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OmniSwitch 6600 Family
OmniSwitch 7700/7800
OmniSwitch 8800
User Guide Supplement

Release 5.1.6.R01

ALCATEL

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This user guide documents OmniSwitch 6600 Series, OmniSwitch 7700/7800, and OmniSwitch 8800 hardware and software.
The information described in this guide are subject to change without notice.

This OmniSwitch product contains components which may be covered by one or more of the following U.S. Patents:

- U.S. Patent No. 6,339,830
- U.S. Patent No. 6,070,243
- U.S. Patent No. 6,061,368
- U.S. Patent No. 5,394,402
- U.S. Patent No. 6,047,024
- U.S. Patent No. 6,314,106
- U.S. Patent No. 6,542,507

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Contents

1 IPv6 Commands

This chapter details Internet Protocol Version 6 (IPv6) commands for the switch (including RIPng commands). IPv6 (documented in RFC 2460) is designed as a successor to IPv 4. The changes from IPv4 to IPv6 fall primarily into the following categories:

Expanded Routing and Addressing Capabilities - IPv6 increases the IP address size from 32 bits to 128 bits, to support more levels of addressing hierarchy and a much greater number of addressable nodes, and simpler auto-configuration of addresses. The scalability of multicast routing is improved by adding a "scope" field to multicast addresses.

Header Format Simplification - Some IPv4 header fields were dropped or made optional, to reduce the common-case processing cost of packet handling and to keep the bandwidth cost of the IPv6 header as low as possible despite the increased size of the addresses. Even though the IPv6 addresses are four times longer than the IPv4 addresses, the IPv6 header is only twice the size of the IPv4 header.

Anycast Addressing - A new type of address called a "anycast address" is defined, to identify sets of nodes where a packet sent to an anycast address is delivered to one of the nodes. The use of anycast addresses in the IPv6 source route allows nodes to control the path which their traffic flows.

Improved Support for Options - Changes in the way IP header options are encoded allows for more efficient forwarding, less stringent limits on the length of options, and greater flexibility for introducing new options in the future.

Authentication and Privacy Capabilities - IPv6 includes the definition of extensions which provide support for authentication, data integrity, and confidentiality. This is included as a basic element of IPv6 and will be included in all implementations.

IPv6 is supported on 6600/7700/7800/8800 series switches running software Release 5.1.6 and up.

MIB information for the IPv6 and RIPng commands is as follows:

Filename: Ipv6.mib
Module: Ipv6-MIB, Ipv6-TCP-MIB, Ipv6-UDP-MIB

Filename: AlcatelIND1Ipv6.mib
Module: alcatelIND1IPv6MIB

Filename: AlcatelIND1Ripng.mib
Module: alcatelIND1RipngMIB

A summary of the IPv6 commands is listed here:

IPv6	**ipv6 interface** **ipv6 address** **ipv6 hop-limit** **ipv6 interface tunnel source destination** **ipv6 hop-limit** **ipv6 pmtu-lifetime** **ipv6 host** **ipv6 neighbor** **ipv6 prefix** **ipv6 route** **ping6** **traceroute6** **debug ipv6 packet** **debug ipv6 trace-category** **show ipv6 hosts** **show ipv6 icmp statistics** **show ipv6 interface** **show ipv6 pmtu table** **clear ipv6 pmtu table** **clear ipv6 neighbors** **show ipv6 prefixes** **show ipv6 routes** **show ipv6 tcp ports** **show ipv6 traffic** **clear ipv6 traffic** **show ipv6 tunnel** **show ipv6 udp ports**
IPv6 RIP	**ipv6 load rip** **ipv6 rip status** **ipv6 rip invalid-timer** **ipv6 rip garbage-timer** **ipv6 rip holddown-timer** **ipv6 rip jitter** **ipv6 rip route-tag** **ipv6 rip update-interval** **ipv6 rip triggered-sends** **ipv6 rip interface metric** **ipv6 rip interface recv-status** **ipv6 rip interface send-status** **ipv6 rip interface horizon** **ipv6 rip debug-level** **ipv6 rip debug-type** **show ipv6 rip** **show ipv6 rip interface** **show ipv6 rip peer** **show ipv6 rip routes** **show ipv6 rip debug**

ipv6 interface

Configures an IPv6 interface on a VLAN or IPv6 tunnel.

ipv6 interface *if_name* **[vlan** *vid* **| tunnel {***tid* **| 6to4}] [enable | disable]**
[mtu *size***]**
[ra-send {yes | no}]
[ra-max-interval *interval***]**
[ra-managed-config-flag {true | false}]
[ra-other-config-flag {true | false}]
[ra-reachable-time *time***]**
[ra-retrans-timer *time***]**
[ra-default-lifetime *time* **| no ra-default-lifetime]**
[ra-send-mtu] {yes | no}

no ipv6 interface *if_name*

Syntax Definitions

if_name	IPv6 interface name.
vlan	Creates a VLAN interface.
vid	VLAN ID number.
tunnel	Creates a tunnel interface.
tid	Tunnel ID number.
6to4	Enables 6to4 tunneling.
mtu *size*	Maximum Transmission Unit for the interface.
ra-send	Specifies whether the router advertisements are sent on this interface.
ra-max-interval *interval*	Maximum time, in seconds, allowed between the transmission of unsolicited multicast router advertisements in this interface. The range is 4 - 1,800.
ra-managed-config-flag	Value to be placed in the managed address configuration flag field in router advertisements sent on this interface.
ra-other-config-flag	Value to be placed in the other stateful configuration flag in router advertisements sent on this interface.
ra-reachable-time *time*	Value, in milliseconds, to be placed in the reachable time field in router advertisements sent on this interface. The range is 0 - 3,600,000). The special value of zero indicates that this time is unspecified by the router.
ra-retrans-timer *time*	Value, in milliseconds, to be placed in the retransmit timer field in router advertisements sent on this interface. The value zero indicates that the time is unspecified by the router.

ra-default-lifetime *time*	Value, in seconds, to be placed in the router lifetime field in router advertisements sent on this interface. The time must be zero or between the value of "ra-max-interval" and 9,000 seconds. A value of zero indicates that the router is not to be used as a default router. The "no ra-default-lifetime" option will calculate the value using the formula (3 * ra-max-interval).
enable | disable	Administratively enable or disable the interface.
ra-send-mtu	Specifies whether the MTU option is included in the router advertisements sent on the interface.

Defaults

parameter	default
ra-send	yes
ra-max-interval	600
ra-managed-config-flag	false
ra-reachable-time	0
ra-retrans-timer	0
ra-default-lifetime	no
ra-send-mtu	no

Platforms Supported

OmniSwitch 6624, 6648, 7700, 7800, 8800

Usage Guidelines

- When you create an IPv6 interface it is enabled by default.
- Use the "no" form of the command to delete an interface.
- All IPv6 VLAN and tunnel interfaces must have a name.
- When creating an IPv6 interface you must specify a VLAN ID, Tunnel ID, or **6to4**. When modifying or deleting an interface, you do not need to specify one of these options unless the name assigned to the interface is being changed. If it is present with a different value from when the interface was created, the command will be in error.
- A 6to4 interface cannot send advertisements (**ra-send**).
- To enable IPv6 routing you must first create a VLAN, then create an IPv6 interface on the VLAN. See Chapter 21, "VLAN Management Commands," for information on creating VLANs.
- To route IPv6 traffic over an IPv4 network, you must create an IPv6 tunnel using the **ipv6 interface tunnel source destination** command.

Example

```
-> ipv6 interface Test vlan 1

-> ipv6 interface Test_Tunnel tunnel 2

-> ipv6 interface Test_6to4 tunnel 6to4
```

Release History

Release 5.1.6; command was introduced.

Related Commands

show ipv6 interface	Displays IPv6 Interface Table
show ipv6 tunnel	Displays IPv6 Tunnel information and whether the 6to4 tunnel is enabled.

MIB Objects

```
IPv6IfIndex
alaIPv6InterfaceTable
   alaIPv6InterfaceName
   alaIPv6InterfaceMtu
   alaIPv6InterfaceSendRouterAdvertisements
   alaIPv6InterfaceMaxRtrAdvInterval
   alaIPv6InterfaceAdvManagedFlag
   alaIPv6InterfaceAdvOtherConfigFlag
   alaIPv6InterfaceAdvRetransTimer
   alaIPv6InterfaceAdvDefaultLifetime
   alaIPv6InterfaceAdminStatus
   alaIPv6InterfaceAdvReachableTime
   alaIPv6InterfaceAdvSendMtu
   alaIPv6InterfaceRowStatus
```

ipv6 address

Configures an IPv6 address for an IPV6 interface on a VLAN, configured tunnel, or a 6to4 tunnel. There are different formats for this command depending on the address type.

ipv6 address *ipv6_address /prefix_length* **[anycast]** {*if_name* | **loopback**}

no ipv6 address *ipv6_address /prefix_length* **[anycast]** {*if_name* | **loopback**}

ipv6 address *ipv6_prefix/prefix_length* **eui-64** {*if_name* | **loopback**}

no ipv6 address *ipv6_prefix/prefix_length* **eui-64** {*if_name* | **loopback**}

Syntax Definitions

ipv6_address	IPv6 address.
/prefix_length	The number of bits that are significant in the IPv6 address (mask). (0...128).
anycast	Indicates the address is an anycast address.
eui-64	Append an EUI-64 identifier to the prefix.
if_name	Name assigned to the interface.
loopback	Configures the loopback interface.

Defaults

parameter	default
/prefix_length	0

Platforms Supported

OmniSwitch 6624, 6648, 7700, 7800, 8800

Usage Guidelines

- You can assign multiple IPv6 addresses to an IPv6 interface.
- Use the “no” form of the command to delete an address.
- The “eui” form of the command is used to add or remove an IPv6 address for a VLAN or configured tunnel using an EUI-64 interface ID in the low order 64 bits of the address.
- To enable IPv6 routing you must first create a VLAN, then create an IPv6 interface on the VLAN. See Chapter 21, “VLAN Management Commands,” for information on creating VLANs.
- To route IPv6 traffic over and IPv4 network, you must create an IPv6 tunnel using the **ipv6 interface tunnel source destination** command.

Example

```
-> ipv6 address 4132:86::19A/64 Test_Lab

-> ipv6 address 2002:d423:2323::35/64 Test_6to4
```

Release History

Release 5.1.6; command was introduced.

Related Commands

show ipv6 interface	Displays IPv6 Interface Table.

MIB Objects

```
IPv6IfIndex
alaIPv6InterfaceAddressTable
   alaIPv6InterfaceAddress
   alaIPv6InterfaceAddressAnycastFlag
   alaIPv6InterfaceEUI64AddressPrefixLength
   alaIPv6InterfaceEUI64AddressrowStatus

For EUI-64 Addresses:
alaIPv6InterfaceEUI64AddresssTable
   alaIPv6InterfaceEUI64Address
   alaIPv6InterfaceEUI64AddressPrefixLength
   alaIPv6InterfaceEUI64AddressRowStatus
```

ipv6 interface tunnel source destination

Configures the source and destination IPv4 addresses for a configured tunnel.

ipv6 interface *if_name* **tunnel {[source** *ipv4_source***] [destination** *ipv4_destination***]}**

Syntax Definitions

if_name	Name assigned to the tunnel interface.
ipv4_source	Source IPv4 address for the configured tunnel.
ipv4_destination	Destination IPv4 address for the configured tunnel.

