CHAPTER 30

Configuring a Service Policy

Service policies provide a consistent and flexible way to configure ASA features. For example, you can use a service policy to create a timeout configuration that is specific to a particular TCP application, as opposed to one that applies to all TCP applications. A service policy consists of multiple service policy rules applied to an interface or applied globally.

This chapter includes the following sections:

Information About Service Policies

This section describes how service policies work and includes the following topics:

Supported Features

Table 30-1 lists the features supported by service policy rules.

Table 30-1 Service Policy Rule Features

Feature	For Through Traffic?	For Management Traffic?	See:
Application inspection (multiple types)	**All** except RADIUS accounting	**RADIUS accounting** only	• Chapter 46, "Getting Started with Application Layer Protocol Inspection." • Chapter 47, "Configuring Inspection of Basic Internet Protocols." • Chapter 48, "Configuring Inspection for Voice and Video Protocols." • Chapter 49, "Configuring Inspection of Database and Directory Protocols." • Chapter 50, "Configuring Inspection for Management Application Protocols."
ASA CSC	**Yes**	No	Chapter 64, "Configuring the ASA CSC Module."
ASA IPS	**Yes**	No	Chapter 62, "Configuring the ASA IPS Module."
ASA CX	**Yes**	No	Chapter 63, "Configuring the ASA CX Module."
NetFlow Secure Event Logging filtering	**Yes**	**Yes**	Chapter 77, "Configuring NetFlow Secure Event Logging (NSEL)."
QoS input and output policing	**Yes**	No	Chapter 45, "Configuring QoS."
QoS standard priority queue	**Yes**	No	Chapter 45, "Configuring QoS."
QoS traffic shaping, hierarchical priority queue	**Yes**	**Yes**	Chapter 45, "Configuring QoS."
TCP and UDP connection limits and timeouts, and TCP sequence number randomization	**Yes**	**Yes**	Chapter 57, "Configuring Connection Settings."
TCP normalization	**Yes**	No	Chapter 57, "Configuring Connection Settings."
TCP state bypass	**Yes**	No	Chapter 57, "Configuring Connection Settings."
User statistics for Identity Firewall	**Yes**	**Yes**	See the **user-statistics** command in the command reference.

Feature Directionality

Actions are applied to traffic bidirectionally or unidirectionally depending on the feature. For features that are applied bidirectionally, all traffic that enters or exits the interface to which you apply the policy map is affected if the traffic matches the class map for both directions.

Note When you use a global policy, all features are unidirectional; features that are normally bidirectional when applied to a single interface only apply to the ingress of each interface when applied globally. Because the policy is applied to all interfaces, the policy will be applied in both directions so bidirectionality in this case is redundant.

For features that are applied unidirectionally, for example QoS priority queue, only traffic that enters (or exits, depending on the feature) the interface to which you apply the policy map is affected. See Table 30-2 for the directionality of each feature.

Table 30-2 Feature Directionality

Feature	Single Interface Direction	Global Direction
Application inspection (multiple types)	Bidirectional	Ingress
ASA CSC	Bidirectional	Ingress
ASA CX	Bidirectional	Ingress
ASA CX authentication proxy	Ingress	Ingress
ASA IPS	Bidirectional	Ingress
NetFlow Secure Event Logging filtering	N/A	Ingress
QoS input policing	Ingress	Ingress
QoS output policing	Egress	Egress
QoS standard priority queue	Egress	Egress
QoS traffic shaping, hierarchical priority queue	Egress	Egress
TCP and UDP connection limits and timeouts, and TCP sequence number randomization	Bidirectional	Ingress
TCP normalization	Bidirectional	Ingress
TCP state bypass	Bidirectional	Ingress
User statistics for Identity Firewall	Bidirectional	Ingress

Feature Matching Within a Service Policy

See the following information for how a packet matches rules in a policy for a given interface:

1. A packet can match only one rule for an interface for each feature type.
2. When the packet matches a rule for a feature type, the ASA does not attempt to match it to any subsequent rules for that feature type.
3. If the packet matches a subsequent rule for a different feature type, however, then the ASA also applies the actions for the subsequent rule, if supported. See the "Incompatibility of Certain Feature Actions" section on page 30-4 for more information about unsupported combinations.

