command	Description
	show debugging	Displays information about the types of debugging that are enabled.

# debug interface

To enable debugging of interface-related activities, use the **debug interface** command in privileged EXEC mode. To disable debugging, use the **no** form of this command.

```
debug interface { interface-id | null interface-number | port-channel port-channel-number |
  vlan vlan-id }
```

```
no debug interface { interface-id | null interface-number | port-channel port-channel-number |
  vlan vlan-id }
```

## Syntax Description

<i>interface-id</i>	Displays debug messages for the specified physical port, identified by type switch number/module number/ port, for example <b>gigabitethernet 0/2</b> .
<b>null</b> <i>interface-number</i>	Displays debug messages for null interfaces. The <i>interface-number</i> is always <b>0</b> .
<b>port-channel</b> <i>port-channel-number</i>	Displays debug messages for the specified EtherChannel port-channel interface. The <i>port-channel-number</i> range is 1 to 26.
<b>vlan</b> <i>vlan-id</i>	Displays debug messages for the specified VLAN. The <i>vlan-id</i> range is 1 to 4094.

## Defaults

Debugging is disabled.

## Command Modes

Privileged EXEC

## Command History

Release	Modification
12.2(52)EY	This command was introduced.

## Usage Guidelines

If you do not specify a keyword, all debug messages appear.

The **undebug interface** command is the same as the **no debug interface** command.

## Related Commands

Command	Description
<b>show debugging</b>	Displays information about the types of debugging that are enabled.
<b>show interface</b>	Displays interface status and configuration information.

# debug ip igmp filter

To enable debugging of Internet Group Management Protocol (IGMP) filter events, use the **debug ip igmp filter** command in privileged EXEC mode. To disable debugging, use the **no** form of this command.

**debug ip igmp filter**

**no debug ip igmp filter**

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

**Defaults** Debugging is disabled.

**Command Modes** Privileged EXEC

Command History	Release	Modification
	12.2(52)EY	This command was introduced.

**Usage Guidelines** The **undebug ip igmp filter** command is the same as the **no debug ip igmp filter** command.

Related Commands	Command	Description
	<b>show debugging</b>	Displays information about the types of debugging that are enabled.

# debug ip igmp max-groups

To enable debugging of Internet Group Management Protocol (IGMP) maximum groups events, use the **debug ip igmp max-groups** command in privileged EXEC mode. To disable debugging, use the **no** form of this command.

**debug ip igmp max-groups**

**no debug ip igmp max-groups**

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

**Defaults** Debugging is disabled.

**Command Modes** Privileged EXEC

Command History	Release	Modification
	12.2(52)EY	This command was introduced.

**Usage Guidelines** The **undebug ip igmp max-groups** command is the same as the **no debug ip igmp max-groups** command.

Related Commands	Command	Description
	<b>show debugging</b>	Displays information about the types of debugging that are enabled.



# debug ip igmp snooping

To enable debugging of Internet Group Management Protocol (IGMP) snooping activity, use the **debug igmp snooping** command in privileged EXEC mode. To disable debugging, use the **no** form of this command.

```
debug ip igmp snooping [ip_address | group | management | querier | redundancy | router | timer]
```

```
no debug ip igmp snooping [ip_address | group | management | querier | redundancy | router | timer]
```

## Syntax Description

<i>ip_address</i>	IPv4 group address
<b>group</b>	(Optional) Displays IGMP snooping group activity debug messages.
<b>management</b>	(Optional) Displays IGMP snooping management activity debug messages.
<b>querier</b>	(Optional) Displays IGMP snooping querier debug messages.
<b>redundancy</b>	(Optional) Displays IGMP snooping redundancy events.
<b>router</b>	(Optional) Displays IGMP snooping router activity debug messages.
<b>timer</b>	(Optional) Displays IGMP snooping timer event debug messages.

## Defaults

Debugging is disabled.

## Command Modes

Privileged EXEC

## Command History

Release	Modification
12.2(52)EY	This command was introduced.

## Usage Guidelines

The **undebug ip igmp snooping** command is the same as the **no debug ip igmp snooping** command.

## Related Commands

Command	Description
<b>show debugging</b>	Displays information about the types of debugging that are enabled.

# debug lacp

To enable debugging of Link Aggregation Control Protocol (LACP) activity, use the **debug lacp** command in privileged EXEC mode. To disable debugging, use the **no** form of this command.

**debug lacp** [**all** | **event** | **fsm** | **misc** | **packet**]

**no debug lacp** [**all** | **event** | **fsm** | **misc** | **packet**]

## Syntax Description

<b>all</b>	(Optional) Displays all LACP debug messages.
<b>event</b>	(Optional) Displays LACP event debug messages.
<b>fsm</b>	(Optional) Displays LACP finite state-machine debug messages.
<b>misc</b>	(Optional) Displays miscellaneous LACP debug messages.
<b>packet</b>	(Optional) Displays LACP packet debug messages.