Defaults

N/A.

Platforms Supported

OmniSwitch 6624, 6648, 7700, 7800, 8800

Usage Guidelines

Use the **ipv6 interface** command to create an IPv6 tunnel interface.

Example

```
-> ipv6 interface Test tunnel 2 source 10.255.11.242 destination 10.255.11.242
```

Release History

Release 5.1.6; command was introduced.

Related Commands

ipv6 interface	Creates an IPv6 tunnel interface.
show ipv6 tunnel	Displays IPv6 Tunnel information.

MIB Objects

```
IPv6IfIndex
   alaIPv6ConfigTunnelv4Source
   alaIPv6ConfigTunnelv4Dest
   alaIPv6ConfigTunnelRowStatus
```

ipv6 dad-check

Runs a Duplicate Address Detection (DAD) check on an address that was marked as duplicated.

ipv6 dad-check *ipv6_address if_name*

Syntax Definitions

ipv6_address	IPv6 address.
ip_name	Name assigned to the interface.

Defaults

N/A.

Platforms Supported

OmniSwitch 6624, 6648, 7700, 7800, 8800

Usage Guidelines

The switch performs DAD check when an interface is attached to the stack and its VLAN first enters the active state. Use this command to rerun a DAD check on an address that was marked as duplicated.

Example

```
-> ipv6 dad-check fe80::2d0:95ff:fe6a:f458/64 Test_Lab
```

Release History

Release 5.1.6; command was introduced.

Related Commands

N/A.

MIB Objects

```
alaIPv6InterfaceAddressTable
   alaIPv6InterfaceAddressDADStatus
```

ipv6 hop-limit

Configures the value placed in the hop limit field in the header of all IPv6 packets that are originated by the switch. It also configures the value placed in the hop limit field in router advertisements.

ipv6 hop-limit *value*

no ipv6 hop-limit

Syntax Definitions

value	Hop limit value. The range is 0 - 255.

Defaults

parameter	default
value	64

Platforms Supported

OmniSwitch 6624, 6648, 7700, 7800, 8800

Usage Guidelines

Use the “no” form of the command to return the hop limit to its default value.

Example

```
-> ipv6 hop-limit 64
```

Release History

Release 5.1.6; command was introduced.

Related Commands

N/A.

MIB Objects

```
ipv6MibObjects
   Ipv6DefaultHopLimit
```

ipv6 pmtu-lifetime

Configures the configure the minimum lifetime for entries in the path MTU Table.

ipv6 pmtu-lifetime *time*

Syntax Definitions

time	Minimum path MTU entry lifetime, in minutes. Valid range is 10 - 1440.

Defaults

parameter	default
time	60

Platforms Supported

OmniSwitch 6624, 6648, 7700, 7800, 8800

Usage Guidelines

N/A.

Example

```
-> ipv6 pmtu-lifetime 30
```

Release History

Release 5.1.6; command was introduced.

Related Commands

show ipv6 pmtu table	Displays the IPv6 path MTU Table.
clear ipv6 pmtu table	Removes all entries from the IPv6 path MTU Table.

MIB Objects

```
alaIPv6ConfigTable
   alaIPv6PMTUMinLifetime
```

ipv6 host

Configures a static host name to IPv6 address mapping to the local host table.

ipv6 host *name ipv6_address*

no ipv6 host *name ipv6_address*

Syntax Definitions

name	Host name associated with the IPv6 address (1 - 255 characters).
ipv6_address	IPv6 address.

Defaults

N/A.

Platforms Supported

OmniSwitch 6624, 6648, 7700, 7800, 8800

Usage Guidelines

Use the “no” form of the command to remove the mapping from the host table.

Example

```
-> ipv6 host Lab 4235::1200:0010
```

Release History

Release 5.1.6; command was introduced.

Related Commands

show ipv6 hosts	Displays IPv6 Local Hosts Table.

MIB Objects

```
alaIPv6HostTable
   alaIPv6HostName
   alaIPv6HostAddress
   alaIPv6HostRowStatus
```

ipv6 neighbor

Configures a static entry in the IPv6 Neighbor Table.

ipv6 neighbor *ipv6_address hardware_address* {*if_name*} *slot/port*

no ipv6 neighbor *ipv6_address* {*if_name*}

Syntax Definitions

ipv6_address	IPv6 address that corresponds to the hardware address.
hardware_address	MAC address in hex format (e.g., 00:00:39:59:F1:0C).
if_name	Name assigned to the interface on which the neighbor resides.
slot/port	Slot/port used to reach the neighbor.

Defaults

N/A.

Platforms Supported

OmniSwitch 6624, 6648, 7700, 7800, 8800

Usage Guidelines

Use the “no” form of the command to remove an entry from the IPv6 Neighbor Table.

Example

```
-> ipv6 neighbor 4132:86::203 00:d0:c0:86:12:07 Test 1/1
```

Release History

Release 5.1.6; command was introduced.

Related Commands

show ipv6 neighbors	Displays IPv6 Neighbor Table.

MIB Objects

```
IPv6IfIndex
alaIPv6NeighborTable
   alaIPv6NeighborNetAddress
   alaIPv6NeighborPhysAddress
   alaIPv6NeighborSlot
   alaIPv6NeighborPort
   alaIPv6NeighborRowStatus
```

ipv6 prefix

Configures an IPv6 prefix on an interface. Used for configuring prefixes for router advertisements.

ipv6 prefix *ipv6_address /prefix_length if_name*
[valid-lifetime *time***]**
[preferred-lifetime *time***]**
[on-link-flag {true | false}
[autonomous-flag {true | false}] *if_name*

no ipv6 prefix *ipv6_address /prefix_length if_name*

Syntax Definitions

ipv6_address	IPv6 address of the interface.
/prefix_length	The number of bits that are significant in the iPv6 address (mask). (0...128).
valid-lifetime *time*	Length of time, in seconds, that this prefix will remain valid, i.e. time until deprecation. A value of 4,294,967,295 represents infinity.
preferred-lifetime *time*	Length of time, in seconds, that this prefix will remain preferred, i.e. time until deprecation. A value of 4,294,967,295 represents infinity.
on-link-flag	On-link configuration flag. When "true." this prefix can be used for on-link determination.
autonomous-flag	Autonomous address configuration flag. When "true," indicates that this prefix can be used for autonomous address configuration (i.e., can be used to form a local interface address).
if_name	Name assigned to the interface.

Defaults

parameter	default
valid-lifetime *time*	2,592,000
preferred-lifetime *time*	604,800
on-link-flag	true
autonomous-flag	true

Platforms Supported

OmniSwitch 6624, 6648, 7700, 7800, 8800

Usage Guidelines

Use the "no" form of the command to delete a prefix.

Example

```
-> ipv6 prefix 4132:86::/64 Test
```

Release History

Release 5.1.6; command was introduced.

Related Commands

show ipv6 prefixes	Displays IPv6 prefixes used in router advertisements.

MIB Objects

```
IPv6IfIndex
alaIPv6InterfacePrefixTable
   alaIP6vInterfacePrefix
   alaIP6vInterfacePrefixLength
   alaIP6vInterfacePrefixValidLifetime
   alaIP6vInterfacePrefixPreferredLifetime
   alaIP6vInterfacePrefixonLinkFlag
   alaIP6vInterfacePrefixAutonomousFlag
   alaIP6vInterfacePrefixRowStatus
```

ipv6 route

Configures a static entry in the IPv6 route.

ipv6 route *ipv6_prefix/prefix_length ipv6_address* [*if_name*]

no ipv6 route *ipv6_prefix/prefix_length ipv6_address* [*if_name*]

Syntax Definitions

ipv6_prefix	IPv6 network that is the destination of this static route.
/prefix_length	The number of bits that are significant in the iPv6 address (mask). (0...128).
ipv6_address	IPv6 address of the next hop used to reach the specified network.
if_name	If the next hop is a link-local address, the name of the interface used to reach it.

Defaults

N/A.

Platforms Supported

OmniSwitch 6624, 6648, 7700, 7800

Usage Guidelines

Use the “no” form of the command to remove a static route.

Example

```
-> ipv6 route 212:95:5::/64 fe80::2d0:95ff:fe6a:f458 v6if-137
```

Release History

Release 5.1.6; command was introduced.

Related Commands

show ipv6 routes	Displays IPv6 Forwarding Table.

MIB Objects

```
alaIPv6StaticRouteTable
   alaIPv6StaticRouteNextHop
   alaIPv6StaticRouteIfIndex
   alaIPv6StaticRouteDest
   alaIPv6StaticRoutePrefixLength
   alaIPv6StaticRouteRowStatus
```

ping6

Used to test whether an IPv6 destination can be reached from the local switch. This command sends an ICMPv6 echo request to a destination and then waits for a reply. To ping a destination, enter the **ping6** command and enter either the destination's IPv6 address or hostname. The switch will ping the destination using the default frame count, packet size, and interval (6 frames, 64 bytes, and 1 second respectively). You can also customize any or all of these parameters as described below.

ping6 {*ipv6_address* | *hostname***}** [*if_name*] **[count** *count***] [size** *data_size***] [interval** *seconds***]**

Syntax Definitions

ipv6_address	IP address of the system to ping.
hostname	DNS name of the system to ping.
if_name	If the target is a link-local address, the name of the interface used to reach it.
count	Number of packets to be transmitted.
size	Size of the data portion of the packet sent for this ping, in bytes.
seconds	Interval, in seconds, at which ping packets are transmitted.

Defaults

parameter	default
count	6
size	56
interval *seconds*	1

Platforms Supported

OmniSwitch 6624, 6648, 7700, 7800, 8800

Usage Guidelines

- If you change the default values they will only apply to the current ping. The next time you use the ping command, the default values will be used unless you again enter different values.
- When the next hop address is a local link address, the name of the interface used to reach the destination must be specified.

Example

```
-> ping6 fe80::2d0:95ff:fe6a:f458/64
```

Release History

Release 5.1.6; command was introduced.

Related Commands

traceroute6	Used to find the path taken by an IPv6 packet from the local switch to a specified destination.

traceroute6

Used to find the path taken by an IPv6 packet from the local switch to a specified destination. This command displays the individual hops to the destination as well as some timing information.

traceroute6 {*ipv6_address* | *hostname*} [*if_name*] **[max-hop** *hop_count***] [wait-time** *time***] [port** *port_number***] [probe-count** *probe***]**

Syntax Definitions

ipv6_address	Destination IPV6 address IPv6 address of the host whose route you want to trace.
hostname	DNS name of the host whose route you want to trace.
if_name	If the target is a link-local address, the name of the interface used to reach it.
hop_count	Maximum hop count for the trace.
time	Delay time, in seconds between probes
port	Specific UDP port destination. By default, the destination port is chosen by traceroute6.
probe	Number of probes to be sent to a single hop.

