



## Service Groups

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## Information about Service Groups

In a complex network topology, you might only have a few IVR-enabled VSANs. To reduce the amount of traffic to non-IVR-enabled VSANs, you can configure service groups that restrict the traffic to the IVR-enabled VSANs. A maximum of 16 IVR service groups are allowed in a network. When a new IVR-enabled switch is added to the network, you must update the service groups to include the new VSANs.

### Guidelines

When configuring IVR service groups, consider these guidelines:

- If you use service groups with IVR auto topology mode, you should enable IVR and configure your service groups first, then distribute them with CFS before setting the IVR auto topology mode.
- The CFS distribution is restricted within the service group only when the IVR VSAN topology is in IVR auto topology mode.
- You can configure as many as 16 service groups in a network.
- When a new IVR-enabled switch is added to the network, you must update the service group to include the new VSANs.
- The same VSAN and AFID combination cannot be a member of more than one service group, otherwise, a CFS merge will fail.
- The total number of AFID and VSAN combinations in all the service groups combined cannot exceed 128. The maximum number of AFID and VSAN combinations in a single service group is 128.
- The IVR service group configuration is distributed in all IVR-enabled switches. IVR data traffic between two end devices belonging to a service group stays within that service group. For example, two members (for example, pWWN 1 and pWWN 2) cannot communicate if they belong to the same IVR zone and they belong to different service groups.

- During a CFS merge, service groups with the same name would be merged, as long as there are no conflicts with other service groups.
- If the total number of service groups exceeds 16 during a CFS merge, the CFS merge fails.
- CFS distributes service group configuration information to all reachable SANs. If you do not enable CFS distribution, you must ensure that the service group configuration is the same on all IVR-enabled switches in all VSANs.
- IVR end devices belonging to an IVR service group are not exported to any AFID or VSAN outside of its service group.
- When at least one service group is defined and an IVR zone member does not belong to the service group, that IVR zone member is not able to communicate with any other device.
- The default service group ID is zero (0).

## Default Service Group

All AFID and VSAN combinations that are part of an IVR VSAN topology but are not part of any user-defined service group are members of the default service group. The identifier of the default service group is 0.

By default, IVR communication is permitted between members of the default service group. You can change the default policy to deny. The default policy is not part of ASCII configuration.

## Service Group Activation

A configured service group must be activated. Like zone set activation or VSAN topology activation, the activation of a configured service group replaces the currently active service group, if any, with the configured one. There is only one configured service group database and one active service group database. Each of these databases can have up to 16 service groups.

## Guidelines and Limitations

IVR has the following guidelines and limitations:

- All border switches in the fabric must be Cisco SAN switches. Other switches in the fabric can be non-Cisco switches.

## Default Settings

Parameters	Default
IVR feature	Disabled
IVR NAT	Disabled
IVR distribution	Disabled
IVR Autotopology	Disabled

Parameters	Default
IVR VSANs	Not added to virtual domains
QoS for IVR Zones	Low

## Configuring a Service Group

### SUMMARY STEPS

1. `ivr service-group name group-name`
2. `autonomous-fabric-id afid vsan-ranges range`
3. `exit`
4. `ivr service-group activate [default-sg-deny]`

### DETAILED STEPS

	Command or Action	Purpose
Step 1	<b>ivr service-group name</b> <i>group-name</i> <b>Example:</b> <pre>switch(config)# ivr service-group name IVR-SG1 switch(config-ivr-sg)#</pre>	Configures the IVR service group and enters IVR server group configuration mode.
Step 2	<b>autonomous-fabric-id</b> <i>afid vsan-ranges range</i> <b>Example:</b> <pre>switch(config-ivr-sg)# autonomous-fabric-id 10 vsan-ranges 1,2,6-10</pre>	Configures the autonomous fabric ID and the VSAN range for this service group.
Step 3	<b>exit</b> <b>Example:</b> <pre>switch(config-ivr-sg)# exit switch(config)#</pre>	Exits IVR server group configuration mode.
Step 4	<b>ivr service-group activate</b> [ <b>default-sg-deny</b> ] <b>Example:</b> <pre>switch(config)# ivr service-group activate</pre>	Activates the service group configuration and optionally sets the communication policy between switches in the default service group to deny.  <b>Note</b> To change the communication policy back to allow, you must issue the <code>ivr service-group activate</code> command again.

### What to do next

To complete this configuration, ensure you have enabled CFS distribution for IVR, then activate the IVR VSAN topology and commit the changes.

# Verifying IVR Configuration

To display the IVR configuration, perform one of the following tasks:

Command	Purpose
<b>show ivr</b>	Displays the status for the IVR configuration.
<b>show ivr diagnostics</b>	Displays information about IVR diagnostics.
<b>show ivr merge status</b>	Displays information the last IVR merge event.
<b>show ivr pending</b>	Displays information about the IVR pending database.
<b>show ivr pending-diff</b>	Displays the differences between the pending database and the config database.
<b>show ivr vsan-topology [active   configured]</b>	Displays the IVR VSAN topology.
<b>show ivr session status</b>	Displays information about IVR CFS session.
<b>show ivr virtual-domains</b>	Displays information about IVR virtual domains for all local VSANs.
<b>show ivr zone</b>	Displays information about IVR zones.
<b>show ivr zoneset</b>	Displays information about IVR zone sets.
<b>show ivr service-group active</b>	Displays information about the active service group.
<b>show ivr service-group configured</b>	Displays information about the configured service group.
<b>show autonomous-fabric-id database</b>	Displays information about the AFIDs.
<b>show ivr virtual-fcdomain-add-status</b>	Displays the status of the IVR virtual domain configuration.

## Related Topics

[Information about IVR Zones and Zonesets](#)

[Configuring IVR Zones](#)

[Configuring IVR Zone Sets](#)

# Feature History

*Table 1: Feature History IVR*

Feature Name	Releases	Feature Information
IVR	5.2(1)	This feature was introduced.