## Defaults

Debugging is disabled.

## Command Modes

Privileged EXEC

## Command History

Release	Modification
12.2(52)EY	This command was introduced.

## Usage Guidelines

The **undebug lacp** command is the same as the **no debug lacp** command.

## Related Commands

Command	Description
<b>show debugging</b>	Displays information about the types of debugging that are enabled.
<b>show lacp</b>	Displays LACP channel-group information.

# debug mac-notification

To enable debugging of MAC notification events, use the **debug mac-notification** command in privileged EXEC mode. To disable debugging, use the **no** form of this command.

**debug mac-notification**

**no debug mac-notification**

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

**Defaults** Debugging is disabled.

**Command Modes** Privileged EXEC

Command History	Release	Modification
	12.2(52)EY	This command was introduced.

**Usage Guidelines** The **undebg mac-notification** command is the same as the **no debug mac-notification** command.

Related Commands	Command	Description
	<b>show debugging</b>	Displays information about the types of debugging that are enabled.
	<b>show mac address-table notification</b>	Displays the MAC address notification information for all interfaces or the specified interface.

# debug matm

To enable debugging of platform-independent MAC address management events, use the **debug matm** command in privileged EXEC mode. To disable debugging, use the **no** form of this command.

```
debug matm {add | age | all | bulkdelete | create | delete | error | move | pm | remove | traceback}
```

```
no debug matm {add | age | all | bulkdelete | create | delete | error | move | pm | remove |
  traceback}
```

## Syntax Description

<b>add</b>	Displays MAC address add debug messages.
<b>age</b>	Displays MAC address aging debug messages.
<b>all</b>	Displays all MAC address debug messages.
<b>bulkdelete</b>	Displays MAC address bulk delete debug messages.
<b>create</b>	Displays MAC address creation debug messages.
<b>delete</b>	Displays MAC address deletion debug messages.
<b>error</b>	Displays MAC address creation debug messages.
<b>move</b>	Displays MAC address move debug messages.
<b>pm</b>	Displays MAC address port manager debug messages.
<b>remove</b>	Displays MAC address remove debug messages.
<b>traceback</b>	Displays MAC address traceback debug messages.



## Note

Although visible in the command-line help, the **pvlan** keyword is not supported.

## Defaults

Debugging is disabled.

## Command Modes

Privileged EXEC

## Command History

Release	Modification
12.2(52)EY	This command was introduced.

## Usage Guidelines

The **undebug matm** command is the same as the **no debug matm** command.

## Related Commands

Command	Description
<b>show debugging</b>	Displays information about the types of debugging that are enabled.

# debug matm move

To enable debugging of MAC address-table move message processing, use the **debug matm move** command in privileged EXEC mode. To disable debugging, use the **no** form of this command.

**debug matm move** [address | update]

**no debug matm move** [address | update]

## Syntax Description

<b>address</b>	Displays MAC address table move address debug messages.
<b>move</b>	Displays MAC address table move update debug messages.

## Defaults

Debugging is disabled. update

## Command Modes

Privileged EXEC

## Command History

Release	Modification
12.2(52)EY	This command was introduced.

## Usage Guidelines

The **undebug matm move** command is the same as the **no debug matm move** command.

## Related Commands

Command	Description
<b>mac address-table move update</b>	Configures the MAC address-table move update feature on the switch.
<b>show debugging</b>	Displays information about the types of debugging that are enabled.
<b>show mac address-table move update</b>	Displays the MAC address-table move update information on the switch.

# debug network-clock

To enable debugging of a SyncE network clock, use the **debug network-clock** command in Privileged EXEC mode. To disable debugging, use the **no** form of this command.

```
debug network-clock [error] [event] [pal] [sm]
```

```
no debug network-clock [error] [event] [pal] [sm]
```

## Syntax Description

<b>error</b>	Network clock error debugging
<b>event</b>	Network clock event debugging
<b>pal</b>	Network clock PAL debugging
<b>sm</b>	Network clock state machine debugging

## Defaults

Debugging is disabled.

## Command Modes

Privileged EXEC

## Command History

Release	Modification
15.1(2)EY	This command was introduced.

## Usage Guidelines

## Examples

The following example shows how to enable SyncE network clock debugging:

```
Switch# deb network-clock ?
  error Network clock error debugging
  event Network clock event debugging
  pal   Network clock PAL debugging
  sm    Network clock state machine debugging
```

```
Switch# deb network-clock error
```

## Related Commands

Command	Description
<b>show debugging</b>	Displays information about the types of debugging that are enabled.

# debug nvram

To enable debugging of NVRAM activity, use the **debug nvram** command in privileged EXEC mode. To disable debugging, use the **no** form of this command.