Defaults

parameter	default
hop_count	30
time	5
probe	3

Platforms Supported

OmniSwitch 6624, 6648, 7700, 7800, 8800

Usage Guidelines

- When using this command, you must enter the name of the destination as part of the command line (either the IPv6 address or hostname).
- Use the optional **max-hop** parameter to set a maximum hop count to the destination. If the trace reaches this maximum hop count without reaching the destination, the trace stops.

Example

```
-> traceroute6 41EA:103::65C3
```

Release History

Release 5.1.6; command was introduced.

Related Commands

ping6	Used to test whether an IPv6 destination can be reached from the local switch.

debug ipv6 packet

Configures the display of IPv6 debug messages.

debug ipv6 packet
[defaults]
[v6header {concise | verbose}]
[extheader {none | payload | concise | verbose}]
[etherheader {yes | no}]
[raw *bytes***]**
[board {all | cmm | ni [*slot_number*] **| none}]**
[ether-filter *mac_address* **| either-filter-pair** *mac_address mac_address* | **no ether-filter]**
[ipv6-filter *ipv6_address* [*/prefix_length*] **| ipv6-filter-pair** *ipv6_address* [*/prefix_length*] | **no ipv6-filter]**
[direction {all | in | out | from-cmm | from-ipv4 | to-cmm | to-ipv4}]
[output {console | file *filename***}]**

no debug ipv6 packet

Syntax Definitions

defaults	Resets all settings to default values.
v6header	Sets the display format for the IPv6 header.
extheader	Sets the display format for IPv6 extension headers: **none** - No extension headers will be displayed **payload** - Information on the final payload header only **concise** - Concise information on all extension headers **verbose** - Verbose information on all extension headers.
etherheader	Specifies whether the packet's Ethernet header will be displayed.
raw *bytes*	If bytes is not zero, this number of raw hex bytes of the packet will be displayed.
board	Specifies the board(s) on which packet debug is enabled.
ether-filter	Allows filtering of packets based on their source and destination MAC addresses. If a single MAC address is specified, only packets whose source or destination MAC address match the specified value will be displayed. If a pair of MAC addresses is specified, only those packets being exchanged between the two MAC addresses will be displayed.
ipv6-filter	Allows filtering of packets based on their source and destination IPv6 addresses. If a single IPv6 address is specified, only packets sent to or received from that address will be displayed. If a pair of addresses is specified, only those packets being exchanged between the two addresses will be displayed.

direction	Allows filtering of packets based on the direction of flow: **all** - debug both incoming and outgoing packets **in** - debug incoming IPv6 packets **out** - debug outgoing packets **from-cmm -** debug packets received from the CMM. **from-ipv4 -** debug packets received from an IPv4 interface. **to-cmm -** debug packets sent to the CMM. **to-ipv4 -** debug packets sent to an IPv4 interface.
output	Specifies the destination for the debug information. **console** - write debug information to the console screen or file **file** *filename* - write debug information to the specified file.

Defaults

parameter	default
v6header	concise
extheader	payload
etherheader	yes
raw *bytes*	0
board	all
ether-filter	no ether-filter
ipv6-filter	no ipv6-filter
direction	all
output	console

Platforms Supported

OmniSwitch 6624, 6648, 7700, 7800, 8800

Usage Guidelines

- Use the **no** form of the command to turn off IPv6 debugging.
- Options are additive across multiple command lines until reset with the “default” option.

Example

```
-> debug ipv6 packet defaults
```

Release History

Release 5.1.6; command was introduced.

Related Commands

debug ipv6 trace-category	Enables/disables specific IPv6 EDR trace categories.

MIB Objects

N/A.

debug ipv6 trace-category

Enables/disables specific IPv6 EDR trace categories. If a category is enabled (e.g., vlan, tunnel), switch log messages generated for that category are written to the switch log.

debug ipv6 trace-category [all | default | general | cmm-control | ni-data | ni-control | vlan | tunnel | neighbor | route | mip | ipc | cd | pm | sm | monitor | rtadv]

no debug ipv6 trace-category [all | default | general | cmmcontrol | nidata | nicontrol | vlan | tunnel | neigh | route | mip | ipc | cd | pm | sm | monitor | rtadv]

Syntax Definitions

all	Enable/disable all trace categories.
default	Enable the default trace categories (general and monitor).
general	Enable/disable the general trace category
cmm-control	Enable/disable trace messages pertaining to the CMM control socket.
ni-data	Enable/disable trace messages pertaining to the exchange of IPv6 packets with the NIs.
ni-control	Enable/disable trace messages pertaining to the control messages exchanged with the NIs.
vlan	Enable/disable trace messages pertaining to VLAN interfaces.
tunnel	Enable/disable trace messages pertaining to tunnel interfaces.
neighbor	Enable/disable trace messages pertaining to the neighbor cache.
route	Enable/disable trace messages pertaining to the forwarding table.
mip	Enable/disable trace messages pertaining to MIP processing.
ipc	Enable/disable trace messages pertaining to IPC communications.
cs	Enable/disable trace messages pertaining to chassis supervision.
pm	Enable/disable trace messages pertaining to port manager.
sm	Enable/disable trace messages pertaining to session manager.
monitor	Enable/disable debug and monitoring trace messages.
rtadv	Enable/disable router advertisement trace messages.

Defaults

N/A

Platforms Supported

OmniSwitch 6624, 6648, 7700, 7800, 8800

Usage Guidelines

- Use the **no** form of the command to disable debug messages for a category.
- The general and monitor categories are the only ones enabled by default.
- Options are additive across multiple command lines until reset with the “default” option.
- This command controls only debug level switch log messages (Debug 1,2,3). Messages at higher levels are always logged.

Example

```
-> debug ipv6 trace-category all
```

Release History

Release 5.1.6; command was introduced.

Related Commands

debug ipv6 packet	Configures the display of IPv6 debug messages.

MIB Objects

N/A.

show ipv6 hosts

Displays IPv6 Local Hosts Table.

show ipv6 hosts [*substring*]

Syntax Definitions

substring	Limits the display to host names starting with the specified substring.

Defaults

N/A.

Platforms Supported

OmniSwitch 6624, 6648, 7700, 7800, 8800

Usage Guidelines

If you do not specify a substring, all IPv6 hosts are displayed.

Example

```
-> show ipv6 hosts

Name                                        IPv6 Address
--------------------------------------------+-------------------------------------
ipv6-test1.alcatel.com                      4235::1200:0010
ipv6-test2.alcatel.com                      4235::1200:0020
otheripv6hostname                           4143:1295:9490:9303:00d0:6a63:5430:9031
```

output definitions

Name	Name associated with the IPv6 address.
IPv6 Address	IPv6 address associated with the host name.

Release History

Release 5.1.6; command was introduced.

Related Commands

ipv6 host	Configures a static host name to IPv6 address mapping to the local host table.

MIB Objects

```
alaIPv6HostTable
   alaIPv6HostName
   alaIPv6HostAddress
```

show ipv6 icmp statistics

Displays IPv6 ICMP statistics.

show ipv6 icmp statistics [*if_name*]

Syntax Definitions

if_name	Display statistics only for this interface.

Defaults

N/A.

Platforms Supported

OmniSwitch 6624, 6648, 7700, 7800, 8800

Usage Guidelines

The ICMP Table can be used to monitor and troubleshoot the switch.

Example

```
-> show ipv6 icmp statistics

Message                          Received   Sent
-------------------------------+----------+----------
 Total                                  0          0
 Errors                                 0          0
 Destination Unreachable                0          0
 Administratively Prohibited            0          0
 Time Exceeded                          0          0
 Parameter Problems                     0          0
 Packet Too Big                         0          0
 Echo Requests                          0          0
 Echo Replies                           0          0
 Router Solicitations                   0          0
 Router Advertisements                  0          0
 Neighbor Solicitations                 0          0
 Neighbor Advertisements                0          0
 Redirects                              0          0
 Group Membership Queries               0          0
 Group Membership Responses             0          0
 Group Membership Reductions            0          0
```

output definitions

Total	Total number of ICMPv6 messages the switch received or attempted to send.
Errors	Number of ICMPv6 messages the switch sent or received but was unable to process because of ICMPv6-specific errors (bad checksums, bad length, etc.).
Destination Unreachable	Number of Destination Unreachable messages that were sent or received by the switch.
Administratively Prohibited	Number of Destination Unreachable/Communication Administratively Prohibited messages sent or received by the switch.
Time Exceeded	Number of Time Exceeded messages sent or received by the switch.
Parameter Problems	Number of Parameter Problem messages sent or received by the switch.
Packet Too Big	Number of Packet Too Big messages sent or received by the switch.
Echo Requests	Number of Echo Request messages sent or received by the switch.
Echo Replies	Number of Echo Reply messages sent or received by the switch.
Router Solicitations	Number of Router Solicitations sent or received by the switch.
Router Advertisements	Number of Router Advertisements sent or received by the switch.
Neighbor Solicitations	Number of Neighbor Solicitations sent or received by the switch.
Neighbor Advertisements	Number of Neighbor Advertisements sent or received by the switch.
Redirects	Number of Redirect messages sent or received by the switch.
Group Membership Queries	Number of Group Membership Queries sent or received by the switch.
Group Membership Responses	Number of Group Membership Responses sent or received by the switch.
Group Membership Reductions	Number of Group Membership Reductions sent or received by the switch.

Release History

Release 5.1.6; command was introduced.

Related Commands

show ipv6 traffic	Displays IPv6 traffic statistics.

MIB Objects

```
ipv6IfIcmpTable
   ipv6IfIcmpInMsgs
   ipv6IfIcmpInErrors
   ipv6IfIcmpInDestUnreachs
   ipv6IfIcmpInAdminProhibs
   ipv6IfIcmpInTimeExcds
   ipv6IfIcmpInParmProblems
   ipv6IfIcmpInPktTooBigs
   ipv6IfIcmpInEchos
   ipv6IfIcmpInEchoReplies
   ipv6IfIcmpInRouterSolicits
   ipv6IfIcmpInRouterAdvertisements
   ipv6IfIcmpInNeighborSolicits
   ipv6IfIcmpInNeighborAdvertisements
   ipv6IfIcmpInRedirects
   ipv6IfIcmpInGroupMembQueries
   ipv6IfIcmpInGroupMembResponses
   ipv6IfIcmpInGroupMembReductions
   ipv6IfIcmpOutMsgs
   ipv6IfIcmpOutErrors
   ipv6IfIcmpOutDestUnreachs
   ipv6IfIcmpOutAdminProhibs
   ipv6IfIcmpOutTimeExcds
   ipv6IfIcmpOutParmProblems
   ipv6IfIcmpOutPktTooBigs
   ipv6IfIcmpOutEchos
   ipv6IfIcmpOutEchoReplies
   ipv6IfIcmpOutRouterSolicits
   ipv6IfIcmpOutRouterAdvertisements
   ipv6IfIcmpOutNeighborSolicits
   ipv6IfIcmpOutNeighborAdvertisements
   ipv6IfIcmpOutRedirects
   ipv6IfIcmpOutGroupMembQueries
   ipv6IfIcmpOutGroupMembResponses
   ipv6IfIcmpOutGroupMembReductions
```

show ipv6 interface

Displays IPv6 Interface Table.

show ipv6 interface [*if_name* | **loopback**]

Syntax Definitions

if_name	Interface name. Limits the display to a specific interface.
loopback	Limits display to loopback interfaces.

