



## **QoS: Service Groups Configuration Guide Cisco IOS Release 12.2SR**

### **Americas Headquarters**

Cisco Systems, Inc.  
170 West Tasman Drive  
San Jose, CA 95134-1706  
USA  
<http://www.cisco.com>  
Tel: 408 526-4000  
800 553-NETS (6387)  
Fax: 408 527-0883

THE SPECIFICATIONS AND INFORMATION REGARDING THE PRODUCTS IN THIS MANUAL ARE SUBJECT TO CHANGE WITHOUT NOTICE. ALL STATEMENTS, INFORMATION, AND RECOMMENDATIONS IN THIS MANUAL ARE BELIEVED TO BE ACCURATE BUT ARE PRESENTED WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED. USERS MUST TAKE FULL RESPONSIBILITY FOR THEIR APPLICATION OF ANY PRODUCTS.

THE SOFTWARE LICENSE AND LIMITED WARRANTY FOR THE ACCOMPANYING PRODUCT ARE SET FORTH IN THE INFORMATION PACKET THAT SHIPPED WITH THE PRODUCT AND ARE INCORPORATED HEREIN BY THIS REFERENCE. IF YOU ARE UNABLE TO LOCATE THE SOFTWARE LICENSE OR LIMITED WARRANTY, CONTACT YOUR CISCO REPRESENTATIVE FOR A COPY.

The Cisco implementation of TCP header compression is an adaptation of a program developed by the University of California, Berkeley (UCB) as part of UCB's public domain version of the UNIX operating system. All rights reserved. Copyright © 1981, Regents of the University of California.

NOTWITHSTANDING ANY OTHER WARRANTY HEREIN, ALL DOCUMENT FILES AND SOFTWARE OF THESE SUPPLIERS ARE PROVIDED "AS IS" WITH ALL FAULTS. CISCO AND THE ABOVE-NAMED SUPPLIERS DISCLAIM ALL WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, WITHOUT LIMITATION, THOSE OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT OR ARISING FROM A COURSE OF DEALING, USAGE, OR TRADE PRACTICE.

IN NO EVENT SHALL CISCO OR ITS SUPPLIERS BE LIABLE FOR ANY INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES, INCLUDING, WITHOUT LIMITATION, LOST PROFITS OR LOSS OR DAMAGE TO DATA ARISING OUT OF THE USE OR INABILITY TO USE THIS MANUAL, EVEN IF CISCO OR ITS SUPPLIERS HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

Cisco and the Cisco logo are trademarks or registered trademarks of Cisco and/or its affiliates in the U.S. and other countries. To view a list of Cisco trademarks, go to this URL: [www.cisco.com/go/trademarks](http://www.cisco.com/go/trademarks). Third-party trademarks mentioned are the property of their respective owners. The use of the word partner does not imply a partnership relationship between Cisco and any other company. (1110R)

Any Internet Protocol (IP) addresses and phone numbers used in this document are not intended to be actual addresses and phone numbers. Any examples, command display output, network topology diagrams, and other figures included in the document are shown for illustrative purposes only. Any use of actual IP addresses or phone numbers in illustrative content is unintentional and coincidental.

© 2011 Cisco Systems, Inc. All rights reserved.



## CONTENTS

### Service Groups 1

Finding Feature Information	1
Restrictions for Service Groups	1
Information About Service Groups	2
Service Instance Definition	2
Benefits of Service Groups	2
Service Groups QoS Policy Maps and Automatic load balancing	2
How to Configure Service Groups	3
Creating a Service Group	3
Adding or Deleting Service Instance Members	5
Deleting a Service Group	7
Verifying the Service Instance Group Configuration	8
Adding or Deleting a Subinterface from a Service Group	10
Verifying the Subinterface Configuration	13
Configuration Examples for Service Groups	15
Example Creating a Service Group	16
Example Adding Service Instance Members to a Service Group	16
Example Adding Subinterfaces to a Service Group	16
Example Deleting Service Instance Members from a Service Group	17
Example Deleting Subinterfaces from a Service Group	17
Example Deleting a Service Group	17
Example Verifying the Service Group Configuration	17
Additional References	18
Feature Information for Service Groups	20





## Service Groups

---

This module explains the Service Group feature and tell you how to use it. The Service Group feature allows network administrators to create service groups, add members (such as service instances) to those service groups, and apply service policies (also known as policy maps) to those newly created groups. The service policies (policy maps) contain the aggregate features (such as traffic policing and queueing) to be applied to the groups in compliance with the Service-Level Agreement (SLA) negotiated between the service provider and the subscribers.