**debug nvram**

**no debug nvram**

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

**Defaults** Debugging is disabled.

**Command Modes** Privileged EXEC

Command History	Release	Modification
	12.2(52)EY	This command was introduced.

**Usage Guidelines** The **undebug nvram** command is the same as the **no debug nvram** command.

Related Commands	Command	Description
	<b>show debugging</b>	Displays information about the types of debugging that are enabled.

# debug pagp

To enable debugging of Port Aggregation Protocol (PAgP) activity, use the **debug pagp** command in privileged EXEC mode. To disable debugging, use the **no** form of this command.

**debug pagp** [**all** | **dual-active** | **event** | **fsm** | **misc** | **packet**]

**no debug pagp** [**all** | **dual-active** | **event** | **fsm** | **misc** | **packet**]

## Syntax Description

<b>all</b>	(Optional) Displays all PAgP debug messages.
<b>dual-active</b>	(Optional) Displays PAgP dual-active debug messages.
<b>event</b>	(Optional) Displays PAgP event debug messages.
<b>fsm</b>	(Optional) Displays PAgP finite state-machine debug messages.
<b>misc</b>	(Optional) Displays miscellaneous PAgP debug messages.
<b>packet</b>	(Optional) Displays PAgP packet debug messages.

## Defaults

Debugging is disabled.

## Command Modes

Privileged EXEC

## Command History

Release	Modification
12.2(52)EY	This command was introduced.

## Usage Guidelines

The **undebug pagp** command is the same as the **no debug pagp** command.

## Related Commands

Command	Description
<b>show debugging</b>	Displays information about the types of debugging that are enabled.
<b>show pagp</b>	Displays PAgP channel-group information.



# debug pm

To enable debugging of port manager (PM) activity, use the **debug pm** command in privileged EXEC mode. The port manager is a state machine that controls all the logical and physical interfaces. All features, such as VLANs, UniDirectional Link Detection (UDLD), and so forth, work with the port manager to provide switch functions. To disable debugging, use the **no** form of this command.

```
debug pm {all | assert | card | cookies | etherchnl | hatable | messages | port | redundancy |
registry | sm | span | split | statistics| vlan | vp}
```

```
no debug pm {all | assert | card | cookies | etherchnl | hatable | messages | port | redundancy |
registry | sm | span | split | statistics| vlan | vp}
```

## Syntax Description

<b>all</b>	Displays all PM debug messages.
<b>assert</b>	Displays assert debug messages.
<b>card</b>	Displays line-card related-events debug messages.
<b>cookies</b>	Displays internal PM cookie validation debug messages.
<b>etherchnl</b>	Displays EtherChannel related-events debug messages.
<b>hatable</b>	Displays Host Access Table events debug messages.
<b>messages</b>	Displays PM debug messages.
<b>port</b>	Displays port related-events debug messages.
<b>redundancy</b>	Displays PM redundancy event debug messages.
<b>registry</b>	Displays PM registry invocation debug messages.
<b>sm</b>	Displays state-machine related-events debug messages.
<b>span</b>	Displays spanning-tree related-events debug messages.
<b>split</b>	Displays split-processor debug messages.
<b>statistics</b>	Displays PM statistic event debug messages.
<b>vlan</b>	Displays VLAN related-events debug messages.
<b>vp</b>	Displays virtual port related-events debug messages.



### Note

Though visible in the command-line help strings, the **pvlan** and **scp** keywords are not supported.

## Defaults

Debugging is disabled.

## Command Modes

Privileged EXEC

## Command History

Release	Modification
12.2(52)EY	This command was introduced.

## ■ debug pm

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**Usage Guidelines**

The **undebug pm** command is the same as the **no debug pm** command.

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**Related Commands**

Command	Description
<b>show debugging</b>	Displays information about the types of debugging that are enabled.

# debug rep

To enable debugging of Resilient Ethernet Protocol (REP) functions, use the **debug rep** command in privileged EXEC mode. To disable debugging, use the **no** form of this command.

```
debug rep {all | bpa-event | bpsm | database | epa-pkt | epasm | error | failure-recovery | lsism
           | misc | packet | prsm | show cli}
```

```
no debug rep {all | bpa-event | bpsm | database | epa-pkt | epasm | error | failure-recovery |
             lsism | misc | packet | prsm | show cli}
```

Syntax Description	
<b>all</b>	Display all REP debug messages.
<b>bpa-event</b>	Displays blocked port advertisement (BPA) debug messages.
<b>bpsm</b>	Displays BPA state machine debug messages.
<b>database</b>	Displays REP state machine debug messages.
<b>epa-pkt</b>	Displays end port advertisement (EPA) packet debug messages.
<b>epasm</b>	Displays EPA state machine debug messages.
<b>error</b>	Displays REP protocol error debug messages.
<b>failure-recovery</b>	Displays REP switchover event debug messages.
<b>lsism</b>	Displays Link State Layer (LSL) state machine debug messages.
<b>misc</b>	Displays miscellaneous REP debug messages.
<b>packet</b>	Displays protocol PDU debug messages.
<b>prsm</b>	Displays REP port role state machine debug messages.
<b>showcli</b>	Displays show command line interface debug information.