Defaults

N/A.

Platforms Supported

OmniSwitch 6624, 6648, 7700, 7800, 8800

Usage Guidelines

- If you do not specify an interface name, all IPv6 interfaces are displayed.
- Specify an interface name (e.g., VLAN 12) to obtain more detailed information about a specific interface.

Example

```
-> show ipv6 interface

Name                IPv6 Address/Prefix Length              Status    Device
--------------------+----------------------------------------+---------+--------
smbif-5             fe80::2d0:95ff:fe12:f470/64             Active    VLAN 955
                    212:95:5::35/64
                    212:95:5::/64
v6if-to-eagle       fe80::2d0:95ff:fe12:f470/64             Disabled  VLAN 1002
                    195:35::35/64
                    195:35::/64
V6if-6to4-137       2002:d423:2323::35/64                   Active    6to4 Tunnel
                    2002:d423:2323::/64
v6if-tunnel-137     fe80::2d0:95ff:fe12:f470/64             Disabled  Tunnel 2
                    137:35:35::35/64
                    137:35:35::/64                          Active    loopback
loopback            ::1/128
```

output definitions

Name	Interface name. This is usually the VLAN on which the interface is configured.
IPv6 Address/Prefix Length	IPv6 address and prefix length assigned to the interface. If an interface has more than one IPv6 address assigned to it, each address is shown on a separate line.
Status	Interface status (e.g., Active/Inactive).
Device	The device on which the interface is configured (e.g., VLAN 955).

```
-> show ipv6 interface v6if-6to4-137

v6if-6to4-137
  IPv6 interface index        = 16777216(0x01000000)
  Administrative status       = Enabled
  Operational status          = Active
  Link-local address(es):
  Global unicast address(es):
    2002:d423:2323::35/64
  Anycast address(es):
    2002:d423:2323::/64
  Joined group addresses:
    ff02::1:ff00:0
    ff02::2:93da:68lb
    ff02::1
    ff02::1:ff00:35
  Maximum Transfer Unit (MTU) = 1280
  Send Router Advertisements  = No
  Maximum RA interval (sec)   = 600
  Minimum RA interval (sec)   = 198
  RA managed config flag      = False
  RA other config flag        = False
  RA reachable time (ms)      = 30000
  RA retransmit timer (ms)    = 1000
  RA default lifetime (sec)   = 1800
  Packets received            = 215686
  Packets sent                = 2019
  Bytes received              = 14108208
  Bytes sent                  = 178746
  Input errors                = 0
  Output errors               = 0
  Collisions                  = 0
  Dropped                     = 0
```

```
-> show ipv6 interface v6if-tunnel-137

v6if-tunnel-137
  IPv6 interface index        = 16777216(0x01000000)
  Administrative status       = Disabled
  Operational status          = Inactive
  Link-local address(es):
    fe80::2d0:95ff:fe12:f470/64
  Global unicast address(es):
    137:35:35:35/64
  Anycast address(es):
    137:35:35:35/64
  Joined group addresses:
    ff02::1:ff00:0
    ff02::1:ff00:35
    ff02::2:93da:68lb
    ff02::1
    ff02::1:ff12:f470
  Maximum Transfer Unit (MTU) = 1280
  Send Router Advertisements  = Yes
  Maximum RA interval (sec)   = 600
  Minimum RA interval (sec)   = 198
  RA managed config flag      = False
  RA other config flag        = False
  RA reachable time (ms)      = 30000
  RA retransmit timer (ms)    = 1000
  RA default lifetime (sec)   = 1800
  Packets received            = 0
  Packets sent                = 2
  Bytes received              = 0
  Bytes sent                  = 144
  Input errors                = 0
  Output errors               = 2
  Collisions                  = 0
  Dropped                     = 0
```

output definitions

IPv6 interface index	IPv6IfIndex value that should be used in SNMP requests pertaining to this interface.
Administrative status	Administrative status of this interface (Enabled/Disabled).
Operational status	Indicates whether the physical interface is connected to a device (Active/Inactive).
Hardware address	Interface's MAC address
Link-local address	Link-local address assigned to the interface.
Global unicast address(es)	Global unicast address(es) assigned to the interface.
Joined group address(es)	Addresses of the multicast groups that this interface has joined.
Maximum Transfer Unit	Interface MTU value.
Send Router Advertisements	Indicates if the router sends periodic router advertisements and responds to router solicitations on the interface.
Maximum RA interval (sec)	Maximum time between the transmission of unsolicited router advertisements over the interface.
Minimum RA interval (sec)	Minimum time between the transmission of unsolicited router advertisements over the interface (0.33 * Maximum RA Interval).

output definitions

RA managed config flag	True/False value in the managed address configuration flag field in router advertisements.
RA other config flag	The True/False value in the other stateful configuration flag field in router advertisements sent over this interface.
RA reachable time (ms)	Value placed in the reachable time field in the router advertisements sent over this interface.
RA retransmit timer (ms)	Value placed in the retransmit timer field in router advertisements sent over this interface.
RA default lifetime (ms)	The value placed in the router lifetime field in the router advertisements sent over this interface.
Packets received	Number of IPv6 packets received since the last time the counters were reset.
Packets sent	Number of IPv6 packets sent since the last time the counters were reset
Bytes received	Number of bytes of data received since the last time the counters were reset.
Bytes sent	Number of bytes of data sent since the last time the counters were reset.
Input errors	Number of input errors received since the last time the counters were reset.
Output errors	Number of output errors received since the last time the counters were reset.
Collisions	Number of collisions since the last time the counters were reset.
Dropped	Number of packets dropped since the last time the counters were reset

Release History

Release 5.1.6; command was introduced.

Related Commands

ipv6 address	Configures an IPv6 address on a VLAN, configured tunnel, or a 6to4 tunnel.
ipv6 interface	Configures an IPv6 interface on a VLAN.

MIB Objects

```
ipv6InterfaceTable
   ipv6AdminStatus
   ipv6PhysicalAddress
   ipv6InterfaceAddress
   ipv6Address
   ipv6AddressPrefix
   ipv6IfEffectiveMtu
   ipv6IfStatsInReceives
   ipv6IfStatsOutRequests
   ipv6IfStatsOutForwDatagrams
```

```
alaIPv6InterfaceTable
   alaIPv6InterfaceName
   alaIPv6InterfaceAddress
   alaIPv6InterfaceAdminStatus
   alaIPv6InterfaceRowStatus
   alaIPv6InterfaceDescription
   alaIPv6InterfaceMtu
   alaIPv6InterfaceType
   alaIPv6InterfaceAdminStatus
   alaIPv6InterfaceSendRouterAdvertisements
   alaIPv6InterfaceMaxRtrAdvInterval
   alaIPv6InterfaceAdvManagedFlag
   alaIPv6InterfaceAdvOtherConfigFlag
   alaIPv6InterfaceAdvReachableTime
   alaIPv6InterfaceAdvRetransTimer
   alaIPv6InterfaceAdvDefaultLifetime
   alaIPv6InterfaceName
   alaIPv6InterfaceAdvSendMtu
```

show ipv6 pmtu table

Displays the IPv6 Path MTU Table.

show ipv6 pmtu table

Syntax Definitions

N/A.

Defaults

N/A.

Platforms Supported

OmniSwitch 6624, 6648, 7700, 7800, 8800

Usage Guidelines

N/A.

Example

```
-> show ipv6 pmtu table

1-PMTU Entry
Destination Address                                      MTU      Expires
---------------------------------------------------------+--------+-------
fe80::02d0:c0ff:fe86:1207                                1280     1h 0m
```

output definitions

Destination Address	IPv6 address of the path's destination.
MTU	Path’s MTU.
Expires	Minimum remaining lifetime for the entry.

Release History

Release 5.1.6; command was introduced.

Related Commands

ipv6 pmtu-lifetime	Configures the configure the minimum lifetime for entries in the path MTU Table.
clear ipv6 pmtu table	Removes all entries from the IPv6 path MTU Table.

MIB Objects

```
alaIPv6ConfigTable
   alaIPv6PMTUDest
   alaIPv6PMTUexpire
```

clear ipv6 pmtu table

Removes all entries from the IPv6 path MTU Table.

clear ipv6 pmtu table

Syntax Definitions

N/A.

Defaults

N/A.

Platforms Supported

OmniSwitch 6624, 6648, 7700, 7800, 8800

Usage Guidelines

N/A.

Example

```
-> clear ipv6 pmtu table
```

Release History

Release 5.1.6; command was introduced.

Related Commands

ipv6 pmtu-lifetime	Configures the configure the minimum lifetime for entries in the path MTU Table.
show ipv6 pmtu table	Displays the IPv6 path MTU Table.

MIB Objects

```
alaIPv6ConfigTable
   alaIpv6ClearPMTUTable
```

show ipv6 neighbors

Displays IPv6 Neighbor Table.

show ipv6 neighbors [*ipv6_prefix/prefix_length* | *if_name* | **hw** *hardware_address* | **static]**

Syntax Definitions

ipv6_prefix/prefix_length	IPv6 prefix. Restricts the display to those neighbors starting with the specified prefix.
if_name	Interface name. Restricts the display to those neighbors reached via the specified interface.
hardware_address	MAC address. Restricts the display to the specified MAC address.
static	Restricts display to statically configured neighbors.

Defaults

N/A.

Platforms Supported

OmniSwitch 6624, 6648, 7700, 7800, 8800

Usage Guidelines

If you do not specify an option (e.g., if_name), all IPv6 neighbors are displayed.

Example

```
-> show ipv6 neighbors

IPv6 Address                 Hardware Address    State     Type    Port  Interface
-----------------------------+------------------+----------+-------+-----+---------
fe80::02d0:c0ff:fe86:1207    00:d0:c0:86:12:07   Probe     Dynamic  1/15   vlan_4
fe80::020a:03ff:fe71:fe8d    00:0a:03:71:fe:8d   Reachable Dynamic  1/ 5   vlan_17
```

output definitions

IPv6 Address	The neighbor's IPv6 address.
Hardware Address	The MAC address corresponding to the IPv6 address.
State	The neighbor's state: **- Unknown** **- Incomplete** **- Reachable** **- Stale** **- Delay** **- Probe**.
Type	Indicates whether the neighbor entry is a **Static** or **Dynamic** entry.
Port	The port used to reach the neighbor.
Interface	The neighbor's interface name (e.g., vlan_1)

Release History

Release 5.1.6; command was introduced.

Related Commands

ipv6 neighbor	Configures a static entry in the IPv6 Neighbor Table.

MIB Objects

```
ipv6IfIndex
alaIPv6NeighborTable
   alaIPv6NeighborNetAddress
   alaIPv6NeighborPhysAddress
   alaIPv6NeighborSlot
   alaIPv6NeighborPort
   alaIPv6NeighborType
   alaIPv6NeighborState
```

clear ipv6 neighbors

Removes all entries, except static entries, from the IPv6 Neighbor Table.

clear ipv6 neighbors

Syntax Definitions

N/A.