- [Finding Feature Information, page 1](#)
- [Restrictions for Service Groups, page 1](#)
- [Information About Service Groups, page 2](#)
- [How to Configure Service Groups, page 3](#)
- [Configuration Examples for Service Groups, page 15](#)
- [Additional References, page 18](#)
- [Feature Information for Service Groups, page 20](#)

## Finding Feature Information

Your software release may not support all the features documented in this module. For the latest feature information and caveats, see the release notes for your platform and software release. To find information about the features documented in this module, and to see a list of the releases in which each feature is supported, see the Feature Information Table at the end of this document.

Use Cisco Feature Navigator to find information about platform support and Cisco software image support. To access Cisco Feature Navigator, go to [www.cisco.com/go/cfn](http://www.cisco.com/go/cfn). An account on Cisco.com is not required.

## Restrictions for Service Groups

For Cisco IOS Release 12.2(33)SRE, the following restrictions apply:

- This feature is supported only on the Cisco IOS 7600 series router.
- Layer 3 subinterfaces are not supported.



### Note

---

For additional restrictions for the Cisco 7600 series routers and the line cards used on the router, see both the Cisco 7600-ES20 Ethernet Line Card Configuration Guide and the Cisco 7600 Series Ethernet Services + Line Card Configuration Guide.

---

- From Cisco IOS Release 15.1(1)S onwards, subinterfaces and access subinterfaces are supported on Ethernet service + line cards. A service group can have service instance members, subinterface members, or a mix of the two under the same main interface on these line cards.

## Information About Service Groups

- [Service Instance Definition, page 2](#)
- [Benefits of Service Groups, page 2](#)
- [Service Groups QoS Policy Maps and Automatic load balancing, page 2](#)

## Service Instance Definition

A service instance is a configuration object (container) that holds all management and control plane attributes and parameters that apply to that service instance on a per-port basis. Different service instances that correspond to the same Ethernet Virtual Connection (EVC) must share the same name. Service instances are associated with a global EVC object through their shared name.

## Benefits of Service Groups

The Service Groups feature allows you to create service groups and apply aggregate features to those service groups. For Cisco IOS Release 12.2(33)SRE on a Cisco 7600 series router, a Quality of Service (QoS) policy map is the only feature that can be applied to service groups.

## Service Groups QoS Policy Maps and Automatic load balancing

For Cisco IOS Release 12.2(33)SRE on Cisco 7600 series router, only QoS service policies (policy maps) on service groups or group members are supported. A QoS policy map may be configured on service groups (or on individual service group members) on an interface or a port channel. On a port channel, the service group feature enables you to implement load balancing by distributing the multiple service instances among the different member links.

When a member link goes down, automatic load balancing is triggered on the port channel. Load balancing redistributes the EVCs to the remaining member links on the port channel, while maintaining the original QoS policy maps. For example, consider that two QoS policy maps, QoS1 and QoS2, implemented on two service groups, SG1 and SG2, respectively:

- Service group SG1 is connected to the network through link M1.
- Service group SG2 is connected to the network through link M2.

If the M2 link goes down, automatic load balancing is initiated and all the EVCs of service group SG2 are redistributed to the M1 link. Even though the service group SG2 is now moved under the link M1, service group SG2 maintains its original QoS policy map, QoS2; when service groups are redistributed, the QoS policy maps are not affected.



**Note**

You can manually load balance service groups and service instances across member links of a port channel using a feature called "User-Network Interface (UNI) Link Aggregation Group (LAG) Advanced load balancing". For more information, see the "Configuring Layer 2 Features" chapter in the Cisco 7600 Series Ethernet Services + Line Card Configuration Guide

## How to Configure Service Groups

- [Creating a Service Group, page 3](#)
- [Adding or Deleting Service Instance Members, page 5](#)
- [Deleting a Service Group, page 7](#)
- [Verifying the Service Instance Group Configuration, page 8](#)
- [Adding or Deleting a Subinterface from a Service Group, page 10](#)
- [Verifying the Subinterface Configuration, page 13](#)

## Creating a Service Group

In this procedure, you need to specify the name of a QoS policy to be attached to the service group. The QoS policy must already exist.

### SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **service-group** *service-group-identifier*
4. **description** *descriptive-text*
5. **service-policy** { **input** | **output** } *policy-map-name*
6. **end**

### DETAILED STEPS

Command or Action	Purpose
<p><b>Step 1</b> <b>enable</b></p> <p><b>Example:</b></p> <pre>Router&gt; enable</pre>	<p>Enables privileged EXEC mode.</p> <ul style="list-style-type: none"> <li>• Enter your password if prompted.</li> </ul>
<p><b>Step 2</b> <b>configure terminal</b></p> <p><b>Example:</b></p> <pre>Router# configure terminal</pre>	<p>Enters global configuration mode.</p>

Command or Action	Purpose
<p><b>Step 3</b> <code>service-group</code> <i>service-group-identifier</i></p> <p><b>Example:</b></p> <pre>Router(config)# service-group 20</pre>	<p>Creates a service group and enters service-group configuration mode.</p> <ul style="list-style-type: none"> <li>Enter the service group number. The number of service groups that can be created varies by router.</li> </ul>
<p><b>Step 4</b> <code>description</code> <i>descriptive-text</i></p> <p><b>Example:</b></p> <pre>Router(config-service-group)# description subscriber account number 105AB1</pre>	<p>(Optional) Creates a description of the service group.</p> <ul style="list-style-type: none"> <li>Enter a description (for example, additional information about the group) of the service group. Descriptions can be a maximum of 240 characters.</li> </ul>
<p><b>Step 5</b> <code>service-policy</code> {<b>input</b>   <b>output</b>} <i>policy-map-name</i></p> <p><b>Example:</b></p> <pre>Router(config-service-group)# service- policy input policy1</pre>	<p>(Optional) Attaches a policy map to the service group, in either the ingress (input) or egress (output) direction.</p> <ul style="list-style-type: none"> <li>Enter either the <b>input</b> or <b>output</b> keyword and the name of the previously created policy map.</li> </ul>
<p><b>Step 6</b> <code>end</code></p> <p><b>Example:</b></p> <pre>Router(config-service-group)# end</pre>	<p>(Optional) Returns to privileged EXEC mode.</p>



## Adding or Deleting Service Instance Members

**Note**

The following restrictions apply to service group members:

- In Cisco IOS Release 12.2(33)SRE on the Cisco 7600 series router, a member can join only one service group at a time.
- On the Cisco 7600 series router, all members of a service group must reside on the same physical or port channel interface.
- A member of a service group cannot be individually assigned to a load balance link of a port channel. The entire service group must be assigned to the load balance link.
- A service group cannot have members that are assigned to multiple load balance links on a port channel.
- The Cisco 7600 series router does not allow service instances to join the same group from multiple interfaces. On the Cisco 7600 series router, group members must come from the same interface, as shown in the the sample configuration below:

```
interface GigabitEthernet 2/0/0
service instance 1 ethernet
group 32
Service-policy output policy3
service instance 2 ethernet
group 32
service instance 3 ethernet
group 37
interface GigabitEthernet 2/0/1
service instance 1 ethernet
group 32 |<--Disallowed because this group has members in g2/0/0 already |
>
```

### SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **interface** *type number* **interface port-channel**
4. **service instance** *service-instance-number* **ethernet**
5. **group** *service-group-identifier*
6. **no group** *service-group-identifier*
7. **exit**
8. **end**

