

QoS Shaping Mode for Ethernet Interfaces Overview

The SAR scheduler is not available for Ethernet interfaces. However, you can still configure the operational shaping mode to shape ATM traffic based on either frames or cells by issuing the **qos-shaping-mode** command.

Frame shaping mode is the default for Ethernet interfaces on all E Series Broadband Services Routers. You can configure cell shaping mode for the following interfaces:

- Gigabit Ethernet interfaces on the GE-2 line module and the GE-HDE line module on ERX routers
- Gigabit Ethernet and 10-Gigabit Ethernet interfaces on the ES2 4G LM on E120 and E320 Broadband Services routers
- 10-Gigabit Ethernet interfaces on the ES2 10G LM on E120 and E320 routers

When you use cell shaping mode to configure the shaping or policing rate, the resulting traffic stream conforms exactly to the policing rates configured in downstream ATM switches. Using cell shaping also reduces the number of packet drops in the Ethernet network.

The setting for port 0 provides the default shaping mode for all ports on the same I/O module or IOA. Individual ports can have a specific shaping mode setting that overrides the setting for port 0.

If you do not configure the QoS shaping mode for a port, the shaping mode is calculated using the value for port 0 on the same I/O module or IOA. If the port's shaping mode is configured, the system uses the port's shaping mode.

Table 1 lists the possible combinations of the **qos-shaping-mode** command and the resultant operational shaping mode.

Table 1: Operational Shaping Modes

qos-shaping-mode for Port 0	qos-shaping-mode for Other Ports	Operational Shaping Mode
Cell	Cell	Cell
Frame	Frame	Frame
Cell	Frame	Frame
Frame	Cell	Cell
Frame	No shaping mode	Frame
Cell	No shaping mode	Cell
No shaping mode	No shaping mode	Frame

To account for different layer 2 encapsulations, you can configure the byte adjustment application using QoS parameters. The byte adjustment is calculated differently for frame shaping mode than cell shaping mode.



NOTE: You can also use the QoS cell mode application with QoS parameters to configure the shaping mode for a port.

- Related Topics**
- Configuring the QoS Shaping Mode for Ethernet Interfaces
 - Byte Adjustment for ADSL and VDSL Traffic Overview
 - Cell Shaping Mode Using QoS Parameters Overview

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