Defaults

N/A.

Platforms Supported

OmniSwitch 6624, 6648, 7700, 7800, 8800

Usage Guidelines

This commands only clears dynamic entries. If static entries have been added to the table, they must be removed using the **no** form of the **ipv6 neighbor** command.

Example

```
-> clear ipv6 neighbors
```

Release History

Release 5.1.6; command was introduced.

Related Commands

ipv6 neighbor	Configures a static entry in the IPv6 Neighbor Table.
show ipv6 neighbors	Displays IPv6 Neighbor Table.

MIB Objects

```
alaIPv6NeighborTable
   alaIPv6ClearNeighbors
```

show ipv6 prefixes

Displays IPv6 prefixes used in router advertisements.

show ipv6 prefixes

Syntax Definitions

N/A.

Defaults

N/A.

Platforms Supported

OmniSwitch 6624, 6648, 7700, 7800, 8800

Usage Guidelines

N/A.

Example

```
-> show ipv6 prefixes

Legend: Flags: A = Autonomous Address Configuration, L = OnLink

                                          Valid     Preferred
Name           IPv6 Address/Prefix Length   Lifetime   Lifetime   Flags   Source
---------------+---------------------------+----------+----------+-------+---------
vlan 955       212:95:5::/64                 2592000    604800     LA     dynamic
vlan 1002      195:35::/64                   2592000    604800     LA     dynamic
6to4tunnel     2002:d423:2323::/64           2592000    604800     LA     dynamic
tunnel 2       137:35:35::/64                2592000    604800     LA     dynamic
```

output definitions

Name	The interface name. This is usually the VLAN on which the interface is configured.
IPv6 Address/Prefix Length	The IPv6 prefix and prefix length for a Router Advertisement Prefix Option.
Valid Lifetime	Length of time, in seconds, that this prefix will remain valid (i.e., time until deprecation). A value of 4,294,967,295 represents infinity.
Preferred Lifetime	Length of time, in seconds, that this prefix will remain preferred (i.e. time until deprecation). A value of 4,294,967,295 represents infinity.
Flags	**L** - Prefix can be used for onlink determination. **A** - Prefix can be used for autonomous address configuration (i.e., can be used to form a local interface address).
Source	**config** - Prefix has been configured by management. **dynamic** - Router Advertisements are using interface prefixes.

Release History

Release 5.1.6; command was introduced.

Related Commands

ipv6 prefix	Configures an IPv6 prefix on an interface. Used for configuring prefixes for router advertisements.

MIB Objects

```
IPv6AddrPrefixTable
   IPv6AddressPrefixEntry
   IPv6AddressPrefixLength
   IPv6AddressPrefixLinkFlag
   IPv6AddressPrefixAdvvalidLifetime
   IPv6AddressPrefixAdvPreferredLifetime
alaIPv6InterfacePrefixTable
   alaIPv6InterfacePrefix
   alaIPv6InterfacePrefixLength
   alaIPv6InterfacePrefixValidLifetime
   alaIPv6InterfacePrefixPreferredLifetime
   alaIPv6InterfacePrefixOnLinkFlag
   alaIPv6InterfacePrefixsource
```

show ipv6 routes

Displays IPv6 Forwarding Table.

show ipv6 routes [*ipv6_prefix/prefix_length* | **static]**

Syntax Definitions

ipv6_prefix/prefix_length	IPv6 prefix. Restricts the display to those routes starting with the specified prefix.
static	Restricts display to statically configured routes.

Defaults

N/A.

Platforms Supported

OmniSwitch 6624, 6648, 7700, 7800, 8800

Usage Guidelines

If you do not specify an option (e.g., “static”), all IPv6 interfaces are displayed.

Example

```
-> show ipv6 routes

Legend:Flags:U = Up, G = Gateway, H = Host, S = Static, C = Cloneable, D = Dynamic,
             M = Modified, R = Unreachable, X = Externally resolved, B = Discard,
             L = Link-layer, 1 = Protocol specific, 2 = Protocol specific

Destination Prefix  Gateway Address           Interface         Age          Protocol  Flags
------------------+----------------+--------+-----------------+------------+---------+-----
::/0                2002:d468:8a89::137       v6if-6to4-137     18h 47m 26s  Static    UGS
137:35:35::/64      fe80::2d0:95ff:fe12:f470  v6if-tunnel-137   18h 51m 55s  Local     UC
195:35::/64         fe80::2d0:95ff:fe12:f470  v6if-to-eagle     18h 51m 55s  Local     UC
212:95:5::/64       fe80::2d0:95ff:fe12:f470  smbif-5           18h 51m 55s  Local     UC
2002::/16           2002:d423:2323::35        v6if-6to4-137     18h 51m 55s  Other     U
```

output definitions

Destination Prefix	IPv6 destination address and prefix.
Gateway Address	IPv6 address of the gateway used to reach the destination network.
Interface	The device the interface is using (e.g., VLAN 6to4tunnel); or loopback.
Age	Age of the entry. Entries less than 1 day old are displayed in hh:mm:ss format. Entries more than 1 day old are displayed in dd:hh format.
Protocol	Protocol by which the route was learned.

Release History

Release 5.1.6; command was introduced.

Related Commands

ipv6 route	Configures a static entry in the IPv6 route.

MIB Objects

```
IPv6RouteTable
   IPv6Routes
   IPv6RoutesPrefix
   IPV6RoutesStatic
alaIPv6StaticRouteTable
   alaIPv6StaticRouteEntry
```

show ipv6 tcp ports

Displays TCP Over IPv6 Connection Table. This table contains information about existing TCP connections between IPv6 endpoints.

show ipv6 tcp ports

Syntax Definitions

N/A.

Defaults

N/A.

Platforms Supported

OmniSwitch 6624, 6648, 7700, 7800, 8800

Usage Guidelines

Only connections between IPv6 addresses are contained in this table.

Example

```
-> show ipv6 tcp ports

Local Address        Port Remote Address                    Port   Interface      State
--------------------+--------------------------------------+------+--------------+--------
::                   21 ::                                  0                     listen
::                   23 ::                                  0                     listen
2002:d423:2323::35   21 212:61:61:0:2b0:doff:fe43:d4f8      34144  v6if-6to4-137  established
2002:d423:2323::35   49153 212:61:61:0:2b0:d0ff:fe43:d4f8   34144  v6if-6to4-137  established
```

output definitions

Local Address	Local address for this TCP connection. For ports in the “Listen” state, which accepts connections on any IPv6 interface, the address is ::0.
Port	Local port number for the TCP connection.
Remote Address	Remote IPv6 address for the connection. If the connection is in the “Listen” state, the address is ::0.
Port	Remote port number for the TCP connection. If the connection is in the “Listen” state, the port number is 0.
Interface	Name of the interface (or “unknown”) over which the connection is established.
State	State of the TCP connection as defined in RFC 793.

Release History

Release 5.1.6; command was introduced.

Related Commands

show ipv6 udp ports	Displays the UDP Over IPv6 Listener Table.

MIB Objects

```
IPv6TcpConnTable
   IPv6TcpConnEntry
   IPv6TcpConnLocalAddress
   IPv6TcpConnLocalPort
   IPv6TcpConnRemAddress
   IPv6TcpConnRemPort
   IPv6TcpConnIfIndex
   IPv6TcpConnState
```

show ipv6 traffic

Displays IPv6 traffic statistics.

show ipv6 traffic [*if_name*]

Syntax Definitions

if_name	Interface name. restricts the display to the specified interface instead of global statistics.

Defaults

N/A.

Platforms Supported

OmniSwitch 6624, 6648, 7700, 7800, 8800

Usage Guidelines

The statistics show the cumulative totals since the last time the switch was powered on, the last reset of the switch was executed or the traffic statistics were cleared using the command.

Example

```
-> show ipv6 traffic

IPv6 statistics
  Packets received
    Total                = 598174
    Header errors        = 0
    Too big              = 12718
    No route             = 4
    Address errors       = 0
    Unknown protocol     = 0
    Truncated packets    = 0
    Local discards       = 0
    Delivered to users   = 582306
    Reassembly needed    = 0
    Reassembled          = 0
    Reassembly failed    = 0
    Multicast Packets    = 118
  Packets sent
    Forwarded            = 3146
    Generated            = 432819
    Local discards       = 0
    Fragmented           = 0
    Fragmentation failed = 0
    Fragments generated  = 0
    Multicast packets    = 265
```

output definitions

Total	Total number of input packets received, including those received in error.
Header errors	Number of input packets discarded due to errors in their IPv6 headers (e.g., version number mismatch, other format errors, hop count exceeded, errors discovered in processing their IPv6 options).
Too big	Number of input packets that could not be forwarded because their size exceeded the link MTU of the outgoing interface.
No route	Number of input packets discarded because no route could be found to transmit them to their destination.
Address errors	Number of input packets discarded because the IPv6 address in their IPv6 header's destination field was not a valid address to be received at this entity. This count includes invalid addresses (e.g., ::0) and unsupported addresses (e.g., addresses with unallocated prefixes).
Unknown protocol	Number of locally-addressed packets received successfully but discarded because of an unknown or unsupported protocol.
Truncated packets	Number of input packets discarded because the packet frame did not carry enough data.
Local discards	Number of input IPv6 packets for which no problems were encountered to prevent their continued processing, ut which were discarded (e.g., for lack of buffer space). Note that this counter does not include any packets discarded while awaiting re-assembly.
Delivered to users	Total number of packets successfully delivered to IPv6 user protocols (including ICMP).
Reassembly needed	Number of IPv6 fragments received that needed to be reassembled.
Reassembled	Number of IPv6 packets successfully reassembled.
Reassembly failed	Number of failures detected by the IPv6 reassembly algorithm (for whatever reason: timed out, errors, etc.).
Multicast packets	Number of multicast packets received.
Forwarded	Number of output packets that this entity received and forwarded to their final destinations.
Generated	Total number of IPv6 packets that local IPv6 user-protocols (including ICMP) supplied to IPv6 in requests for transmission. Note that this counter does not include any packets counted by the Forwarded statistic.
Local discards	Number of output IPv6 packets for which no problem was encountered to prevent their transmission to their destination, but were discarded (e.g., for lack of buffer space). Note that this counter would include packets counted by the Forwarded statistic if any such packets met this (discretionary) discard criterion.
Fragmented	Number of IPv6 packets successfully fragmented.
Fragmentation failed	Number of IPv6 packets discarded because they needed to be fragmented but could not be.
Fragments generated	Number of output packet fragments generated as a result of fragmentation.
Multicast packets	Number of multicast packets transmitted.

Release History

Release 5.1.6; command was introduced.

Related Commands

show ipv6 icmp statistics	Displays IPv6 ICMP statistics.

