

Configuring Traffic Forwarding Modes

This chapter contains the following sections:

- Information About Warp Mode, on page 1
- Guidelines and Limitations for Warp Mode, on page 1
- Enabling and Disabling Warp Mode, on page 2
- Verifying Warp Mode Status, on page 3
- Feature History for Warp Mode, on page 3

Information About Warp Mode

The Cisco Nexus device uses a hardware component called the Algorithm Boost Engine (Algo Boost Engine) to support a forwarding mechanism, called warp mode. In warp mode, the access path is shortened by consolidating the forwarding table into single table, resulting in faster processing of frames and packets. In warp mode, latency is reduced by up to 20 percent. For more information about the Algo Boost Engine, see Active Buffer Monitoring Overview.

Guidelines and Limitations for Warp Mode

Warp mode has the following configuration guidelines and limitations:

- Warp mode provides up to 20 percent better switch latency than normal forwarding.
- In warp mode, unicast route tables are reduced. The route table is reduced from 24000 to 4000 entries. The host table and MAC table are reduced from 64000 to 8000 entries. (The multicast route table remains the same at 8000 entries.)
- In warp mode, the following features are not supported:
  - Egress Routed Access Control Lists (RACLs)
  - Port Access Control Lists (PACLs)
  - Equal-cost Multipathing (ECMP)
  - IP Redirect

Enabling and Disabling Warp Mode

SUMMARY STEPS

1. switch# **configure terminal**
2. switch(config)# **hardware profile forwarding-mode warp**
3. (Optional) switch(config)# **copy running-config startup-config**
4. Reload the switch.

DETAILED STEPS

Procedure

	Command or Action	Purpose
Step 1	switch# **configure terminal**	Enters global configuration mode.
Step 2	switch(config)# **hardware profile forwarding-mode warp**	Enables warp mode on the device. To disable warp mode, use the **no** form of this command. The default is warp mode disabled.
Step 3	(Optional) switch(config)# **copy running-config startup-config**	Saves the change persistently through reboots and restarts by copying the running configuration to the startup configuration.
Step 4	Reload the switch.	—

Example

This example shows how to enable warp mode on the device:

```
switch# configuration terminal
switch(config)# hardware profile forwarding-mode warp
Warning: This command will take effect only after saving the configuration (copy r s)
switch(config)# copy running-config startup-config
switch(config)#
```

This example shows how to disable warp mode on the device:

```
switch# configuration terminal
switch(config)# no hardware profile forwarding-mode warp
Warning: This command will take effect only after saving the configuration (copy r s)
switch(config)# copy running-config startup-config
```

Verifying Warp Mode Status

SUMMARY STEPS

1. switch# **show hardware profile forwarding-mode**

DETAILED STEPS

Procedure

	Command or Action	Purpose
Step 1	switch# **show hardware profile forwarding-mode**	Displays information about warp mode and the host, unicast, multicast, and Layer 2 ternary content addressable memory (TCAM) sizes.

Example

This example shows how to display information about warp mode:

```
switch# show hardware profile forwarding-mode
==========================
 forwarding-mode : warp
==========================
 host      size  = 8192
 unicast   size  = 4096
 multicast size  = 8192
 l2        size  = 8192
switch#
```

Feature History for Warp Mode

Feature Name	Release	Feature Information
Warp Mode	5.0(3)A1(1)	This feature was introduced.