Note Application inspection includes multiple inspection types, and most are mutually exclusive. For inspections that can be combined, each inspection is considered to be a separate feature.

For example, if a packet matches a rulefor connection limits, and also matches a rule for an application inspection, then both actions are applied.

If a packet matches a rulefor HTTP inspection, but also matches another rule that includes HTTP inspection, then the second rule actions are not applied.

If a packet matches a rulefor HTTP inspection, but also matches another rule that includes FTP inspection, then the second rule actions are not applied because HTTP and FTP inspections cannpt be combined.

If a packet matches a rulefor HTTP inspection, but also matches another rule that includes IPv6 inspection, then both actions are applied because the IPv6 inspection can be combined with any other type of inspection.

Order in Which Multiple Feature Actions are Applied

The order in which different types of actions in a service policy are performed is independent of the order in which the actions appear in the table.

Note NetFlow Secure Event Logging filtering and User statistics for Identity Firewall are order-independent.

Actions are performed in the following order:

1. QoS input policing
2. TCP normalization, TCP and UDP connection limits and timeouts, TCP sequence number randomization, and TCP state bypass.

Note When a the ASA performs a proxy service (such as AAA or CSC) or it modifies the TCP payload (such as FTP inspection), the TCP normalizer acts in dual mode, where it is applied before and after the proxy or payload modifying service.

3. ASA CSC
4. Application inspections that can be combined with other inspections:
   a. IPv6
   b. IP options
   c. WAAS
5. Application inspections that cannot be combined with other inspections. The remaining application inspections cannot be combined with other inspections. See the "Incompatibility of Certain Feature Actions" section on page 30-4 for more information.
6. ASA IPS
7. ASA CX
8. QoS output policing
9. QoS standard priority queue
10. QoS traffic shaping, hierarchical priority queue

Incompatibility of Certain Feature Actions

Some features are not compatible with each other for the same traffic. The following list may not include all incompatibilities; for information about compatibility of each feature, see the chapter or section for your feature:

- You cannot configure QoS priority queueing and QoS policing for the same set of traffic.
- Most inspections should not be combined with another inspection, so the ASA only applies one inspection if you configure multiple inspections for the same traffic. The only exceptions are listed in the "Order in Which Multiple Feature Actions are Applied" section on page 30-4.
- You cannot configure traffic to be sent to multiple modules, such as the ASA CX and ASA IPS.
- HTTP inspection is not compatible with the ASA CX.

Note The Default Inspection Traffic traffic class, which is used in the default global policy, is a special CLI shortcut to match the default ports for all inspections. When used in a policy map, this class map ensures that the correct inspection is applied to each packet, based on the destination port of the traffic. For example, when UDP traffic for port 69 reaches the ASA, then the ASA applies the TFTP inspection; when TCP traffic for port 21 arrives, then the ASA applies the FTP inspection. So in this case only, you can configure multiple inspections for the same class map. Normally, the ASA does not use the port number to determine which inspection to apply, thus giving you the flexibility to apply inspections to non-standard ports, for example.

Feature Matching for Multiple Service Policies

For TCP and UDP traffic (and ICMP when you enable stateful ICMP inspection), service policies operate on traffic flows, and not just individual packets. If traffic is part of an existing connection that matches a feature in a policy on one interface, that traffic flow cannot also match the same feature in a policy on another interface; only the first policy is used.

For example, if HTTP traffic matches a policy on the inside interface to inspect HTTP traffic, and you have a separate policy on the outside interface for HTTP inspection, then that traffic is not also inspected on the egress of the outside interface. Similarly, the return traffic for that connection will not be inspected by the ingress policy of the outside interface, nor by the egress policy of the inside interface.

For traffic that is not treated as a flow, for example ICMP when you do not enable stateful ICMP inspection, returning traffic can match a different policy map on the returning interface. For example, if you configure IPS on the inside and outside interfaces, but the inside policy uses virtual sensor 1 while the outside policy uses virtual sensor 2, then a non-stateful Ping will match virtual sensor 1 outbound, but will match virtual sensor 2 inbound.