**Defaults** Debugging is disabled.

**Command Modes** Privileged EXEC

Command History	Release	Modification
	12.2(52)EY	This command was introduced.

**Usage Guidelines** The **undebug rep** command is the same as the **no debug rep** command.

Related Commands	Command	Description
	<b>show debugging</b>	Displays information about the types of debugging that are enabled.
	<b>show interfaces rep</b>	Displays REP configuration and status for a specified interface or for all interfaces.

# debug qos

To enable debugging of the quality of service (QoS) feature, use the **debug qos** command in privileged EXEC mode. To disable debugging, use the **no** form of this command.

```
debug qos {capability | events | service-policy {global-lock | iteration | lifecycle | polling | stats
  trace} | set}
```

```
no debug qos {capability | events | service-policy {global-lock | iteration | lifecycle | polling |
  stats trace} | set}
```

## Syntax Description

<b>capability</b>	Displays all QoS capability debug messages.
<b>events</b>	Displays modular QoS command-line interface (MQC) event debug messages.
<b>service-policy</b>	Displays QoS service policy debug messages.
<b>global-lock</b>	Displays QoS service policy lock event debug messages.
<b>iteration</b>	Displays QoS service policy iteration debug messages.
<b>lifecycle</b>	Displays QoS service policy install and remove event debug messages.
<b>polling</b>	Displays QoS service policy statistics polling debug messages.
<b>stats</b>	Displays QoS service policy statistics update debug messages.
<b>trace</b>	Includes traceback information in the debug message output.
<b>set</b>	Displays QoS packet marking debug messages.

## Defaults

Debugging is disabled.

## Command Modes

Privileged EXEC

## Command History

Release	Modification
12.2(52)EY	This command was introduced.

## Usage Guidelines

The **undebug qos** command is the same as the **no debug qos** command.

## Related Commands

Command	Description
<b>show debugging</b>	Displays information about the types of debugging that are enabled.

# debug spanning-tree

To enable debugging of spanning-tree activities, use the **debug spanning-tree** command in privileged EXEC mode. To disable debugging, use the **no** form of this command.

```
debug spanning-tree {all | bpdud | bpdud-opt | config | etherchannel | events | exceptions | general
  | mstp | pvst+ | root | snmp | switch | synchronization | vlan-shim }
```

```
no debug spanning-tree {all | bpdud | bpdud-opt | config | etherchannel | events | exceptions |
  general | mstp | pvst+ | root | snmp | switch | synchronization | vlan-shim }
```

Syntax Description	
<b>all</b>	Displays all spanning-tree debug messages.
<b>bpdud</b>	Displays spanning-tree bridge protocol data unit (BPDU) debug messages. See the <a href="#">debug spanning-tree bpdud</a> command.
<b>bpdud-opt</b>	Displays optimized BPDU handling debug messages. See the <a href="#">debug spanning-tree bpdud-opt</a> command.
<b>config</b>	Displays spanning-tree configuration change debug messages.
<b>etherchannel</b>	Displays EtherChannel-support debug messages.
<b>events</b>	Displays spanning-tree topology event debug messages.
<b>exceptions</b>	Displays spanning-tree exception debug messages.
<b>general</b>	Displays general spanning-tree activity debug messages.
<b>mstp</b>	Debug Multiple Spanning Tree Protocol events. See the <a href="#">debug spanning-tree mstp</a> command.
<b>pvst+</b>	Displays per-VLAN spanning-tree plus (PVST+) event debug messages.
<b>root</b>	Displays spanning-tree root-event debug messages.
<b>snmp</b>	Displays spanning-tree Simple Network Management Protocol (SNMP) handling debug messages.
<b>switch</b>	Displays switch shim command debug messages. This shim is the software module that is the interface between the generic Spanning Tree Protocol (STP) code and the platform-specific code of various switch platforms. See the <a href="#">debug spanning-tree switch</a> command.
<b>synchronization</b>	Displays the spanning-tree synchronization event debug messages.
<b>vlan-shim</b>	Displays spanning-tree VLAN shim debug messages. See the <a href="#">debug spanning-tree vlan-shim</a> command.



### Note

Though visible in the command-line help strings, the **csuf/csrt** keyword is not supported.

### Defaults

Debugging is disabled.

### Command Modes

Privileged EXEC

## ■ debug spanning-tree

Command History	Release	Modification
	12.2(52)EY	This command was introduced.

**Usage Guidelines** The **undebbug spanning-tree** command is the same as the **no debug spanning-tree** command.

Related Commands	Command	Description
	<b>show debugging</b>	Displays information about the types of debugging that are enabled.
	<b>show spanning-tree</b>	Displays spanning-tree state information.