## DETAILED STEPS

Command or Action	Purpose
<p><b>Step 1</b> <code>enable</code></p> <p><b>Example:</b></p> <pre>Router&gt; enable</pre>	<p>Enables privileged EXEC mode.</p> <ul style="list-style-type: none"> <li>Enter your password if prompted.</li> </ul>
<p><b>Step 2</b> <code>configure terminal</code></p> <p><b>Example:</b></p> <pre>Router# configure terminal</pre>	<p>Enters global configuration mode.</p>
<p><b>Step 3</b> <code>interface type number interface port-channel</code></p> <p><b>Example:</b></p> <pre>Router(config)# interface GigabitEthernet 1/0.56</pre> <p><b>Example:</b></p> <pre>Router(config)# interface port-channel 50</pre>	<p>Configures an interface and enters interface configuration mode.</p> <ul style="list-style-type: none"> <li>Enter the interface type and the interface number.</li> </ul> <p>(Optional) Configures a port channel and enters interface configuration mode.</p> <ul style="list-style-type: none"> <li>Enter the port channel number.</li> </ul>
<p><b>Step 4</b> <code>service instance service-instance-number ethernet</code></p> <p><b>Example:</b></p> <pre>Router(config-if)# service instance 200 ethernet</pre>	<p>Specifies the service-instance to be added or deleted from a service group and enters service configuration mode.</p> <ul style="list-style-type: none"> <li>Enter the service-instance number.</li> </ul>
<p><b>Step 5</b> <code>group service-group-identifier</code></p> <p><b>Example:</b></p> <pre>Router(config-if-srv)# group 20</pre>	<p>Number of the service group to which the member specified in <a href="#">Adding or Deleting Service Instance Members, page 5</a> will be added.</p> <ul style="list-style-type: none"> <li>Enter the service group number.</li> </ul>
<p><b>Step 6</b> <code>no group service-group-identifier</code></p> <p><b>Example:</b></p> <pre>Router(config-if-srv)# no group 30</pre>	<p>(Optional) Number of the service group from which the member specified in <a href="#">Adding or Deleting Service Instance Members, page 5</a> will be deleted.</p> <ul style="list-style-type: none"> <li>Enter the service group number.</li> </ul>

Command or Action	Purpose
<b>Step 7</b> <code>exit</code>  <b>Example:</b> <code>Router(config-if-srv)# exit</code>	(Optional) Returns to interface configuration mode.
<b>Step 8</b> <code>end</code>  <b>Example:</b> <code>Router(config-if-srv)# end</code>	(Optional) Returns to privileged EXEC mode.

## Deleting a Service Group

### SUMMARY STEPS

1. `enable`
2. `configure terminal`
3. `no service-group service-group-identifier`
4. `end`

### DETAILED STEPS

Command or Action	Purpose
<b>Step 1</b> <code>enable</code>  <b>Example:</b> <code>Router&gt; enable</code>	Enables privileged EXEC mode. <ul style="list-style-type: none"> <li>• Enter your password if prompted.</li> </ul>
<b>Step 2</b> <code>configure terminal</code>  <b>Example:</b> <code>Router# configure terminal</code>	Enters global configuration mode.
<b>Step 3</b> <code>no service-group service-group-identifier</code>  <b>Example:</b> <code>Router(config)# no service-group 20</code>	Deletes a service group and deletes all members from the service group. <ul style="list-style-type: none"> <li>• Enter the service group number to be deleted.</li> </ul> <p><b>Note</b> When you delete a service group, all members of the service group are automatically removed from the service group.</p>

Command or Action	Purpose
<b>Step 4</b> <code>end</code>  <b>Example:</b>  <code>Router(config)# end</code>	(Optional) Exits global configuration mode.

## Verifying the Service Instance Group Configuration

### SUMMARY STEPS

1. `enable`
2. `show running-config service-group`
3. `show service-group {service-group-identifier | all}`
4. `show service-group interface type number`
5. `show service-group stats`
6. `show service-group state`
7. `show service-group traffic-stats`
8. `show policy-map interface type number service group {service-group-identifier}`
9. `show policy-map target service-group {service-group-identifier}`
10. `show ethernet service instance [detail]`
11. `clear service-group traffic-stats`
12. `debug service-group {all | error | feature | group | interface | ipc | member | qos | stats}`

### DETAILED STEPS

Command or Action	Purpose
<b>Step 1</b> <code>enable</code>  <b>Example:</b>  <code>Router&gt; enable</code>	Enables privileged EXEC mode. <ul style="list-style-type: none"> <li>• Enter your password if prompted.</li> </ul>
<b>Step 2</b> <code>show running-config service-group</code>  <b>Example:</b>  <code>Router# show running-config service-group</code>	(Optional) Displays the running service-group configuration.