Licensing Requirements for Service Policies

Model	License Requirement
All models	Base License.

Specific features may have separate license requirements. See the feature chapter for more information.

Guidelines and Limitations

This section includes the guidelines and limitations for this feature.

Context Mode Guidelines

Supported in single and multiple context mode.

Firewall Mode Guidelines

Supported in routed and transparent firewall mode.

IPv6 Guidelines

Supports IPv6 for the following features:

- Application inspection for FTP, HTTP, ICMP, SIP, SMTP and IPsec-pass-thru, and IPv6.
- ASA IPS
- ASA CX
- NetFlow Secure Event Logging filtering
- TCP and UDP connection limits and timeouts, TCP sequence number randomization
- TCP normalization
- TCP state bypass
- User statistics for Identity Firewall

Traffic Class Guidelines

The maximum number of traffic classes of all types is 255 in single mode or per context in multiple mode. Class maps include the following types:

- Layer 3/4 class maps (for through traffic and management traffic).
- Inspection class maps
- Regular expression class maps
- **match** commands used directly underneath an inspection policy map

This limit also includes default traffic classes of all types, limiting user-configured traffic classes to approximately 235. See the "Default Traffic Classes" section on page 30-7.

Service Policy Guidelines

- Interface service policies take precedence over the global service policy for a given feature. For example, if you have a global policy with FTP inspection, and an interface policy with TCP normalization, then both FTP inspection and TCP normalization are applied to the interface. However, if you have a global policy with FTP inspection, and an interface policy with FTP inspection, then only the interface policy FTP inspection is applied to that interface.
- You can only apply one global policy. For example, you cannot create a global policy that includes feature set 1, and a separate global policy that includes feature set 2. All features must be included in a single policy.
- When you make service policy changes to the configuration, all *new* connections use the new service policy. Existing connections continue to use the policy that was configured at the time of the connection establishment. **show** command output will not include data about the old connections.

  For example, if you remove a QoS service policy from an interface, then re-add a modified version, then the **show service-policy** command only displays QoS counters associated with new connections that match the new service policy; existing connections on the old policy no longer show in the command output.

To ensure that all connections use the new policy, you need to disconnect the current connections so they can reconnect using the new policy. See the **clear conn** or **clear local-host** commands.

Default Settings

The following topics describe the default settings for Modular Policy Framework:

- Default Configuration, page 30-7
- Default Traffic Classes, page 30-7

Default Configuration

By default, the configuration includes a policy that matches all default application inspection traffic and applies certain inspections to the traffic on all interfaces (a global policy). Not all inspections are enabled by default. You can only apply one global policy, so if you want to alter the global policy, you need to either edit the default policy or disable it and apply a new one. (An interface policy overrides the global policy for a particular feature.)

The default policy includes the following application inspections:

- DNS inspection for the maximum message length of 512 bytes
- FTP
- H323 (H225)
- H323 (RAS)
- RSH
- RTSP
- ESMTP
- SQLnet
- Skinny (SCCP)
- SunRPC
- XDMCP
- SIP
- NetBios
- TFTP
- IP Options

Default Traffic Classes

The configuration includes a default traffic class that the ASA uses in the default global policy called Default Inspection Traffic; it matches the default inspection traffic. This class, which is used in the default global policy, is a special shortcut to match the default ports for all inspections. When used in a policy, this class ensures that the correct inspection is applied to each packet, based on the destination port of the traffic. For example, when UDP traffic for port 69 reaches the ASA, then the ASA applies the TFTP inspection; when TCP traffic for port 21 arrives, then the ASA applies the FTP inspection. So in

this case only, you can configure multiple inspections for the same class map. Normally, the ASA does not use the port number to determine which inspection to apply, thus giving you the flexibility to apply inspections to non-standard ports, for example.

Another class map that exists in the default configuration is called class-default, and it matches all traffic. You can use the class-default class if desired, rather than using the Any traffic class. In fact, some features are only available for class-default, such as QoS traffic shaping.