# debug spanning-tree bpdu

To enable debugging of sent and received spanning-tree bridge protocol data units (BPDUs), use the **debug spanning-tree bpdu** command in privileged EXEC mode. To disable debugging, use the **no** form of this command.

```
debug spanning-tree bpdu [receive | transmit]
```

```
no debug spanning-tree bpdu [receive | transmit]
```

## Syntax Description

<b>receive</b>	(Optional) Displays the nonoptimized path for received BPDU debug messages.
<b>transmit</b>	(Optional) Displays the nonoptimized path for sent BPDU debug messages.

## Defaults

Debugging is disabled.

## Command Modes

Privileged EXEC

## Command History

Release	Modification
12.2(52)EY	This command was introduced.

## Usage Guidelines

The **undebg spanning-tree bpdu** command is the same as the **no debug spanning-tree bpdu** command.

## Related Commands

Command	Description
<b>show debugging</b>	Displays information about the types of debugging that are enabled.
<b>show spanning-tree</b>	Displays spanning-tree state information.

# debug spanning-tree bpdu-opt

To enable debugging of optimized spanning-tree bridge protocol data units (BPDUs) handling, use the **debug spanning-tree bpdu-opt** command in privileged EXEC mode. To disable debugging, use the **no** form of this command.

**debug spanning-tree bpdu-opt** [detail | packet]

**no debug spanning-tree bpdu-opt** [detail | packet]

## Syntax Description

<b>detail</b>	(Optional) Displays detailed optimized BPDU-handling debug messages.
<b>packet</b>	(Optional) Displays packet-level optimized BPDU-handling debug messages.

## Defaults

Debugging is disabled.

## Command Modes

Privileged EXEC

## Command History

Release	Modification
12.2(52)EY	This command was introduced.

## Usage Guidelines

The **undebg spanning-tree bpdu-opt** command is the same as the **no debug spanning-tree bpdu-opt** command.

## Related Commands

Command	Description
<b>show debugging</b>	Displays information about the types of debugging that are enabled.
<b>show spanning-tree</b>	Displays spanning-tree state information.



# debug spanning-tree mstp

To enable debugging of the Multiple Spanning Tree Protocol (MSTP) feature, use the **debug spanning-tree mstp** command in privileged EXEC mode. To disable debugging, use the **no** form of this command.

```
debug spanning-tree mstp {all | boundary | bpdu-rx | bpdu-tx | errors | flush | init | migration |
  pm | proposals | region | roles | sanity_check | sync | tc | timers}
```

```
no debug spanning-tree mstp {all | boundary | bpdu-rx | bpdu-tx | errors | flush | init | migration |
  pm | proposals | region | roles | sanity_check | sync | tc | timers}
```

## Syntax Description

<b>all</b>	Enables all the debugging messages.
<b>boundary</b>	Displays flag changes at these boundaries: <ul style="list-style-type: none"> <li>• An multiple spanning-tree (MST) region and a single spanning-tree region running Rapid Spanning Tree Protocol (RSTP)</li> <li>• An MST region and a single spanning-tree region running IEEE 802.1D</li> <li>• An MST region and another MST region with a different configuration</li> </ul>
<b>bpdu-rx</b>	Displays the received MST bridge protocol data units (BPDUs).
<b>bpdu-tx</b>	Displays the sent MST BPDUs.
<b>errors</b>	Displays MSTP errors.
<b>flush</b>	Displays the port flushing mechanism.
<b>init</b>	Displays the initialization of the MSTP data structures.
<b>migration</b>	Debug the protocol migration state machine.
<b>pm</b>	Displays MSTP port manager events.
<b>proposals</b>	Displays handshake messages between the designated switch and the root switch.
<b>region</b>	Displays the region synchronization between the switch processor (SP) and the route processor (RP).
<b>roles</b>	Displays MSTP roles.
<b>sanity_check</b>	Displays the received BPDU sanity check messages.
<b>sync</b>	Displays the port synchronization events.
<b>tc</b>	Displays topology change notification events.
<b>timers</b>	Displays the MSTP timers for start, stop, and expire events.

## Defaults

Debugging is disabled.

## Command Modes

Privileged EXEC

## Command History

Release	Modification
12.2(52)EY	This command was introduced.

**debug spanning-tree mstp****Usage Guidelines**

The **undebug spanning-tree mstp** command is the same as the **no debug spanning-tree mstp** command.

**Related Commands**

<b>Command</b>	<b>Description</b>
<b>show debugging</b>	Displays information about the types of debugging that are enabled.
<b>show spanning-tree</b>	Displays spanning-tree state information.