	Command or Action	Purpose
<b>Step 3</b>	<p><b>show service-group</b> <i>{service-group-identifier   all}</i></p> <p><b>Example:</b></p> <pre>Router# show service-group all</pre>	(Optional) Displays service-group configuration information for one or all service groups.
<b>Step 4</b>	<p><b>show service-group interface</b> <i>type number</i></p> <p><b>Example:</b></p> <pre>Router# show service-group interface gigabitethernet 3/1</pre>	(Optional) Displays service-group membership information by interface. <ul style="list-style-type: none"> <li>• Enter the interface type and number.</li> </ul>
<b>Step 5</b>	<p><b>show service-group stats</b></p> <p><b>Example:</b></p> <pre>Router# show service-group stats</pre>	(Optional) Displays service-group statistical information.
<b>Step 6</b>	<p><b>show service-group state</b></p> <p><b>Example:</b></p> <pre>Router# show service-group state</pre>	(Optional) Displays state information about service groups.
<b>Step 7</b>	<p><b>show service-group traffic-stats</b></p> <p><b>Example:</b></p> <pre>Router# show service-group traffic-stats</pre>	(Optional) Displays traffic statistics for all the members of a service group. <ul style="list-style-type: none"> <li>• The information displayed is the combined total of the traffic statistics for all members.</li> </ul>
<b>Step 8</b>	<p><b>show policy-map interface</b> <i>type number service group {service-group-identifier}</i></p> <p><b>Example:</b></p> <pre>Router# show policy-map interface gigabitEthernet 9/5 service group</pre>	(Optional) Displays policy-map information for service groups. <ul style="list-style-type: none"> <li>• Enter the interface type and number.</li> </ul>
<b>Step 9</b>	<p><b>show policy-map target service-group</b> <i>{service-group-identifier}</i></p> <p><b>Example:</b></p> <pre>Router# show policy-map target service-group 1</pre>	(Optional) Displays policy-map information for service groups that have members attached to the specified interface. <ul style="list-style-type: none"> <li>• Enter the service group identifier.</li> </ul>

Command or Action	Purpose
<p><b>Step 10</b> <code>show ethernet service instance [detail]</code></p> <p><b>Example:</b></p> <pre>Router# show ethernet service instance detail</pre>	<p>(Optional) Displays information about the service instances.</p> <p><b>Note</b> To display the service group number, use the <b>detail</b> keyword.</p>
<p><b>Step 11</b> <code>clear service-group traffic-stats</code></p> <p><b>Example:</b></p> <pre>Router# clear service-group traffic-stats</pre>	<p>(Optional) Clears the traffic statistics for the service group.</p> <p><b>Note</b> Clearing the traffic statistics for the service group does not clear the traffic statistics for the group members. To clear the traffic statistics for group members, use the <b>clear ethernet service instance</b> command. For more information about the <b>clear ethernet service instance</b> command, see the <a href="#">Cisco IOS Carrier Ethernet Command Reference</a> .</p>
<p><b>Step 12</b> <code>debug service-group {all   error   feature   group   interface   ipc   member   qos   stats}</code></p> <p><b>Example:</b></p> <pre>Router# debug service-group qos</pre>	<p>(Optional) Debugs service-group events and errors.</p>

## Adding or Deleting a Subinterface from a Service Group



### Note

If a subinterface is already a member of a group, you cannot add it to another group. To move a subinterface, first delete it from the current group, then add it to the new group.

>

### SUMMARY STEPS

1. `enable`
2. `configure terminal`
3. `interface type number`
4. `group service-group-identifier`
5. `no group service-group-identifier`
6. `exit`
7. `end`

**DETAILED STEPS**

<b>Command or Action</b>	<b>Purpose</b>
<b>Step 1</b> enable  <b>Example:</b>  Router> enable	Enables privileged EXEC mode. <ul style="list-style-type: none"><li>• Enter your password if prompted.</li></ul>
<b>Step 2</b> configure terminal  <b>Example:</b>  Router# configure terminal	Enters global configuration mode.

Command or Action	Purpose
<p><b>Step 3</b> <code>interface type number</code></p> <p><b>Example:</b></p> <pre> <b>interface range</b>   type number </pre> <p><b>Example:</b></p> <pre> - interface - number , . . .type number </pre> <p><b>Example:</b></p> <pre>   macro word </pre> <p><b>Example:</b></p> <pre> <b>interface port-channel</b>   port-channel-number </pre> <p><b>Example:</b></p> <pre> Router(config)# interface GigabitEthernet 1/0.30 </pre> <p><b>Example:</b></p> <pre> Router(config)# interface range GigabitEthernet 1/0.30 - GigabitEthernet 1/0.36 </pre> <p><b>Example:</b></p> <pre> Router(config)# interface port-channel 5.48 </pre>	<p>Configures a subinterface and enters subinterface configuration mode.</p> <ul style="list-style-type: none"> <li>Enter the interface type and the subinterface number.</li> </ul> <p>or</p> <p>Configures a range of subinterfaces and enters subinterface configuration mode.</p> <ul style="list-style-type: none"> <li>Enter the interface types and the subinterface numbers.</li> </ul> <p>or</p> <p>Configures a port channel.</p> <ul style="list-style-type: none"> <li>Enter the port channel number.</li> </ul>