Task Flows for Configuring Service Policies

This section includes the following topics:

Task Flow for Configuring a Service Policy Rule

Configuring a service policy consists of adding one or more service policy rules per interface or for the global policy. For each rule, you identify the following elements:

Step 1 Identify the interface to which you want to apply the rule, or identify the global policy.

Step 2 Identify the traffic to which you want to apply actions. You can identify Layer 3 and 4 through traffic.

Step 3 Apply actions to the traffic class. You can apply multiple actions for each traffic class.

Adding a Service Policy Rule for Through Traffic

See the "Supported Features" section on page 30-1 for more information. To add a service policy rule for through traffic, perform the following steps:

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

The Add Service Policy Rule Wizard - Service Policy dialog box appears.

Note When you click the Add button, and not the small arrow on the right of the Add button, you add a through traffic rule by default. If you click the arrow on the Add button, you can choose between a through traffic rule and a management traffic rule.

Step 2 In the Create a Service Policy and Apply To area, click one of the following options:

- **Interface**. This option applies the service policy to a single interface. Interface service policies take precedence over the global service policy for a given feature. For example, if you have a global policy with FTP inspection, and an interface policy with TCP connection limits, then both FTP inspection and TCP connection limits are applied to the interface. However, if you have a global policy with FTP inspection, and an interface policy with FTP inspection, then only the interface policy FTP inspection is applied to that interface.
  a. Choose an interface from the drop-down list.

If you choose an interface that already has a policy, then the wizard lets you add a new service policy rule to the interface.

b. If it is a new service policy, enter a name in the Policy Name field.

c. (Optional) Enter a description in the Description field.

- **Global - applies to all interfaces**. This option applies the service policy globally to all interfaces. By default, a global policy exists that includes a service policy rule for default application inspection. See the "Default Settings" section on page 30-7 for more information. You can add a rule to the global policy using the wizard.

  a. If it is a new service policy, enter a name in the Policy Name field.

  b. (Optional) Enter a description in the Description field.

Step 3 Click **Next**.

The Add Service Policy Rule Wizard - Traffic Classification Criteria dialog box appears.

Step 4 Click one of the following options to specify the traffic to which to apply the policy actions:

- **Create a new traffic class**. Enter a traffic class name in the Create a new traffic class field, and enter an optional description.

  Identify the traffic using one of several criteria:

  – **Default Inspection Traffic**—The class matches the default TCP and UDP ports used by all applications that the ASA can inspect.

    This option, which is used in the default global policy, is a special shortcut that when used in a rule, ensures that the correct inspection is applied to each packet, based on the destination port of the traffic. For example, when UDP traffic for port 69 reaches the ASA, then the ASA applies the TFTP inspection; when TCP traffic for port 21 arrives, then the ASA applies the FTP inspection. So in this case only, you can configure multiple inspections for the same rule (See the "Incompatibility of Certain Feature Actions" section on page 30-4 for more information about combining actions). Normally, the ASA does not use the port number to determine the inspection applied, thus giving you the flexibility to apply inspections to non-standard ports, for example.

    See the "Default Settings" section on page 46-4 for a list of default ports. The ASA includes a default global policy that matches the default inspection traffic, and applies common inspections to the traffic on all interfaces. Not all applications whose ports are included in the Default Inspection Traffic class are enabled by default in the policy map.

    You can specify a Source and Destination IP Address (uses ACL) class along with the Default Inspection Traffic class to narrow the matched traffic. Because the Default Inspection Traffic class specifies the ports and protocols to match, any ports and protocols in the access list are ignored.

  – **Source and Destination IP Address (uses ACL)**—The class matches traffic specified by an extended access list. If the ASA is operating in transparent firewall mode, you can use an EtherType access list.

Note When you create a new traffic class of this type, you can only specify one access control entry (ACE) initially. After you finish adding the rule, you can add additional ACEs by adding a new rule to the same interface or global policy, and then specifying **Add rule to existing traffic class** on the Traffic Classification dialog box (see below).

  - **Tunnel Group**—The class matches traffic for a tunnel group to which you want to apply QoS. You can also specify one other traffic match option to refine the traffic match, excluding Any Traffic, Source and Destination IP Address (uses ACL), or Default Inspection Traffic.
  - **TCP or UDP Destination Port**—The class matches a single port or a contiguous range of ports.

