Loopback Interfaces

This chapter tells how to configure loopback interfaces.

About Loopback Interfaces

A loopback interface is a software-only interface that emulates a physical interface. This interface is reachable on IPv4 and IPv6 through multiple physical interfaces. The loopback interface helps to overcome path failures; it is accessible from any physical interface, so if one goes down, you can access the loopback interface from another.

Loopback interfaces can be used for:

- AAA
- BGP
- DNS
- HTTP
- ICMP
- SNMP
- SSH
- Static and dynamic VTI tunnels
- Syslog
- Telnet

The ASA can distribute the loopback address using dynamic routing protocols, or you can configure a static route on the peer device to reach the loopback IP address through one of the ASA's physical interfaces. You cannot configure a static route on the ASA that specifies the loopback interface.

Guidelines for Loopback Interfaces

Failover and Clustering

- No clustering support.

Context Mode

- VTI is supported in single context mode only. Other loopback uses are supported in multiple context mode.

Additional Guidelines and Limitations

- TCP sequence randomization is always disabled for traffic from the physical interface to the loopback interface.

Configure a Loopback Interface

Add a loopback interface.

Procedure

Step 1 Choose **Configuration** > **Device Setup** > **Interface Settings** > **Interfaces**.

Step 2 Choose **Add** > **Loopback Interface**.

The **Add Loopback Interface** dialog box appears.

Step 3 In the **Loopback ID** field, enter an integer between 0 and 10413.

Step 4 If the interface is not already enabled, check the **Enable Interface** check box.

The interface is enabled by default.

Step 5 (Optional) Enter a description in the **Description** field.

Step 6 Configure the name and IP address. See Routed and Transparent Mode Interfaces.

Step 7 Click **OK**.

You return to the **Interfaces** pane.

Step 8 Configure rate-limiting for loopback traffic. See Rate-Limit Traffic to the Loopback Interface, on page 3.

Rate-Limit Traffic to the Loopback Interface

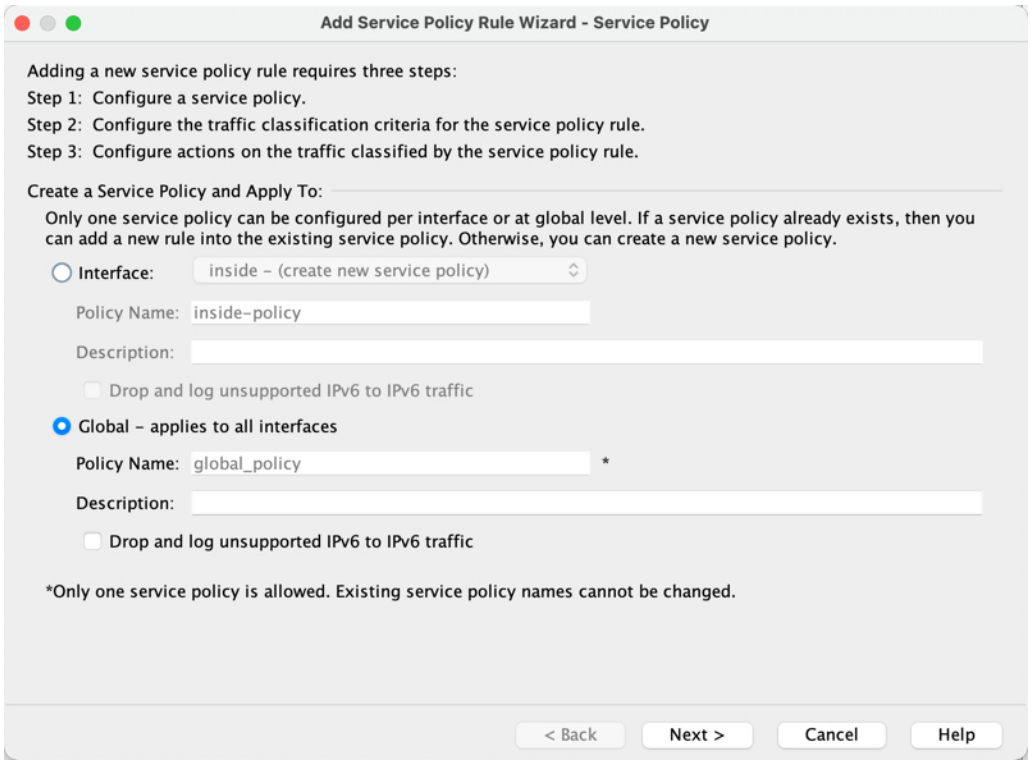
You should rate-limit traffic going to the loopback interface IP address to prevent excessive load on the system. You can add a connection limit rule to the global service policy. This procedure shows adding to the default global policy (global_policy).