Command or Action	Purpose
<b>Step 4</b> <code>group service-group-identifier</code>  <b>Example:</b> <pre>Router(config-subif)# group 20</pre>	Number of the service group to which the subinterfaces will be added. <ul style="list-style-type: none"> <li>Enter the service group number.</li> </ul>
<b>Step 5</b> <code>no group service-group-identifier</code>  <b>Example:</b> <pre>Router(config-subif)# no group 30</pre>	(Optional) Number of the service group from which the subinterfaces will be deleted. <ul style="list-style-type: none"> <li>Enter the service group number.</li> </ul>
<b>Step 6</b> <code>exit</code>  <b>Example:</b> <pre>Router(config-subif)# exit</pre>	(Optional) Returns to interface configuration mode.
<b>Step 7</b> <code>end</code>  <b>Example:</b> <pre>Router(config-subif)# end</pre>	(Optional) Returns to privileged EXEC mode.

## Verifying the Subinterface Configuration

### SUMMARY STEPS

- enable
- show running-config service-group
- show service-group {service-group-identifier | all}
- show service-group interface type number
- show policy-map target service-group service-group-identifier
- show service-group stats
- show service-group state
- show service-group traffic-stats
- clear service-group traffic-stats
- debug service-group {all | error | feature | group | interface | ipc | member | qos | stats}

## DETAILED STEPS

	Command or Action	Purpose
Step 1	<p><b>enable</b></p> <p><b>Example:</b></p> <pre>Router&gt; enable</pre>	<p>Enables privileged EXEC mode.</p> <ul style="list-style-type: none"> <li>Enter your password if prompted.</li> </ul>
Step 2	<p><b>show running-config service-group</b></p> <p><b>Example:</b></p> <pre>Router# show running-config service-group</pre>	(Optional) Displays the running service-group configuration.
Step 3	<p><b>show service-group</b> {<i>service-group-identifier</i>   <b>all</b>}</p> <p><b>Example:</b></p> <pre>Router# show service-group all</pre>	(Optional) Displays service-group configuration information for one or all service groups.
Step 4	<p><b>show service-group interface</b> <i>type number</i></p> <p><b>Example:</b></p> <pre>Router# show service-group interface gigabitethernet 3/1</pre>	<p>(Optional) Displays service-group membership information by interface.</p> <ul style="list-style-type: none"> <li>Enter the interface type and number.</li> </ul>
Step 5	<p><b>show policy-map target service-group</b> <i>service-group-identifier</i></p> <p><b>Example:</b></p> <pre>Router# show policy-map target service-group 1</pre>	<p>(Optional) Displays the policy-map information for all service groups or the specified service group.</p> <ul style="list-style-type: none"> <li>Enter the target and service group.</li> </ul>
Step 6	<p><b>show service-group stats</b></p> <p><b>Example:</b></p> <pre>Router# show service-group stats</pre>	(Optional) Displays service-group statistical information.
Step 7	<p><b>show service-group state</b></p> <p><b>Example:</b></p> <pre>Router# show service-group state</pre>	(Optional) Displays state information about service groups.

	Command or Action	Purpose
Step 8	<p><b>show service-group traffic-stats</b></p> <p><b>Example:</b></p> <pre>Router# show service-group traffic-stats</pre>	<p>(Optional) Displays the traffic statistics for all the members of a service group.</p> <ul style="list-style-type: none"> <li>The information displayed is the combined total of the traffic statistics for all members.</li> </ul>
Step 9	<p><b>clear service-group traffic-stats</b></p> <p><b>Example:</b></p> <pre>Router# clear service-group traffic-stats</pre>	<p>(Optional) Clears the traffic statistics for the service group.</p> <p><b>Note</b> Clearing the traffic statistics for the service group does not clear the traffic statistics for the group members. To clear the traffic statistics for group members, use the <b>clear ethernet service instance</b> command. For more information about the <b>clear ethernet service instance</b> command, see the <i>Cisco IOS Carrier Ethernet Command Reference</i>.</p>
Step 10	<p><b>debug service-group { all   error   feature   group   interface   ipc   member   qos   stats }</b></p> <p><b>Example:</b></p> <pre>Router# debug service-group qos</pre>	<p>(Optional) Debugs service-group events and errors.</p>