Tip For applications that use multiple, non-contiguous ports, use the Source and Destination IP Address (uses ACL) to match each port.

  - **RTP Range**—The class map matches RTP traffic.
  - **IP DiffServ CodePoints (DSCP)**—The class matches up to eight DSCP values in the IP header.
  - **IP Precedence**—The class map matches up to four precedence values, represented by the TOS byte in the IP header.
  - **Any Traffic**—Matches all traffic.

- **Add rule to existing traffic class**. If you already have a service policy rule on the same interface, or you are adding to the global service policy, this option lets you add an ACE to an existing access list. You can add an ACE to any access list that you previously created when you chose the Source and Destination IP Address (uses ACL) option for a service policy rule on this interface. For this traffic class, you can have only one set of rule actions even if you add multiple ACEs. You can add multiple ACEs to the same traffic class by repeating this entire procedure. See the "Managing the Order of Service Policy Rules" section on page 30-15 for information about changing the order of ACEs.
- **Use an existing traffic class.** If you created a traffic class used by a rule on a different interface, you can reuse the traffic class definition for this rule. Note that if you alter the traffic class for one rule, the change is inherited by all rules that use that traffic class. If your configuration includes any **class-map** commands that you entered at the CLI, those traffic class names are also available (although to view the definition of the traffic class, you need to create the rule).
- **Use class default as the traffic class**. This option uses the class-default class, which matches all traffic. The class-default class is created automatically by the ASA and placed at the end of the policy. If you do not apply any actions to it, it is still created by the ASA, but for internal purposes only. You can apply actions to this class, if desired, which might be more convenient than creating a new traffic class that matches all traffic. You can only create one rule for this service policy using the class-default class, because each traffic class can only be associated with a single rule per service policy.

Step 5 Click **Next**.

Step 6 The next dialog box depends on the traffic match criteria you chose.

Note The Any Traffic option does not have a special dialog box for additional configuration.

- Default Inspections—This dialog box is informational only, and shows the applications and the ports that are included in the traffic class.
- Source and Destination Address—This dialog box lets you set the source and destination addresses:

  a. Click **Match** or **Do Not Match**.

  The Match option creates a rule where traffic matching the addresses have actions applied. The Do Not Match option exempts the traffic from having the specified actions applied. For example, you want to match all traffic in 10.1.1.0/24 and apply connection limits to it, except

for 10.1.1.25. In this case, create two rules, one for 10.1.1.0/24 using the Match option and one for 10.1.1.25 using the Do Not Match option. Be sure to arrange the rules so that the Do Not Match rule is above the Match rule, or else 10.1.1.25 will match the Match rule first.

b. In the Source field, enter the source IP address, or click the **...** button to choose an IP address that you already defined in ASDM.

   Specify the address and subnet mask using prefix/length notation, such as 10.1.1.0/24. If you enter an IP address without a mask, it is considered to be a host address, even if it ends with a 0.

   Enter **any** to specify any source address.

   Separate multiple addresses by a comma.

c. In the Destination field, enter the destination IP address, or click the **...** button to choose an IP address that you already defined in ASDM.

   Specify the address and subnet mask using prefix/length notation, such as 10.1.1.0/24. If you enter an IP address without a mask, it is considered to be a host address, even if it ends with a 0.

   Enter **any** to specify any destination address.

   Separate multiple addresses by a comma.

d. In the Service field, enter an IP service name or number for the destination service, or click the **...** button to choose a service.

   If you want to specify a TCP or UDP port number, or an ICMP service number, enter *protocol/port*. For example, enter TCP/8080.

   By default, the service is IP.

   Separate multiple services by a comma.

e. (Optional) Enter a description in the Description field.

f. (Optional) To specify a source service for TCP or UDP, click the **More Options** area open, and enter a TCP or UDP service in the Source Service field.

   The destination service and source service must be the same. Copy and paste the destination Service field to the Source Service field.

g. (Optional) To make the rule inactive, click the **More Options** area open, and uncheck **Enable Rule**.