# debug spanning-tree switch

To enable debugging of the software interface between the Spanning Tree Protocol (STP) and the port manager, use the **debug spanning-tree switch** command in privileged EXEC mode. To disable debugging, use the **no** form of this command.

```
debug spanning-tree switch {all | errors | flush | general | helper | pm | rx {decode | errors |
interrupt | process} | state | tx [decode]}
```

```
no debug spanning-tree switch {all | errors | flush | general | helper | pm | rx {decode | errors |
interrupt | process} | state | tx [decode]}
```

## Syntax Description

<b>all</b>	Displays all spanning-tree switch debug messages.
<b>errors</b>	Displays debug messages for the interface between the spanning-tree software module and the port manager software module.
<b>flush</b>	Displays debug messages for the shim flush operation.
<b>general</b>	Displays general event debug messages.
<b>helper</b>	Displays spanning-tree helper-task debug messages. Helper tasks handle bulk spanning-tree updates.
<b>pm</b>	Displays port-manager event debug messages.
<b>rx</b>	Displays received bridge protocol data unit (BPDU) handling debug messages. The keywords have these meanings: <ul style="list-style-type: none"> <li><b>decode</b>—Display decoded received packets.</li> <li><b>errors</b>—Display receive error debug messages.</li> <li><b>interrupt</b>—Display interrupt service request (ISR) debug messages.</li> <li><b>process</b>—Display process receive BPDU debug messages.</li> </ul>
<b>state</b>	Displays spanning-tree port state change debug messages;
<b>tx [decode]</b>	Displays sent BPDU handling debug messages. The keyword has this meaning: <ul style="list-style-type: none"> <li><b>decode</b>—(Optional) Display decoded sent packets.</li> </ul>

## Defaults

Debugging is disabled.

## Command Modes

Privileged EXEC

## Command History

Release	Modification
12.2(52)EY	This command was introduced.

## Usage Guidelines

The **undebg spanning-tree switch** command is the same as the **no debug spanning-tree switch** command.

## ■ debug spanning-tree switch

Related Commands	Command	Description
	<b>show debugging</b>	Displays information about the types of debugging that are enabled.
	<b>show spanning-tree</b>	Displays spanning-tree state information.

# debug spanning-tree vlan-shim

To enable debugging of the Spanning Tree Protocol (STP) VLAN shim, use the **debug spanning-tree switch** command in privileged EXEC mode. To disable debugging, use the **no** form of this command.

```
debug spanning-tree vlan-shim {all | errors | flush | general | helper | pm | rx {decode | errors |
interrupt | process} | state | tx [decode]}
```

```
no debug spanning-tree vlan-shim {all | errors | flush | general | helper | pm | rx {decode | errors
| interrupt | process} | state | tx [decode]}
```

Syntax Description	
<b>all</b>	Displays all spanning-tree VLAN debug messages.
<b>errors</b>	Displays debug messages for STP VLAN errors.
<b>flush</b>	Displays debug messages for the VLAN shim flush operation.
<b>general</b>	Displays general VLAN event debug messages.
<b>helper</b>	Displays spanning-tree helper-task debug messages. Helper tasks handle bulk spanning-tree updates.
<b>rx</b>	Displays received bridge protocol data unit (BPDU) handling debug messages. The keywords have these meanings: <ul style="list-style-type: none"> <li><b>decode</b>—Displays decoded received packets.</li> <li><b>errors</b>—Displays receive error debug messages.</li> <li><b>interrupt</b>—Displays interrupt service request (ISR) debug messages.</li> <li><b>process</b>—Displays process receive BPDU debug messages.</li> </ul>
<b>state</b>	Displays spanning-tree port state change debug messages;
<b>tx [decode]</b>	Displays sent BPDU handling debug messages. The keyword has this meaning: <ul style="list-style-type: none"> <li><b>decode</b>—(Optional) Display decoded sent packets.</li> </ul>

**Defaults** Debugging is disabled.

**Command Modes** Privileged EXEC

Command History	Release	Modification
	12.2(52)EY	This command was introduced.

**Usage Guidelines** The **undebg spanning-tree vlan-shim** command is the same as the **no debug spanning-tree vlan-shim** command.

## ■ debug spanning-tree vlan-shim

Related Commands	Command	Description
	<b>show debugging</b>	Displays information about the types of debugging that are enabled.
	<b>show spanning-tree</b>	Displays spanning-tree state information.