MIB Objects

```
ipv6IfStatsTable
   ipv6IfStatsInReceives
   ipv6IfStatsInHdrErrors
   ipv6IfStatsInTooBigErrors
   ipv6IfStatsInNoRoutes
   ipv6IfStatsInAddrErrors
   ipv6IfStatsInUnknownProtos
   ipv6IfStatsInTruncatedPkts
   ipv6IfStatsInDiscards
   ipv6IfStatsInDelivers
   ipv6IfStatsOutForwDatagrams
   ipv6IfStatsOutRequests
   ipv6IfStatsOutDiscards
   ipv6IfStatsOutFragOKs
   ipv6IfStatsOutFragFails
   ipv6IfStatsOutFragCreates
   ipv6IfStatsReasmReqds
   ipv6IfStatsReasmOKs
   ipv6IfStatsReasmFails
   ipv6IfStatsInMcastPkts
   ipv6IfStatsOutMcastPkts
```

clear ipv6 traffic

Resets all IPv6 traffic counters.

clear ipv6 traffic

Syntax Definitions

N/A.

Defaults

N/A.

Platforms Supported

OmniSwitch 6624, 6648, 7700, 7800, 8800

Usage Guidelines

Use the **show ipv6 traffic** command to view current IPv6 traffic statistics.

Example

```
-> clear ipv6 traffic
```

Release History

Release 5.1.6; command was introduced.

Related Commands

show ipv6 traffic	Displays IPv6 traffic statistics..

MIB Objects

```
alaIPv6ConfigTable
   alaIPv6ClearTraffic
```

show ipv6 tunnel

Displays IPv6 Tunnel information and whether the 6to4 tunnel is enabled.

show ipv6 tunnel

Syntax Definitions

N/A.

Defaults

N/A.

Platforms Supported

OmniSwitch 6624, 6648, 7700, 7800, 8800

Usage Guidelines

N/A.

Example

```
-> show ipv6 tunnel

IPv6 6to4 tunnel: Enabled
Configured Tunnels:
Tunnel              IPv6 Address/Prefix Length    Source IPv4     Destination IPv4
--------------------+-----------------------------+---------------+-----------------
1                   2001:0000:0200::101/48        192.16.10.101   192.28.5.254
23                  2001:0000:0200::102/48        192.15.10.102   10.27.105.25
v6if-tunnel-137     fe80::2d0:95ff:fe12:f470/64   212.35.35.35    212.104.138.137
```

output definitions

IPv6 6to4 tunnel	Indicates whether 6to4 tunneling is enabled or disabled on the switch.
Tunnel	Tunnel ID.
IPv6 Address/Prefix Length	IPv6 address associated with the tunnel.
Source IPv4	Source IPv4 address for the tunnel.
Destination IPv4	Destination IPv4 address for the tunnel.

Release History

Release 5.1.6; command was introduced.

Related Commands

ipv6 interface tunnel source destination	Configures the source and destination IPv4 addresses for a configured tunnel.

MIB Objects

```
alaIPv6ConfigTunnelTable
   alaIPv6Tunnel6to4
   alaIPv6ConfigTunnelv4Source
   alaIPv6ConfigTunnelv4Dest
```

show ipv6 udp ports

Displays the UDP Over IPv6 Listener Table. This table contains information about UDP/IPv6 endpoints.

show ipv6 udp ports

Syntax Definitions

N/A.

Defaults

N/A.

Platforms Supported

OmniSwitch 6624, 6648, 7700, 7800, 8800

Usage Guidelines

Only endpoints utilizing IPv6 addresses are displayed in this table.

Example

```
-> show ipv6 udp ports

Local Address            Port    Interface
-------------------------+-------+--------------------
```

output definitions

Local Address	Local IPv6 address for this UDP listener. If a UDP listener accepts packets for any IPv6 address associated with the switch, the value is ::0.
Port	Local Port number for the UDP connection.
Interface	Name of the interface the listener is using or “unknown.”

Release History

Release 5.1.6; command was introduced.

Related Commands

show ipv6 tcp ports	Displays TCP Over IPv6 Connection Table.

MIB Objects

```
IPv6UdpTable
   IPv6UdpEntry
   IPv6UdpLocalAddress
   IPv6UdpLocalPort
   IPv6UdpIfIndex
```

ipv6 load rip

Loads RIPng into memory. When the switch is initially configured, you must load RIPng into memory to enable RIPng routing.

ipv6 load rip

Syntax Definitions

N/A.

Defaults

N/A.

Platforms Supported

OmniSwitch 6624, 6648, 7700, 7800, 8800

Usage Guidelines

- RIPng will support a maximum of 1,000 routes.
- RIPng will support a maximum of 20 interfaces.
- Use the **ipv6 rip status** command to enable RIPng on the switch.

Example

```
-> ipv6 load rip
```

Release History

Release 5.1.6; command was introduced.

Related Commands

ipv6 rip status	Enables/disables RIPng routing on the switch.
show ipv6 rip	Displays RIPng status and general configuration parameters.

MIB Objects

```
alaDrcTmConfig
   alaDrcTmIPRipngStatus
```

ipv6 rip status

Enables/disables RIPng on the switch.

ipv6 rip status {enable | disable}

Syntax Definitions

N/A

Defaults

parameter	default
enable | disable	enable

Platforms Supported

OmniSwitch 6624, 6648, 7700, 7800, 8800

Usage Guidelines

RIPng must be loaded on the switch (**ipv6 load rip**) to enable RIP on the switch.

Example

```
-> ipv6 rip status enable
```

Release History

Release 5.1.6; command was introduced.

Related Commands

ipv6 load rip	Loads RIPng into memory.
show ipv6 rip	Displays RIPng status and general configuration parameters.

MIB Objects

```
alaProtocolripng
   alaRipngProtoStatus
```

ipv6 rip invalid-timer

Configures the amount of time a route remains active in RIB before being moved to the "Garbage" state.

ipv6 rip invalid-timer *seconds*

Syntax Definitions

seconds	Time, in seconds, that a route will remain in an “Active” state. Valid range is 1 - 300.

Defaults

parameter	default
seconds	180

Platforms Supported

OmniSwitch 6624, 6648, 7700, 7800, 8800

Usage Guidelines

This timer is reset each time a routing update is received.

Example

```
-> ipv6 rip invalid-timer 300
```

Release History

Release 5.1.6; command was introduced.

Related Commands

ipv6 rip garbage-timer	Configures the RIPng garbage timer value.
ipv6 rip holddown-timer	Configures the amount of time a route is placed in a holddown state.

MIB Objects

```
alaProtocolripng
   alaRipngInvalidTimer
```

ipv6 rip garbage-timer

Configures the RIPng garbage timer value. When a route in the RIB exceeds the configured Invalid Timer Value, the route is moved to a “Garbage” state in the the RIB. The garbage timer is the length of time a route will stay in this state before it is flushed from the RIB.

ipv6 rip garbage-timer *seconds*

Syntax Definitions

seconds	Time, in seconds, that a route will remain in the RIPng Routing Table before it is flushed from the RIB. Valid range is 0 - 180.

Defaults

parameter	default
seconds	120

Platforms Supported

OmniSwitch 6624, 6648, 7700, 7800, 8800

Usage Guidelines

Use the **ipv6 rip invalid-timer** command to set the Invalid Timer Value.

Example

```
-> ipv6 rip garbage-timer 180
```

Release History

Release 5.1.6; command was introduced.

Related Commands

ipv6 rip invalid-timer	Configures the amount of time a route remains active in RIB before being moved to the "Garbage" state.
ipv6 rip holddown-timer	Configures the amount of time a route is placed in a holddown state.

MIB Objects

```
alaProtocolripng
   alaRipngGarbageTimer
```

ipv6 rip holddown-timer

Configures the amount of time a route is placed in a holddown state. Whenever a route is seen from the same gateway with a higher metric than the route in the RIB, the route goes into holddown. This excludes route updates with an INFINITY metric.

ipv6 rip holddown-timer *seconds*

Syntax Definitions

seconds	Time, in seconds, that a route will remain in a holddown state. Valid range is 0 - 120.

Defaults

parameter	default
seconds	0

Platforms Supported

OmniSwitch 6624, 6648, 7700, 7800, 8800

Usage Guidelines

While in holddown, the route continues being announced as usual and used in the RIB. This interval is used to control route flap dampening.

Example

```
-> ipv6 rip holddown-timer 60
```

Release History

Release 5.1.6; command was introduced.

Related Commands

ipv6 rip invalid-timer	Configures the amount of time a route remains active in RIB before being moved to the "Garbage" state.
ipv6 rip garbage-timer	Configures the RIPng garbage timer value.

MIB Objects

```
alaProtocolripng
   alaRipngHolddownTimer
```

ipv6 rip jitter

Configures an offset value for RIPng updates. This is the maximum (positive or negative) value that can be used to offset the update interval. For example, with an update interval of 30 seconds, and a jitter value of 5 seconds, the RIPng update packet would be sent somewhere (random) between 25 and 35 seconds from the previous update.

ipv6 rip jitter *value*

Syntax Definitions

value	Time, in seconds, that a routing update is offset. Valid range is 0 to one-half the updated interval value (e.g., if the updated interval is 30, the range would be 0 - 300).

Defaults

parameter	default
value	5

Platforms Supported

OmniSwitch 6624, 6648, 7700, 7800, 8800

Usage Guidelines

As you increase the number of RIPng interfaces/peers, it is recommended that you increase the Jitter value to reduce the number of RIPng updates being sent over the network.

Example

```
-> ipv6 rip jitter 10
```

Release History

Release 5.1.6; command was introduced.

Related Commands

ipv6 rip update-interval	Configures the RIPng update interval.
show ipv6 rip	Displays RIPng status and general configuration information.

MIB Objects

```
alaProtocolripng
   alaRipngJitter
```

ipv6 rip route-tag

Configures the route tag value for RIP routes generated by the switch.

ipv6 rip route-tag *value*

Syntax Definitions

value	Route tag value. Valid range is 0 – 65535.

Defaults

parameter	default
value	0

Platforms Supported

OmniSwitch 6624, 6648, 7700, 7800, 8800

Usage Guidelines

This value does not apply to routes learned from other routers. For these routes, the route tag propagates with the route.

Example

```
-> ipv6 rip route-tag 30
```

Release History

Release 5.1.6; command was introduced.

Related Commands

show ipv6 rip	Displays RIPng status and general configuration information.

MIB Objects

```
alaProtocolripng
   alaRipngRouteTag
```

ipv6 rip update-interval

Configures the RIPng update interval. This is the interval, in seconds, that RIPng routing updates will be sent out.

ipv6 rip update-interval *seconds*

Syntax Definitions

seconds	Interval, in seconds, that RIPng routing updates are sent out. Valid range is 0 - 120.

Defaults

parameter	default
seconds	30

Platforms Supported

OmniSwitch 6624, 6648, 7700, 7800, 8800

Usage Guidelines

Use this command, along with the **ipv6 rip jitter** command to configure RIPng updates.

Example

```
-> ipv6 rip update-interval 30
```

Release History

Release 5.1.6; command was introduced.

Related Commands

ipv6 rip jitter	Configures an offset value for RIPng updates.
show ipv6 rip	Displays RIPng status and general configuration information.