   This setting might be useful if you do not want to remove the rule, but want to turn it off.

h. (Optional) To set a time range for the rule, click the **More Options** area open, and from the Time Range drop-down list, choose a time range.

   To add a new time range, click the **...** button. See the "Configuring Time Ranges" section on page 20-15 for more information.

   This setting might be useful if you only want the rule to be active at predefined times.

- Tunnel Group—Choose a tunnel group from the Tunnel Group drop-down list, or click **New** to add a new tunnel group. See the "Add or Edit an IPsec Remote Access Connection Profile" section on page 69-77 for more information.

  To police each flow, check **Match flow destination IP address**. All traffic going to a unique IP destination address is considered a flow.

- Destination Port—Click **TCP** or **UDP**.

  In the Service field, enter a port number or name, or click **...** to choose one already defined in ASDM.

- RTP Range—Enter an RTP port range, between 2000 and 65534. The maximum number of port sin the range is 16383.

- IP DiffServ CodePoints (DSCP)—In the DSCP Value to Add area, choose a value from the **Select Named DSCP Values** or enter a value in the **Enter DSCP Value (0-63) field**, and click **Add**.

  Add additional values as desired, or remove them using the **Remove** button.

- IP Precedence—From the Available IP Precedence area, choose a value and click **Add**.

  Add additional values as desired, or remove them using the **Remove** button.

Step 7 Click **Next**.

The Add Service Policy Rule - Rule Actions dialog box appears.

Step 8 Configure one or more rule actions. See the "Supported Features" section on page 30-1 for a list of features.

Step 9 Click **Finish**.

Adding a Service Policy Rule for Management Traffic

You can create a service policy for traffic directed to the ASA for management purposes. See the "Supported Features" section on page 30-1 for more information. This section includes the following topics:

Configuring a Service Policy Rule for Management Traffic

To add a service policy rule for management traffic, perform the following steps:

Step 1 From the Configuration > Firewall > Service Policy Rules pane, click the down arrow next to Add.

Step 2 Choose **Add Management Service Policy Rule**.

The Add Management Service Policy Rule Wizard - Service Policy dialog box appears.

Step 3 In the Create a Service Policy and Apply To area, click one of the following options:

- **Interface**. This option applies the service policy to a single interface. Interface service policies take precedence over the global service policy for a given feature. For example, if you have a global policy with RADIUS accounting inspection, and an interface policy with connection limits, then both RADIUS accounting and connection limits are applied to the interface. However, if you have a global policy with RADIUS accounting, and an interface policy with RADIUS accounting, then only the interface policy RADIUS accounting is applied to that interface.

  a. Choose an interface from the drop-down list.

     If you choose an interface that already has a policy, then the wizard lets you add a new service policy rule to the interface.

  b. If it is a new service policy, enter a name in the Policy Name field.

  c. (Optional) Enter a description in the Description field.

- **Global - applies to all interfaces**. This option applies the service policy globally to all interfaces. By default, a global policy exists that includes a service policy rule for default application inspection. See the "Default Settings" section on page 30-7 for more information. You can add a rule to the global policy using the wizard.

Step 4 Click **Next**.

The Add Management Service Policy Rule Wizard - Traffic Classification Criteria dialog box appears.

Step 5 Click one of the following options to specify the traffic to which to apply the policy actions:

- **Create a new traffic class**. Enter a traffic class name in the Create a new traffic class field, and enter an optional description.

  Identify the traffic using one of several criteria:

  – **Source and Destination IP Address (uses ACL)**—The class matches traffic specified by an extended access list. If the ASA is operating in transparent firewall mode, you can use an EtherType access list.

  Note When you create a new traffic class of this type, you can only specify one access control entry (ACE) initially. After you finish adding the rule, you can add additional ACEs by adding a new rule to the same interface or global policy, and then specifying **Add rule to existing traffic class** on the Traffic Classification dialog box (see below).

  – **TCP or UDP Destination Port**—The class matches a single port or a contiguous range of ports.

  Tip For applications that use multiple, non-contiguous ports, use the Source and Destination IP Address (uses ACL) to match each port.