# debug sw-vlan

To enable debugging of VLAN manager activities, use the **debug sw-vlan** command in privileged EXEC mode. To disable debugging, use the **no** form of this command.

```
debug sw-vlan {badpmcookies | cfg-vlan {bootup | cli} | events | ifs | management | notification | packets | registries}
```

```
no debug sw-vlan {badpmcookies | cfg-vlan {bootup | cli} | events | ifs | management | notification | packets | registries}
```

Syntax	Description
<b>badpmcookies</b>	Displays debug messages for VLAN manager incidents of bad port manager cookies.
<b>cfg-vlan {bootup   cli}</b>	Displays config-vlan debug messages. The keywords have these meanings: <ul style="list-style-type: none"> <li><b>bootup</b>—Display messages when the switch is booting up.</li> <li><b>cli</b>—Display messages when the command-line interface (CLI) is in config-vlan mode.</li> </ul>
<b>events</b>	Displays debug messages for VLAN manager events.
<b>ifs</b>	See the <a href="#">debug sw-vlan ifs</a> command.
<b>management</b>	Displays debug messages for VLAN manager management of internal VLANs.
<b>notification</b>	See the <a href="#">debug sw-vlan notification</a> command.
<b>packets</b>	Displays debug messages for packet handling and encapsulation processes.
<b>registries</b>	Displays debug messages for VLAN manager registries.

**Defaults** Debugging is disabled.

**Command Modes** Privileged EXEC

Command History	Release	Modification
	12.2(52)EY	This command was introduced.

**Usage Guidelines** The **undebg sw-vlan** command is the same as the **no debug sw-vlan** command.

Related Commands	Command	Description
	<b>show debugging</b>	Displays information about the types of debugging that are enabled.
	<b>show vlan</b>	Displays the parameters for all configured VLANs or one VLAN (if the VLAN name or ID is specified) in the administrative domain.

# debug sw-vlan ifs

To enable debugging of the VLAN manager IOS file system (IFS) error tests, use the **debug sw-vlan ifs** command in privileged EXEC mode. To disable debugging, use the **no** form of this command.

```
debug sw-vlan ifs {open {read | write} | read {1 | 2 | 3 | 4} | write}
```

```
no debug sw-vlan ifs {open {read | write} | read {1 | 2 | 3 | 4} | write}
```

## Syntax Description

<b>open {read   write}</b>	Displays VLAN manager IFS file-open operation debug messages. The keywords have these meanings: <ul style="list-style-type: none"> <li><b>read</b>—Display VLAN manager IFS file-read operation debug messages.</li> <li><b>write</b>—Display VLAN manager IFS file-write operation debug messages.</li> </ul>
<b>read {1   2   3   4}</b>	Displays file-read operation debug messages for the specified error test (1, 2, 3, or 4).
<b>write</b>	Displays file-write operation debug messages.

## Defaults

Debugging is disabled.

## Command Modes

Privileged EXEC

## Command History

Release	Modification
12.2(52)EY	This command was introduced.

## Usage Guidelines

The **undebug sw-vlan ifs** command is the same as the **no debug sw-vlan ifs** command.

When selecting the file read operation, Operation **1** reads the file header, which contains the header verification word and the file version number. Operation **2** reads the main body of the file, which contains most of the domain and VLAN information. Operation **3** reads type length version (TLV) descriptor structures. Operation **4** reads TLV data.

## Related Commands

Command	Description
<b>show debugging</b>	Displays information about the types of debugging that are enabled.
<b>show vlan</b>	Displays the parameters for all configured VLANs or one VLAN (if the VLAN name or ID is specified) in the administrative domain.



# debug sw-vlan notification

To enable debugging of the activation and deactivation of VLAN IDs, use the **debug sw-vlan notification** command in privileged EXEC mode. To disable debugging, use the **no** form of this command.

```
debug sw-vlan notification { accfwdchange | allowedvlanfgchange | fwdchange | linkchange |
modechange | statechange }
```

```
no debug sw-vlan notification { accfwdchange | allowedvlanfgchange | fwdchange |
linkchange | modechange | statechange }
```

## Syntax Description

<b>accfwdchange</b>	Displays debug messages for VLAN manager notification of aggregated access interface spanning-tree forward changes.
<b>allowedvlanfgchange</b>	Displays debug messages for VLAN manager notification of changes to the allowed VLAN configuration.
<b>fwdchange</b>	Displays debug messages for VLAN manager notification of spanning-tree forwarding changes.
<b>linkchange</b>	Displays debug messages for VLAN manager notification of interface link-state changes.
<b>modechange</b>	Displays debug messages for VLAN manager notification of interface mode changes.
<b>statechange</b>	Displays debug messages for VLAN manager notification of interface state changes.



## Note

Though visible in the command-line help strings, the **pruningfgchange** keyword is not supported.

## Defaults

Debugging is disabled.

## Command Modes

Privileged EXEC

## Command History

Release	Modification
12.2(52)EY	This command was introduced.

## Usage Guidelines

The **undebug sw-vlan notification** command is the same as the **no debug sw-vlan notification** command.

Related Commands	Command	Description
	<b>show debugging</b>	Displays information about the types of debugging that are enabled.
	<b>show vlan</b>	Displays the parameters for all configured VLANs or one VLAN (if the VLAN name or ID is specified) in the administrative domain.

