



# MSID and PCF Zone Based Call Redirection

This chapter describes MSID and PCF zone based call redirection. The product Administration Guides provide examples and procedures for configuration of basic services on the system. It is recommended that you select the configuration example that best meets your service model and configure the required elements for that model, as described in the respective product Administration Guide, before using the procedures in this chapter.



## Important

The MSID and PCF zone based call redirection is a licensed Cisco product. Separate session and feature licenses may be required. Contact your Cisco account representative for detailed information on specific licensing requirements. For information on installing and verifying licenses, refer to the Managing License Keys section of the Software Management Operations chapter in the System Administration Guide.

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## Overview

MSID and PCF zone based call redirection allows calls from a specific MSID or a specific PCF zone to be redirected to an alternate PDSN. These features are only applicable to new calls; handoffs are accepted by the PDSN in all cases. If the PDSN is in the process of starting up, the overload policy is applied before the zone/IMSI based call redirection. Once the PDSN is ready to accept new calls, the zone/IMSI based call redirection policy is applied before the overload policy. Upon receiving an RRQ from a PCF, the PDSN sends an RRP with the code 136 - Unknown PDSN Address.

## MSID Based Call Redirection

The PDSN contains a table of MSIDs and the corresponding set of PDSNs to which the call should be redirected. It allows the configuration of up to 16 wildcard MSIDs per PDSN service. The wildcard must be a single-digit match represented by the "\*" character. For example, the MSID 84712 would match all MSIDs starting with 847 followed by any eight digits, followed by 12 and any two additional digits.

When a new call arrives, the PDSN attempts to match the MSID with the configured list of wildcard MSIDs. If a match is found, the call is redirected to one of the PDSNs by IP address using a weighted round-robin algorithm. If more than one match is found, the algorithm selects the match with the longest matching prefix.

## PCF Zone Based Call Redirection

Groups of PDSNs may be configured with a specific numbered zone. When a new call arrives, the PDSN checks the PCF for a specified zone number. If the PCF matches the specified zone, the call is redirected to a PDSN within the zone using a weighted round-robin algorithm. If the PCF from which the call arrived does not belong to a zone, or if no PDSNs are configured for the specified zone, the call is not redirected. Similarly, if a zone is configured for a PCF address and the current PDSN-service address is a member of that zone, the call is not redirected.



### Caution

These two features introduce additional lookups in the call setup path and could impact the call setup rate.



### Important

If both MSID and PCF zone based call redirection are configured, MSID based call redirection will have a higher precedence.

## Configuring MSID and PCF Zone Based Call Redirection

This section describes the process of setting up MSID and PCF zone based call redirection from the command line interface.



### Important

Incorrect configuration of the MSID and PCF Zone based Call Redirection features could result in sessions failing to be established. For example, if PDSN1 is configured to redirect sessions to PDSN2 while PDSN2 is configured to redirect sessions to PDSN1, a loop is created in which all sessions would fail to be connected. In addition, sessions will not be established if the PDSN to which the sessions are being redirected is unavailable.

## Configuring MSID Based Call Redirection

To configure MSID based call redirection, you must create a new policy that defines a wildcard match list, a list of PDSNs to redirect to, and their respective weights.



### Important

Commands used in the configuration samples in this section provide base functionality to the extent that the most common or likely commands and/or keyword options are presented. In many cases, other optional commands and/or keyword options are available. Refer to the *Command Line Interface Reference* for complete information regarding all commands.

Configure MSID based call redirection by applying the following example configuration:

```

configure
  context <context_name>
    pdsn-service <pdsn_service_name>
    policy msid-match <msid_with_wildcards> redirect <address>

```

```
weight <weight_num> <address2> weight <weight_num>...<address16> weight <weight_num>
end
```

Notes:

- You may repeat the **policy msid-match** command as needed, to a maximum of 16 wildcard MSIDs per PDSN service.

Save your configuration to flash memory, an external memory device, and/or a network location using the Exec mode command **save configuration**. For additional information on how to verify and save configuration files, refer to the *System Administration Guide* and the *Command Line Interface Reference*.

## Configuring PCF Zone Based Call Redirection

To configure PCF zone based call redirection, you must create a new policy that defines a zone match list, a list of PDSNs to redirect to, and their respective weights.



### Important

Commands used in the configuration samples in this section provide base functionality to the extent that the most common or likely commands and/or keyword options are presented. In many cases, other optional commands and/or keyword options are available. Refer to the *Command Line Interface Reference* for complete information regarding all commands.

To configure PCF zone based call redirection:

**Step 1** Set parameters by applying the following example configuration:

#### Example:

```
configure
context <context_name>
pdsn-service <pdsn_service_name>
spi remote-address <pcf_ip_address> spi-number <number> secret <secret> zone <zone_id> zone
<zone_id2>...zone <zone_id32>
policy pcf-zone-match <zone_number> redirect <address> weight <weight_num> <address2>
weight <weight_num>...<address16> weight <weight_num>
end
```

Notes:

- You may repeat the **spi remote-address <pcf\_ip\_address> spi-number <number> secret <secret> [ zone <zone\_id> ] [ zone <zone\_id2>... zone <zone\_id32> ]** command as necessary. You can configure up to 32 PCF zones per PDSN service.
- You may repeat the **policy pcf-zone-match <zone\_number> { redirect <address> } [ weight <weight\_num> ] [ <address2> [ weight <weight\_num> ]...<address16> [ weight <weight\_num> ] ]** command as necessary, up to a maximum of 32 defined PCF zones and 16 defined PDSNs per PDSN service.

**Step 2** Save your configuration to flash memory, an external memory device, and/or a network location using the Exec mode command **save configuration**. For additional information on how to verify and save configuration files, refer to the *System Administration Guide* and the *Command Line Interface Reference*