Procedure

Step 1 Choose **Configuration** > **Firewall** > **Service Policy**, and click **Add** > **Add Service Policy Rule**.

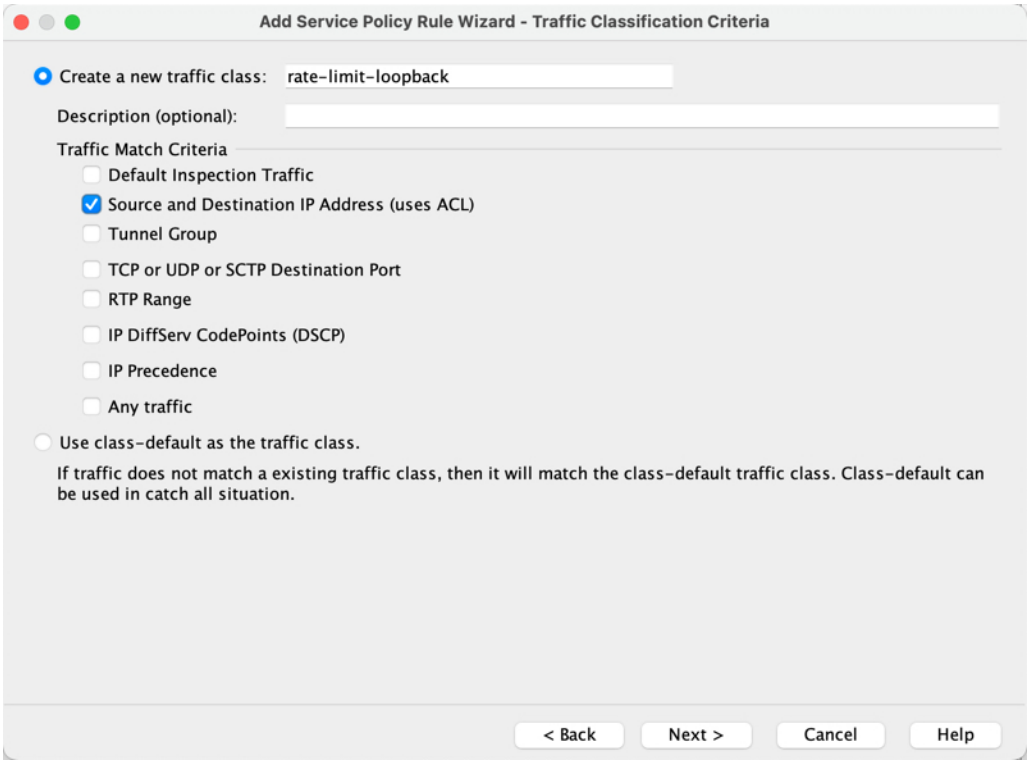
Step 2 Choose the **Global** policy and click **Next**.

Figure 1: Service Policy



Step 3 On the **Traffic Classification Criteria** page, set the following values and click **Next**.