- **Add rule to existing traffic class**. If you already have a service policy rule on the same interface, or you are adding to the global service policy, this option lets you add an ACE to an existing access list. You can add an ACE to any access list that you previously created when you chose the Source and Destination IP Address (uses ACL) option for a service policy rule on this interface. For this traffic class, you can have only one set of rule actions even if you add multiple ACEs. You can add multiple ACEs to the same traffic class by repeating this entire procedure. See the "Managing the Order of Service Policy Rules" section on page 30-15 for information about changing the order of ACEs.
- **Use an existing traffic class.** If you created a traffic class used by a rule on a different interface, you can reuse the traffic class definition for this rule. Note that if you alter the traffic class for one rule, the change is inherited by all rules that use that traffic class. If your configuration includes any **class-map** commands that you entered at the CLI, those traffic class names are also available (although to view the definition of the traffic class, you need to create the rule).

Step 6 Click **Next**.

Step 7 The next dialog box depends on the traffic match criteria you chose.

- Source and Destination Address—This dialog box lets you set the source and destination addresses:

  a. Click **Match** or **Do Not Match**.

  The Match option creates a rule where traffic matching the addresses have actions applied. The Do Not Match option exempts the traffic from having the specified actions applied. For example, you want to match all traffic in 10.1.1.0/24 and apply connection limits to it, except for 10.1.1.25. In this case, create two rules, one for 10.1.1.0/24 using the Match option and one for 10.1.1.25 using the Do Not Match option. Be sure to arrange the rules so that the Do Not Match rule is above the Match rule, or else 10.1.1.25 will match the Match rule first.

  b. In the Source field, enter the source IP address, or click the **...** button to choose an IP address that you already defined in ASDM.

  Specify the address and subnet mask using prefix/length notation, such as 10.1.1.0/24. If you enter an IP address without a mask, it is considered to be a host address, even if it ends with a 0.

Enter **any** to specify any source address.

Separate multiple addresses by a comma.

c. In the Destination field, enter the destination IP address, or click the **...** button to choose an IP address that you already defined in ASDM.

Specify the address and subnet mask using prefix/length notation, such as 10.1.1.0/24. If you enter an IP address without a mask, it is considered to be a host address, even if it ends with a 0.

Enter **any** to specify any destination address.

Separate multiple addresses by a comma.

d. In the Service field, enter an IP service name or number for the destination service, or click the **...** button to choose a service.

If you want to specify a TCP or UDP port number, or an ICMP service number, enter *protocol*/*port*. For example, enter TCP/8080.

By default, the service is IP.

Separate multiple services by a comma.

e. (Optional) Enter a description in the Description field.

f. (Optional) To specify a source service for TCP or UDP, click the **More Options** area open, and enter a TCP or UDP service in the Source Service field.

The destination service and source service must be the same. Copy and paste the destination Service field to the Source Service field.

g. (Optional) To make the rule inactive, click the **More Options** area open, and uncheck **Enable Rule**.

This setting might be useful if you do not want to remove the rule, but want to turn it off.

h. (Optional) To set a time range for the rule, click the **More Options** area open, and from the Time Range drop-down list, choose a time range.

To add a new time range, click the **...** button. See the "Configuring Time Ranges" section on page 20-15 for more information.

This setting might be useful if you only want the rule to be active at predefined times.

- Destination Port—Click **TCP** or **UDP**.

In the Service field, enter a port number or name, or click **...** to choose one already defined in ASDM.

Step 8 Click **Next**.

The Add Management Service Policy Rule - Rule Actions dialog box appears.

Step 9 To configure RADIUS accounting inspection, choose an inspect map from the RADIUS Accounting Map drop-down list, or click **Configure** to add a map.

See the "Supported Features for Management Traffic" section on page 30-2 for more information.

Step 10 To configure connection settings, see the "Configuring Connection Settings" section on page 57-8.

Step 11 Click **Finish**.