MIB Objects

```
alaRipng
   alaRipngUpdateInterval
```

ipv6 rip triggered-sends

Configures the behavior of triggered updates.

ipv6 rip triggered-sends {all | updated-only | none}

Syntax Definitions

all	All RIPng routes are added to any triggered updates.
updated-only	Only route changes that are causing the triggered update are included in the update packets.
none	RIPng routes are not added to triggered updates.

Defaults

parameter	default
all | updated-only | none	**updated-only**

Platforms Supported

OmniSwitch 6624, 6648, 7700, 7800, 8800

Usage Guidelines

- If set to “all”, all routes are sent in the update, not just route changes, which increases RIPng traffic on the network.
- If set to “none”, no triggered updates are sent, which can cause delays in network convergence.

Example

```
-> ipv6 rip triggered-sends none
```

Release History

Release 5.1.6; command was introduced.

Related Commands

show ipv6 rip	Displays RIPng status and general configuration information.

MIB Objects

```
alaProtocolripng
   alaRipngTriggeredSends
```

ipv6 rip interface

Creates/deletes a RIPng interface.

ipv6 rip interface *if_name*

[no] ipv6 rip interface *if_name*

Syntax Definitions

if_name	IPv6 interface name.

Defaults

N/A.

Platforms Supported

OmniSwitch 6624, 6648, 7700, 7800, 8800

Usage Guidelines

- By default, a RIPng interface is created in the enabled state.
- Routing is enabled on a VLAN when you create a router port. However, to enable RIPng routing, you must also configure and enable a RIPng routing interface on the VLAN's IP router port. For more information on VLANs and router ports, see Chapter 21, "VLAN Management Commands."
- RIPng will support a maximum of 20 interfaces.

Example

```
-> ipv6 rip interface Test_Lab
```

Release History

Release 5.1.6; command was introduced.

Related Commands

ipv6 load rip	Loads RIPng into memory.
ipv6 rip status	Enables/disables RIPng on the switch.
ipv6 rip interface recv-status	Configures IPv6 RIPng interface “Receive” status. When this status is set to "enable", packets can be received on this interface.
ipv6 rip interface send-status	Configures IPv6 RIPng interface “Send” status. When this status is set to "enable", packets can be sent on this interface.
show ipv6 rip interface	Displays information for all or specified RIPng interfaces.

MIB Objects

```
alaRipngInterfaceTable
   alaRipngInterfaceStatus
```

ipv6 rip interface metric

Configures the RIPng metric or cost for a specified interface. You can set priorities for routes generated by a switch by assigning a metric value to routes generated by that switch's RIPng interface. For example, routes generated by a neighboring switch may have a hop count of 1. However, you can lower the priority of routes generated by that switch by increasing the metric value for routes generated by the RIPng interface.

ipv6 rip interface *if_name* **metric** *value*

Syntax Definitions

if_name	IPv6 interface name.
value	Metric value. Valid range is 1 - 15.

Defaults

parameter	default
value	1

Platforms Supported

OmniSwitch 6624, 6648, 7700, 7800, 8800

Usage Guidelines

When you configure a metric for a RIPng interface, this metric cost is added to the metric of the incoming route.

Example

```
-> ipv6 rip Test_Lab metric 1
```

Release History

Release 5.1.6; command was introduced.

Related Commands

ipv6 rip interface	Creates/deletes a RIPng interface.
show ipv6 rip interface	Displays information for all or specified RIPng interfaces.

MIB Objects

```
alaRipngInterfaceTable
   alaRipngInterfaceMetric
```

ipv6 rip interface recv-status

Configures IPv6 RIPng interface “Receive” status. When this status is set to "enable", packets can be received on this interface. When it is set to "disable", packets will not be received on this interface.

ipv6 rip interface *if_name* **recv-status {enable | disable}**

Syntax Definitions

if name	IPv6 interface name.
enable | disable	Interface “Receive” status.

Defaults

parameter	default
enable | disable	enable

Platforms Supported

OmniSwitch 6624, 6648, 7700, 7800, 8800

Usage Guidelines

RIPng must be loaded (**ipv6 load rip**) and enabled (**ipv6 rip status**)on the switch to send or receive packets on the interface.

Example

```
-> ipv6 rip interface Test_Lab recv-status disable
```

Release History

Release 5.1.6; command was introduced.

Related Commands

ipv6 load rip	Loads RIPng into memory.
ipv6 rip status	Enables/disables RIPng on the switch.
ipv6 rip interface send-status	Configures IPv6 RIPng interface “Send” status.

MIB Objects

```
alaRipngInterfaceTable
   alaRipngInterfaceRecvStatus
```

ipv6 rip interface send-status

Configures IPv6 RIPng interface “Send” status. When this status is set to "enable", packets can be sent from this interface. When it is set to "disable", packets will not be sent from this interface.

ipv6 rip interface *if_name* **send-status {enable | disable}**

Syntax Definitions

if name	IPv6 interface name.
enable | disable	Interface “Send” status.

Defaults

parameter	default
enable | disable	enable

Platforms Supported

OmniSwitch 6624, 6648, 7700, 7800, 8800

Usage Guidelines

RIPng must be loaded (**ipv6 load rip**) and enabled (**ipv6 rip status**)on the switch to send or receive packets on the interface.

Example

```
-> ipv6 rip interface Test_Lab send-status enable
```

Release History

Release 5.1.6; command was introduced.

Related Commands

ipv6 load rip	Loads RIPng into memory.
ipv6 rip status	Enables/disables RIPng on the switch.
ipv6 rip interface recv-status	Configures IPv6 RIPng interface “Receive” status.

MIB Objects

```
alaRipngInterfaceTable
   alaRipngInterfaceSendStatus
```

ipv6 rip interface horizon

Configures the routing loop prevention mechanisms.

ipv6 rip interface *if_name* **horizon {none | split-only | poison}**

Syntax Definitions

if_name	IPv6 interface name.
none | split-only | poison	**none** - Disables loop prevention mechanisms. **split-only** - Enables split-horizon, without poison-reverse. **poison** - Enables split-horizon with poison-reverse.

Defaults

parameter	default
none | split-only | poison	poison

Platforms Supported

OmniSwitch 6624, 6648, 7700, 7800, 8800

Usage Guidelines

- If set to “none” the route is not sent back to the peer.
- If set to ‘split-only”, the route received from the peer is sent back with an increased metric.
- If set to “poison” the route received from the peer is sent back with an “infinity” metric.

Example

```
-> ipv6 rip interface Test_Lab none
```

Release History

Release 5.1.6; command was introduced.

Related Commands

show ipv6 rip interface	Displays information for all or specified RIPng interfaces.
show ipv6 rip routes	Displays all or a specific set of routes in the RIPng Routing Table.

MIB Objects

```
alaRipngInterfaceTable
   alaRipngInterfaceHorizon
```

ipv6 rip debug-level

Configures the RIPng debug level for all debug types.

ipv6 rip debug-level *level*

Syntax Definitions

level	Debug level. Valid range is 0 - 255.

Defaults

parameter	default
level	0

Platforms Supported

OmniSwitch 6624, 6648, 7700, 7800, 8800

Usage Guidelines

- This command sets the debug level for **all** configured types. You cannot set different levels for each type.
- Use the **ipv6 rip debug-type** command to specify the type of RIPng messages to debug.
- When the debug level is set to 0, the log is turned off.

Example

```
-> ipv6 rip debug-level 50
```

Release History

Release 5.1.6; command was introduced.

Related Commands

ipv6 rip debug-type	Configures the type of RIPng messages to debug.

MIB Objects

```
alaRipngDebug
   alaRipngDebugLevel
```

ipv6 rip debug-type

Configures the type of RIPng messages to debug.

ipv6 rip debug-type [error] [warning] [recv] [send] [rdb] [age] [mip] [info] [setup] [time] [tm] [all]

Syntax Definitions

error	Includes error conditions, failures, processing errors, etc.
warning	Includes general warnings, non-fatal conditions.
recv	Enables debugging in the receive flow path of the code.
send	Enables debugging in the send flow path of the code.
rdb	Debugs RIP database handling.
age	Debugs code handling database entry aging/timeouts.
mip	Debugs RIPng MIP messages.
info	Provides general information.
setup	Provides information during initialization.
time	Debugs timeout handler.
tm	Debugs RIPng Task Manager messages.
all	Enables all debug options.

Defaults

N/A

Platforms Supported

OmniSwitch 6624, 6648, 7700, 7800, 8800

Usage Guidelines

- Use the **no** form of the command to disable a debug type.
- You can configure more than on debug type in the same command (see example below).
- Use the **ipv6 rip debug-level** command to set the debug level. This command sets the debug level for **all** configured types. You cannot set different levels for each type.

Example

```
-> ipv6 rip debug-type error warning recv send
```

Release History

Release 5.1.6; command was introduced.

Related Commands

ipv6 rip debug-level	Configures the RIPng debug level.

MIB Objects

```
alaRipngDebug
   alaRipngDebugError
   alaRipngDebugWarn
   alaRipngDebugRecv
   alaRipngDebugSend
   alaRipngDebugRdb
   alaRipngDebugAge
   alaRipngDebugMip
   alaRipngDebugInfo
   alaRipngDebugSetup
   alaRipngDebugTime
   alaRipngDebugTm
   alaRipngDebugAll
```

show ipv6 rip

Displays RIPng status and general configuration parameters.

show ipv6 rip

Syntax Definitions

N/A

Defaults

N/A

Platforms Supported

OmniSwitch 6624, 6648, 7700, 7800, 8800

Usage Guidelines

N/A

Examples

```
-> show ipv6 rip

Status              = Enabled,
Number of routes    = 10,
Route tag           = 0,
Update interval     = 30,
Invalid interval    = 180,
Garbage interval    = 120,
Holddown interval   = 0,
Jitter interval     = 5,
Triggered Updates   = All Routes,
```

output definitions

Status	RIPng protocol status (enabled or disabled).
Number of routes	Number of RIPng routes in Forwarding Information Base (FIB).
Route tag	Route tag value for RIP routes generated by the switch. Valid range is 0-65535. Default is 0.
Invalid interval	Invalid Timer setting, in seconds.
Garbage interval	Garbage Timer setting, in seconds.
Holddown interval	Holddown Timer setting, in seconds.
Jitter interval	Jitter setting.
Triggered updates	Triggered Updates setting (All Routes, Updated Routes, None).

Release History

Release 5.1; command was introduced.

Related Commands

ipv6 rip status	Enables/disables RIPng routing on the switch.
ipv6 rip route-tag	Configures the route tag value for RIP routes generated by the switch.
ipv6 rip update-interval	Configures the Interval, in seconds, that RIPng routing updates are sent out.
ipv6 rip invalid-timer	Configures the amount of time a route remains active in RIB before being moved to the "garbage" state.
ipv6 rip invalid-timer	Configures the RIPng garbage timer value. Routes move into the garbage collection state because the timer expired or a route update with an INFINITY metric was received.
ipv6 rip holddown-timer	Configures the amount of time a route is placed in a holddown state.
ipv6 rip jitter	Configures an offset value for RIPng updates. This is the maximum (positive or negative) value that can be used to offset the update interval.
ipv6 rip triggered-sends	Configures the behavior of triggered updates.