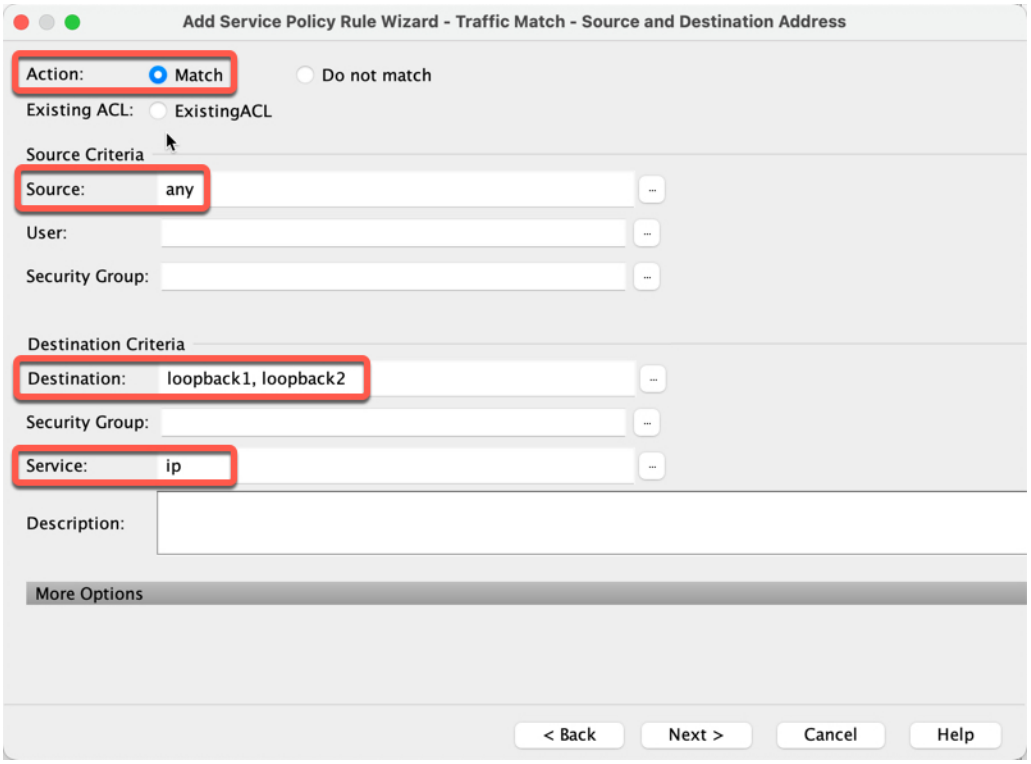
Figure 2: Traffic Classification Criteria



- **Create a new traffic class**—Name the loopback traffic class.
- **Source and Destination IP Address (uses ACL)**

Step 4 On the **Traffic Match - Source and Destination Address** page, define the access control list to specify all IP traffic going to the loopback IP address, and click **Next**.

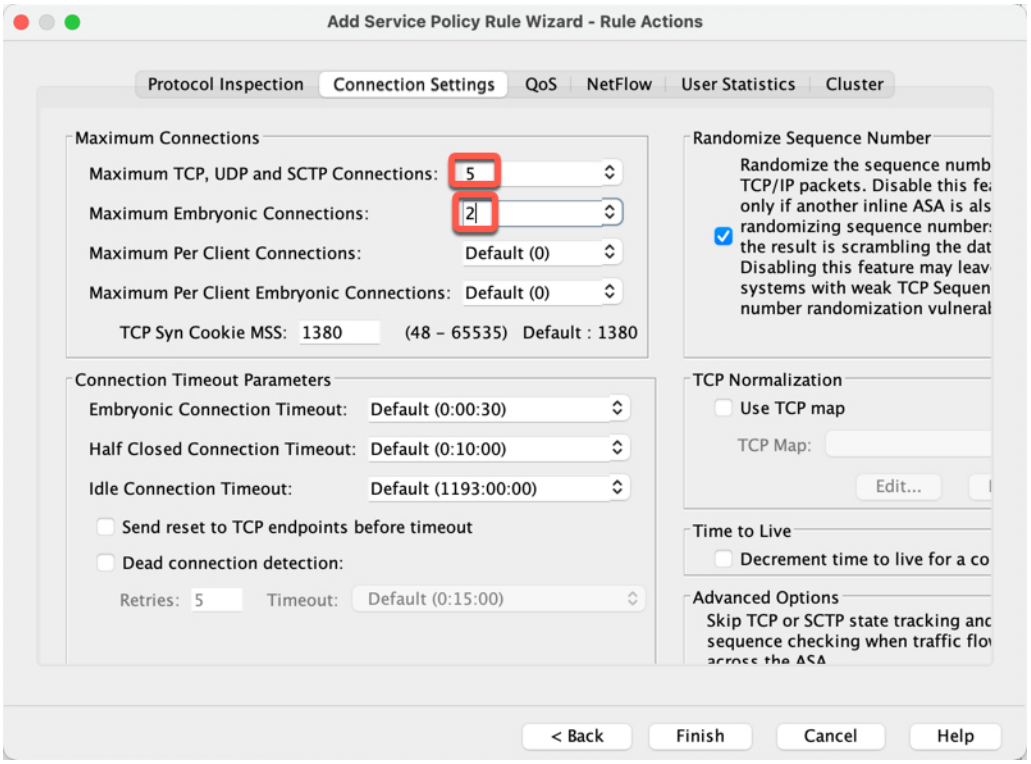
Figure 3: Traffic Match - Source and Destination Address