Managing the Order of Service Policy Rules

The order of service policy rules on an interface or in the global policy affects how actions are applied to traffic. See the following guidelines for how a packet matches rules in a service policy:

- A packet can match only one rule in a service policy for each feature type.
- When the packet matches a rule that includes actions for a feature type, the ASA does not attempt to match it to any subsequent rules including that feature type.
- If the packet matches a subsequent rule for a different feature type, however, then the ASA also applies the actions for the subsequent rule.

For example, if a packet matches a rule for connection limits, and also matches a rule for application inspection, then both rule actions are applied.

If a packet matches a rule for application inspection, but also matches another rule that includes application inspection, then the second rule actions are not applied.

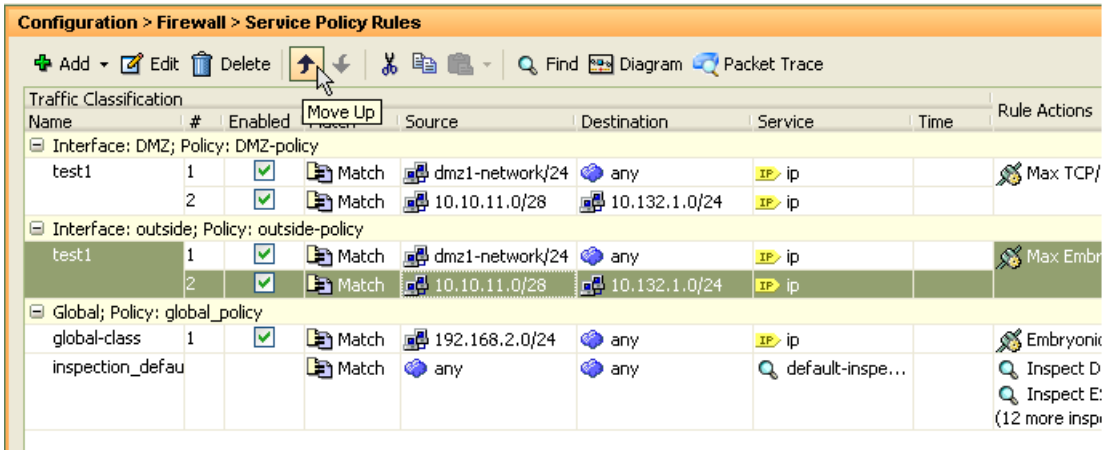
If your rule includes an access list with multiple ACEs, then the order of ACEs also affects the packet flow. The FWSM tests the packet against each ACE in the order in which the entries are listed. After a match is found, no more ACEs are checked. For example, if you create an ACE at the beginning of an access list that explicitly permits all traffic, no further statements are ever checked.

To change the order of rules or ACEs within a rule, perform the following steps:

Step 1 From the Configuration > Firewall > Service Policy Rules pane, choose the rule or ACE that you want to move up or down.

Step 2 Click the Move Up or Move Down cursor (see Figure 30-1).

Figure 30-1 Moving an ACE



Note If you rearrange ACEs in an access list that is used in multiple service policies, then the change is inherited in all service policies.

Step 3 When you are done rearranging your rules or ACEs, click **Apply**.

Feature History for Service Policies

Table 30-3 lists the release history for this feature.

Table 30-3 Feature History for Service Policies

Feature Name	Releases	Feature Information
Modular Policy Framework	7.0(1)	Modular Policy Framework was introduced.
Management class map for use with RADIUS accounting traffic	7.2(1)	The management class map was introduced for use with RADIUS accounting traffic. The following commands were introduced: **class-map type management**, and **inspect radius-accounting**.
Inspection policy maps	7.2(1)	The inspection policy map was introduced. The following command was introduced: **class-map type inspect**.
Regular expressions and policy maps	7.2(1)	Regular expressions and policy maps were introduced to be used under inspection policy maps. The following commands were introduced: **class-map type regex**, **regex**, **match regex**.
Match any for inspection policy maps	8.0(2)	The **match any** keyword was introduced for use with inspection policy maps: traffic can match one or more criteria to match the class map. Formerly, only **match all** was available.
Maximum connections and embryonic connections for management traffic	8.0(2)	The **set connection** command is now available for a Layer 3/4 management class map, for to-the-security appliance management traffic. Only the **conn-max** and **embryonic-conn-max** keywords are available.