## Configuration Examples for Service Groups

- [Example Creating a Service Group, page 16](#)
- [Example Adding Service Instance Members to a Service Group, page 16](#)
- [Example Adding Subinterfaces to a Service Group, page 16](#)
- [Example Deleting Service Instance Members from a Service Group, page 17](#)
- [Example Deleting Subinterfaces from a Service Group, page 17](#)
- [Example Deleting a Service Group, page 17](#)
- [Example Verifying the Service Group Configuration, page 17](#)

## Example Creating a Service Group

In the following example, service group 20 has been created:

```
Router> enable

Router# configure terminal

Router(config)# service-group 20

Router(config-service-group)# description account number 105AB1

Router(config-service-group)# service-policy input policy1

Router(config-service-group)# end
```

## Example Adding Service Instance Members to a Service Group

In the following example, service instance 200 will be added to service group 20:

```
Router> enable

Router# configure terminal

Router(config)# interface GigabitEthernet 1/0

Router(config-if)# service instance 200 ethernet

Router(config-if-srv)# group 20

Router(config-if-srv)# end
```

## Example Adding Subinterfaces to a Service Group

In the following example, subinterface g3/7.12 will be added to service group 10:

```
Router> enable

Router# configure terminal

Router(config)# interface GigabitEthernet 3/7.12

Router(config-subif)# group 10

Router(config-subif)# end
```

## Example Deleting Service Instance Members from a Service Group

In the following example, service instance 300 will be deleted from service group 30 on a port channel:

```
Router> enable

Router# configure terminal

Router(config)# interface port-channel 50

Router(config-if)# service instance 300 ethernet

Router(config-if-srv)# no group 30

Router(config-if-srv)# end
```

## Example Deleting Subinterfaces from a Service Group

In the following example, subinterface g3/7.12 will be deleted from service group 10:

```
Router> enable

Router# configure terminal

router(config)# interface g3/7.12

router(config-subif)# no group 10

router(config-subif)# end
```

## Example Deleting a Service Group

In the following example, service group 20 will be deleted:

```
Router> enable

Router# configure terminal

Router(config)# no service-group 20

Router(config)# end
```

## Example Verifying the Service Group Configuration

This section contains sample output from the **show policy-map target service-group** command. The **show policy-map target service-group** command displays policy-map information for service groups.

**Note**

This command is one of several that you can use to verify the service-group configuration. For additional commands that can be used, see the [Verifying the Service Instance Group Configuration, page 8](#).

In the following example, service group 1 is specified. Service group 1 contains two policy maps (service policies), policy1 and policy2. Traffic policing is enabled in the evc policy map. Traffic queueing is enabled in the isg policy map.

```
Router# show policy-map target service-group 1

GigabitEthernet9/5: Service Group 1

Service-policy input: policy1

Class-map: class-default (match-any)
  0 packets, 0 bytes
  5 minute offered rate 0000 bps, drop rate 0000 bps
Match: any
police:
  cir 200000 bps, bc 6250 bytes
  conformed 0 packets, 0 bytes; actions:
    transmit
  exceeded 0 packets, 0 bytes; actions:
    drop
  conformed 0000 bps, exceed 0000 bps

Service-policy output: policy2

Counters last updated 00:00:34 ago
Class-map: class-default (match-any)
  0 packets, 0 bytes
  5 minute offered rate 0000 bps, drop rate 0000 bps
Match: any
Queueing
queue limit 131072 packets
(queue depth/total drops/no-buffer drops) 0/0/0
(pkts output/bytes output) 0/0
bandwidth remaining ratio 2
```

## Additional References

### Related Documents

Related Topic	Document Title
QoS commands: complete command syntax, command modes, command history, defaults, usage guidelines, and examples.	<i>Cisco IOS Quality of Service Solutions Command Reference</i>
Debug commands: complete command syntax, command modes, command history, defaults, usage guidelines, and examples.	<i>Cisco IOS Debug Command Reference</i>
MQC, policy maps	"Applying QoS Features Using the MQC" module