# debug udd

To enable debugging of the UniDirectional Link Detection (UDLD) feature, use the **debug udd** command in privileged EXEC mode. To disable debugging, use the **no** form of this command.

```
debug udd {events | packets | registries}
```

```
no debug udd {events | packets | registries}
```

## Syntax Description

<b>events</b>	Displays debug messages for UDLD process events as they occur.
<b>packets</b>	Displays debug messages for the UDLD process as it receives packets from the packet queue and tries to send them at the request of the UDLD protocol code.
<b>registries</b>	Displays debug messages for the UDLD process as it processes registry calls from the UDLD process-dependent module and other feature modules.

## Defaults

Debugging is disabled.

## Command Modes

Privileged EXEC

## Command History

Release	Modification
12.2(52)EY	This command was introduced.

## Usage Guidelines

The **undebug udd** command is the same as the **no debug udd** command.

For **debug udd events**, these debugging messages appear:

- General UDLD program logic flow
- State machine state changes
- Program actions for the set and clear ErrDisable state
- Neighbor cache additions and deletions
- Processing of configuration commands
- Processing of link-up and link-down indications

For **debug udd packets**, these debugging messages appear:

- General packet processing program flow on receipt of an incoming packet
- Indications of the contents of the various pieces of packets received (such as type length versions [TLVs]) as they are examined by the packet reception code
- Packet transmission attempts and the outcome

For **debug udd registries**, these categories of debugging messages appear:

- Sub-block creation
- Fiber-port status changes

■ **debug udd**

- State change indications from the port manager software
- MAC address registry calls

**Related Commands**

<b>Command</b>	<b>Description</b>
<b>show debugging</b>	Displays information about the types of debugging that are enabled.
<b>show udd</b>	Displays UDD administrative and operational status for all ports or the specified port.

# debug vfi

To enable debugging of the virtual forwarding infrastructure (VFI) feature, use the **debug vfi** command in privileged EXEC mode. To disable debugging, use the **no** form of this command.

```
debug vfi [fsm] {error | event}
```

```
no debug vfi [fsm] {error | event}
```

## Syntax Description

<b>fsm</b>	(Optional) Displays VFI finite state-machine debug messages.
<b>error</b>	Displays debug messages for VFI errors or VFI finite state-machine errors.
<b>events</b>	Displays debug messages for VFI events or VFI finite state-machine events as they occur.

## Defaults

Debugging is disabled.

## Command Modes

Privileged EXEC

## Command History

Release	Modification
12.2(52)EY	This command was introduced.

## Usage Guidelines

The **undebug vfi** command is the same as the **no debug vfi** command.

## Related Commands

Command	Description
<b>show debugging</b>	Displays information about the types of debugging that are enabled.
<b>show vfi</b>	Displays VFI status for the switch.

# debug vrrp

To enable debugging of the Virtual Router Redundancy Protocol (VRRP), use the **debug vrrp** command in privileged EXEC mode. To disable debugging, use the **no** form of this command.

**debug vrrp** { **all** | **errors** | **events** | **packets** | **process** | **registry** | **state** | **timer** | **track** }

**no debug vrrp** { **all** | **errors** | **events** | **packets** | **process** | **registry** | **state** | **timer** | **track** }

## Syntax Description

<b>all</b>	Displays all VRRP debug messages.
<b>errors</b>	Displays debug messages for VRRP error reporting.
<b>events</b>	Displays debug messages for protocol and interface events.
<b>packets</b>	Displays debug messages. for VRRP packet details.
<b>process</b>	Displays debug messages for VRRP process activities.
<b>registry</b>	Displays debug messages for VRRP registry reporting.
<b>state</b>	Displays VRRP state change debug messages;
<b>timer</b>	Displays debug messages for VRRP timer reporting.
<b>track</b>	Displays debug messages VRRP monitor tracking.

## Defaults

Debugging is disabled.

## Command Modes

Privileged EXEC

## Command History

Release	Modification
12.2(52)EY	This command was introduced.

## Usage Guidelines

The **undebug vrrp** command is the same as the **no debug vrrp** command.

## Related Commands

Command	Description
<b>show debugging</b>	Displays information about the types of debugging that are enabled.

# debug xconnect

to enable debugging of the xconnect virtual connection or virtual connection infrastructure (VFI), use the **debug xconnect** command in privileged EXEC mode. To disable debugging, use the **no** form of this command.

```
debug xconnect {error | event}
```

```
no debug xconnect {error | event}
```

## Syntax Description

<b>error</b>	Displays debug messages for xconnect authorization errors.
<b>events</b>	Displays debug messages for xconnect authorization events.

## Defaults

Debugging is disabled.

## Command Modes

Privileged EXEC

## Command History

Release	Modification
12.2(52)EY	This command was introduced.

## Usage Guidelines

The **undebug xconnect** command is the same as the **no debug xconnect** command.

## Related Commands

Command	Description
<b>show debugging</b>	Displays information about the types of debugging that are enabled.
<b>xconnect</b>	Enable xconnect on an interface.

■ debug xconnect