MIB Objects

```
alaRipngInterfaceTable
   alaRipngInterfaceStatus
   alaRipngRouteTag
   laRipngInvalidTimer
   alaRipngGarbageTimer
   alaRipngHolddownTimer
   alaRipngJitter
   alaRipngTriggeredSends
```

show ipv6 rip interface

Displays information for all or specified RIPng interfaces.

show ipv6 rip interface [*if_name*]

Syntax Definitions

if_name	IPv6 interface name.

Defaults

N/A.

Platforms Supported

OmniSwitch 6624, 6648, 7700, 7800, 8800

Usage Guidelines

If you do not specify an interface, all IPv6 RIP interfaces are displayed.

Example

```
-> show ipv6 rip interface

    Interface                        Packets
       Name           Status     Recvd   Sent     Metric
--------------------+----------+---------+--------+---------
Test_Lab             Active     12986     12544    1
Test_Lab_2           Active     12556     12552    1


-> show ipv6 rip interface if3

Name                            = Test_Lab,
IPv6 interface index            = 3,
Interface status                = Active,
Next Update                     = 27 secs,
Horizon Mode                    = Split and Poison-reverse,
MTU size                        = 1500,
Metric                          = 1,
Send status                     = Enabled,
Receive status                  = Enabled,
Packets received                = 12986,
Packets sent                    = 12544,
```

output definitions

Interface name	Interface name.
IPv6 interface index	IPv6 index of this interface.
Status	Interface status (Active/Inactive).
Packets Recvd	Number of packets received by the interface.

output definitions

Packets Sent	Number of packets sent by the interface.
Metric	RIPng metric (cost) configured for the interface.
IPv6 interface index	IPv6 interface index number.
Interface status	Interface status (Active/Inactive).
Next update	Seconds remaining until the next update on this interface.
Horizon mode	Interface Horizon Mode (routing loop prevention mechanisms). Displayed modes are none/split-only/poison-reverse.
MTU size	Maximum transmission size for RIPng packets on the interface.
Send status	Interface “Send” status. When this status is set to "enable", packets can be sent from this interface. When it is set to "disable", packets will not be sent from this interface.
Receive status	Interface “Receive” status. When this status is set to "enable", packets can be received by this interface. When it is set to "disable", packets cannot be received by this interface.
Packets received	Number of packets received by the interface.
Packets sent	Number of packets sent by the interface.

Release History

Release 5.1.6; command was introduced.

Related Commands

ipv6 rip interface	IPv6 interface name.
ipv6 rip status	Enables/disables RIPng routing on the switch.
ipv6 rip interface recv-status	Configures the interface “Receive” status. When this status is set to "enable", packets can be received by this interface. When it is set to "disable", packets cannot be received by this interface.
ipv6 rip interface send-status	Configures the interface “Send” status. When this status is set to "enable", packets can be sent from this interface. When it is set to "disable", packets will not be sent from this interface.
ipv6 rip interface metric	Configures the RIPng metric (cost) for the interface.
ipv6 rip interface horizon	Configures the interface Horizon Mode (routing loop prevention mechanisms).
show ipv6 rip	Displays RIPng status and general configuration parameters (e.g., force holddown timer).

MIB Objects

```
alaRipngInterfaceTable
   alaRipngInterfaceEntry
   alaRipngInterfaceStatus
   alaRipngInterfacePacketsRcvd
   alaRipngInterfacePacketsSent
   alaRipngInterfaceMetric
   alaRipngInterfaceIndex
   alaRipngInterfaceNextUpdate
   alaRipngInterfaceHorizon
   alaRipngInterfaceMTU
   alaRipngInterfaceSendStatus
   alaRipngInterfaceRecvStatus
```

show ipv6 rip peer

Displays a summary of the observed RIPng peers, or specific information about a peer when a peer address is provided.

show ipv6 rip peer [*ipv6_addresss*]

Syntax Definitions

ipv6_addresss	IPv6 address of the peer.

Defaults

N/A.

Platforms Supported

OmniSwitch 6624, 6648, 7700, 7800, 8800

Usage Guidelines

If you do not specify a peer, all IPv6 RIP peers are displayed.

Example

```
-> show ipv6 peer
                              Seen on       Packets   Last
Address                       Interface     Recv      Update
------------------------------+-------------+--------+----------
fe80::200:39ff:fe1f:710c      vlan172       23        20
fe80::2d0:95ff:fe12:da40      bkbone20      33        2
fe80::2d0:95ff:fe12:da40      vlan150       26        25
fe80::2d0:95ff:fe6a:5d41      nssa23        20        25



-> show ipv6 rip peer fe80::2d0:95ff:fe12:da40

Peer#1 address          = fe80::2d0:95ff:fe12:da40,
Seen on interface       = bkbone20,
Last Update             = 8 secs,
Received packets        = 33,
Received bad packets    = 0
Received routes         = 5,
Received bad routes     = 0

Peer#2 address          = fe80::2d0:95ff:fe12:da40,
Seen on interface       = vlan150,
Last Update             = 1 secs,
Received packets        = 27,
Received bad packets    = 0
Received routes         = 2,
Received bad routes     = 0
```

output definitions

Address	IPv6 address of the peer.
Seen on Interface	Interface used to reach the peer.
Packets Recvd	Number of packets received from the peer.
Last Update	Number of seconds since the last updated was received from the peer.
Peer address	Peer IPv6 address.
Received packets	Number of packets received from the peer.
Received bad packets	Number of bad packets received from the peer.
Received routes	Number of RIPng routes received from the peer.
Received bad routes	Number of bad RIPng routes received from the peer.

Release History

Release 5.1.6; command was introduced.

Related Commands

show ipv6 rip interface	Displays all or specified RIPng interface status
show ipv6 rip routes	Displays all or a specific set of routes in the RIPng Routing Table.

MIB Objects

```
alaRipngPeerTable
   alaRipngPeerEntry
   alaRipngPeerAddress
   alaRipngPeerIndex
   alaRipngPeerLastUpdate
   alaRipngPeerNumUpdates
   alaRipngPeerBadPackets
   alaRipngPeerNumRoutes
   alaRipngPeerBadRoutes
```

show ipv6 rip routes

Displays all or a specific set of routes in the RIPng Routing Table.

show ipv6 rip routes [dest <*ipv6_prefix/prefix_length*>**] | [gateway** <*ipv6_addr*>**] | [detail** <*ipv6 prefix/prefix_length*>**]**

Syntax Definitions

dest	Displays all routes whose destination matches the IPv6 prefix/prefix length.
gateway	Displays all routes whose gateway matches the specified IPv6 address.
detail	Displays detailed information about a single route matching the specified destination.
ipv6_addr	IPv6 address.
ipv6_prefix/prefix length	IPv6 address and prefix/prefix length.

Defaults

N/A.

Platforms Supported

OmniSwitch 6624, 6648, 7700, 7800, 8800

Usage Guidelines

If you do not enter one of the optional parameters, all IPv6 RIP routes are displayed.

Example

```
-> show ipv6 rip routes

Legends: State: A = Active, H = Holddown, G = Garbage
Destination     Gateway                     State    Metric Proto
--------------+---------------------------+-------+------+------
100::1/128      +fe80::200:39ff:fe1f:710c     A       2      Rip
100::100:1/128  +fe80::200:39ff:fe1f:710c     A       2      Rip
400::/100       +fe80::2d0:95ff:fe12:e050     A       1      Local
900::/100       +fe80::2d0:95ff:fe12:e050     A       1      Local
8900::/100      +fe80::2d0:95ff:fe12:da40     A       2      Rip
9800::/100      +fe80::2d0:95ff:fe12:da40     A       2      Rip
9900::/100      +fe80::2d0:95ff:fe12:e050     A       1      Local
```

```
-> show ipv6 rip routes detail 9900::/100

Destination     = 9900::,
Mask length     = 100,
Gateway(1)      = fe80::2d0:95ff:fe12:e050,
Protocol        = Local,
Out Interface   = nssa23,
Metric          = 1,
Status          = Installed,
State           = Active,
Age             = 10544s,
Tag             = 0,
Gateway(2)      = fe80::2d0:95ff:fe12:da40,
Protocol        = Rip,
Out Interface   = bkbone20,
Metric          = 2,
Status          = Not Installed,
State           = Active,
Age             = 15s,
Tag             = 0,
```

output definitions

Destination	IPv6 address/address length of the destination.
Gateway	IPv6 gateway used to reach the destination.
State	Route status (Active/Inactive).
Metric	Routing metric for this route
Protocol	Protocol used to learn the route.
Mask Length	Prefix Length.
Out Interface	The interface used to reach the destination.
Status	Route status (Active/Inactive)
Age	The number of seconds since the route was last updated.
Tag	The route tag value for the route.

Release History

Release 5.1.6; command was introduced.

Related Commands

ipv6 rip interface	Creates/deletes a RIPng interface.
ipv6 rip interface metric	Configures the RIPng metric or cost for a specified interface.
show ipv6 rip interface	Displays all or specified RIPng interface status.

MIB Objects

```
alaRipngRouteTable
   alaRipngRouteEntry
   alaRipngRoutePrefixLen
   alaRipngRouteNextHop
   alaRipngRouteType
   alaRipngRouteAge
   alaRipngRouteTag
   alaRipngRouteStatus
   alaRipngRouteMetric
```

show ipv6 rip debug

Displays the current RIPng debug level and types.

show ipv6 rip debug

Syntax Definitions

N/A.

Defaults

N/A.

Platforms Supported

OmniSwitch 6624, 6648, 7700, 7800, 8800

Usage Guidelines

N/A.

Example

```
-> show ipv6 rip debug

Debug Level = 0,
error       = on,
warning     = off,
recv        = off,
send        = off,
rdb         = off,
age         = off,
mip         = off,
info        = off,
setup       = off,
time        = off,
tm          = off,
```

output definitions

Debug Level	Debug level. Valid range is 0 - 255. Default is 0.
Debug Type Status (on/off)	**error** - Includes error conditions, failures, processing errors, etc. **warning** - Includes general warnings, non-fatal conditions. **recv** - Enables debugging in the receive flow path of the code. **send** - Enables debugging in the send flow path of the code. **rdb** - Debugs RIP database handling. **age** - Debugs code handling database entry aging/timeouts. **mip** - Debugs RIPng MIP messages. **info** - Provides general information. **setup** - Provides information during initialization. **time** - Debugs timeout handler. **tm** - Debugs RIPng Task Manager messages. **all** - Enables all debug options.

Release History

Release 5.1.6; command was introduced.

Related Commands

ipv6 rip debug-level	Configures the RIPng debug level.
ipv6 rip debug-type	Configures the type of RIPng messages to debug.

MIB Objects

```
alaRipngDebug
   alaRipngDebugLevel
   alaRipngDebugError
   alaRipngDebugWarn
   alaRipngDebugRecv
   alaRipngDebugSend
   alaRipngDebugRdb
   alaRipngDebugAge
   alaRipngDebugMip
   alaRipngDebugInfo
   alaRipngDebugSetup
   alaRipngDebugTime
   alaRipngDebugTm
   alaRipngDebugAll
```