Related Topic	Document Title
Cisco IOS 7600 series routers	<ul style="list-style-type: none"> <li>• <i>Cisco 7600-ES20 Ethernet Line Card Configuration Guide</i></li> <li>• <i>Cisco 7600 Series Ethernet Services + Line Card Configuration Guide.</i></li> </ul>
Service instance configuration information and concepts	<i>Cisco IOS Carrier Ethernet Configuration Guide</i>
Service instance commands	<i>Cisco IOS Carrier Ethernet Command Reference</i>
Manually load balancing service groups and service instances across member links of a port channel	"Configuring Layer 2 Features" chapter of the <i>Cisco 7600 Series Ethernet Services + Line Card Configuration Guide</i>

### Standards

Standard	Title
No new or modified standards are supported by this feature, and support for existing standards has not been modified by this feature.	--

### MIBs

MIB	MIBs Link
No new or modified MIBs are supported by this feature, and support for existing MIBs has not been modified by this feature.	To locate and download MIBs for selected platforms, Cisco IOS releases, and feature sets, use Cisco MIB Locator found at the following URL: <a href="http://www.cisco.com/go/mibs">http://www.cisco.com/go/mibs</a>

### RFCs

RFC	Title
No new or modified RFCs are supported by this feature, and support for existing RFCs has not been modified by this feature.	--

### Technical Assistance

Description	Link
The Cisco Support and Documentation website provides online resources to download documentation, software, and tools. Use these resources to install and configure the software and to troubleshoot and resolve technical issues with Cisco products and technologies. Access to most tools on the Cisco Support and Documentation website requires a Cisco.com user ID and password.	<a href="http://www.cisco.com/cisco/web/support/index.html">http://www.cisco.com/cisco/web/support/index.html</a>

## Feature Information for Service Groups

The following table provides release information about the feature or features described in this module. This table lists only the software release that introduced support for a given feature in a given software release train. Unless noted otherwise, subsequent releases of that software release train also support that feature.

Use Cisco Feature Navigator to find information about platform support and Cisco software image support. To access Cisco Feature Navigator, go to [www.cisco.com/go/cfn](http://www.cisco.com/go/cfn). An account on Cisco.com is not required.



**Table 1**      **Feature Information for Service Groups**

Feature Name	Releases	Feature Information
Service Groups	12.2(33)SRE	<p>The Service Groups feature allows network administrators to create service groups, add members (such as service instances) to those service groups, and apply service policies (also known as policy maps) to those newly created groups.</p> <p>In Release 12.2(33)SRE, this feature was introduced on the Cisco 7600 series router.</p> <p>The following commands were introduced or modified: <b>clear service-group traffic-stats</b>, <b>debug service-group</b>, <b>description</b>, <b>group</b>, <b>service-group</b>, <b>service instance ethernet</b>, <b>service-policy</b>, <b>show policy-map interface service-group</b>, <b>show running-config service-group</b>, <b>show service-group</b>, <b>show service-group interface</b>, <b>show service-group state</b>, <b>show service-group stats</b>, <b>show service-group traffic-stats</b>.</p>
Service Groups	15.1(1)S	<p>In Cisco IOS Release 15.1(1)S, this feature was modified to support subinterfaces and access subinterfaces on Ethernet Service + line cards. A service group can have service instance members, subinterfaces, access subinterfaces, or a mix of the two under the same main interface on these linecards.</p> <p>The following command was introduced or modified: <b>show policy-map target service-group</b>.</p>

Cisco and the Cisco logo are trademarks or registered trademarks of Cisco and/or its affiliates in the U.S. and other countries. To view a list of Cisco trademarks, go to this URL: [www.cisco.com/go/trademarks](http://www.cisco.com/go/trademarks).

Third-party trademarks mentioned are the property of their respective owners. The use of the word partner does not imply a partnership relationship between Cisco and any other company. (1110R)

Any Internet Protocol (IP) addresses and phone numbers used in this document are not intended to be actual addresses and phone numbers. Any examples, command display output, network topology diagrams, and other figures included in the document are shown for illustrative purposes only. Any use of actual IP addresses or phone numbers in illustrative content is unintentional and coincidental.