- **Action: Match**
- **Source**—any. You can also narrow this access list by specifiying the source IP addresses instead of **any**.
- **Destination**—The loopback interface IP addresses
- **Service**—ip

Step 5 On the **Rule Actions** page, click the **Connection Settings** tab, and in the **Maximum Connections** area, set the following values.

Figure 4: Rule Actions

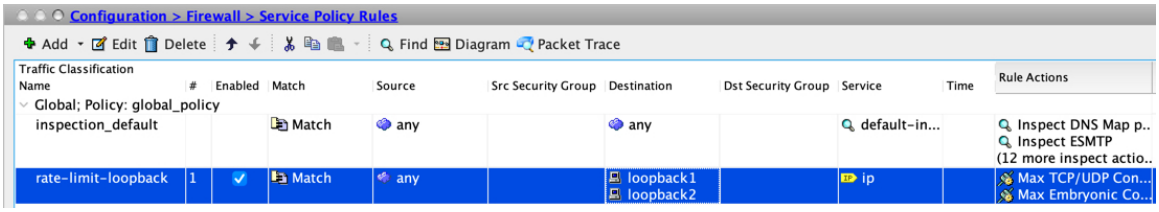


- **Maximum TCP, UDP and SCTP Connections**—Set the maximum connections to the expected number of connections for the loopback interface, and the embryonic connections to a lower number. For example, you can set it to **5/2**, or **10/5**, or **1024/512**, depending on the expected loopback interface sessions you need.
- **Embryonic Connections**—Setting the embryonic connection limit enables TCP Intercept, which protects the system from a DoS attack perpetrated by flooding an interface with TCP SYN packets.

Step 6 Click **Finish**.

The rule is added to the global policy.

Figure 5: Service Policy Rules Table



Step 7 Click **Apply**.

History for Loopback Interfaces

Table 1: History for Loopback Interfaces

Feature Name	Version	Feature Information
Loopback interface support for DNS, HTTP, ICMP, and IPsec Flow Offload	9.20(1)	You can now add a loopback interface and use it for: • DNS • HTTP • ICMP • IPsec Flow Offload
Loopback interface support for VTI	9.19(1)	A loopback interface provides redundancy of static and dynamic VTI VPN tunnels. You can now set a loopback interface as the source interface for a VTI. The VTI interface can also inherit the IP address of a loopback interface instead of a statically configured IP address. The loopback interface helps to overcome path failures. If an interface goes down, you can access all interfaces through the IP address of the loopback interface. New/Modified screens: **Configuration** > **Device Setup** > **Interface Settings** > **Interfaces** > **Add VTI Interface** > **Advanced**
ASDM support for loopback interfaces	9.19(1)	ASDM now supports loopback interfaces. New/Modified screens: **Configuration** > **Device Setup** > **Interface Settings** > **Interfaces** > **Add Loopback Interface**
Support for loopback interface	9.18(2)	You can now add a loopback interface and use it for: • BGP • AAA • SNMP • Syslog • SSH • Telnet New/Modified commands: **interface loopback**, **logging host**, **neighbor update-source**, **snmp-server host**, **ssh**, **telnet** No ASDM support.