



# Writing Rf Charging Records to P-GW Hard Disk

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## Feature Summary and Revision History

### Summary Data

Applicable Product(s) or Functional Area	P-GW
Applicable Platform(s)	<ul style="list-style-type: none"><li>• ASR 5500</li><li>• iCUPS</li><li>• VPC - DI</li></ul>
Feature Default	Disabled - Configuration Required
Related Changes in This Release	Not Applicable
Related Documentation	<ul style="list-style-type: none"><li>• <i>P-GW Administration Guide</i></li></ul>

### Revision History

Revision Details	Release
In this release, writing Rf charging records to P-GW hard disk is supported.	21.20.5

## Feature Description

The Rf charging record that gets transmitted from P-GW is an essential charging information. When you configure the system using Rf to write charging records, if there is a configuration error, for example,

misconfiguration of a diameter server or configured a wrong diameter accounting server and so on, loss of charging information and revenue loss can occur. To prevent charging record loss because of system errors, P-GW provides a function to write charging record ACR to P-GW local hard disk storage. Through CLI configuration, you can specify that on the ASR5500 chassis the hard disk on the DPC be used to store Diameter record storage. Diameter files are transferred from packet processing cards to the hard disk on the DPC.

## How it Works

If the Diameter server used in the “aaa group” is not configured in the “diameter endpoint” or if no diameter server is configured, the Rf ACR record writes to local memory up to the number of configured maximum outstanding messages. If the system reboots, all message in the local memory will be lost.

The table below lists all the positive and negative cases after system writes charging ACR to diameter server.

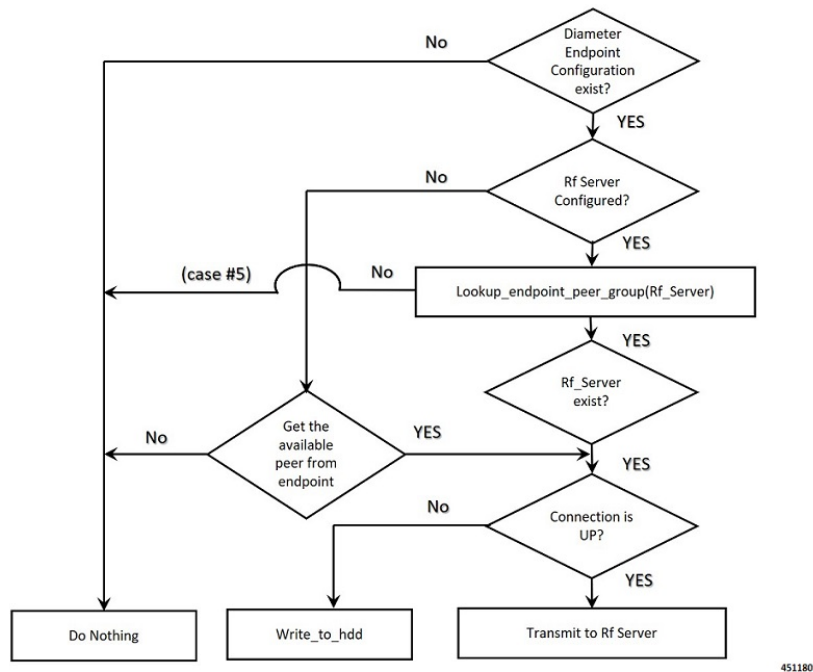
**Table 1: Rf Record Writing Execution Cases in Current P-GW**

Case#	Aaa group configuration	Diameter endpoint configuration	Server Connection States	Write to Hard Disk
1	Diameter accounting server A	Peer A	UP	NO, Everything right, Send to Rf server
2	Diameter accounting server A	Peer A	Down	YES
3	Diameter accounting server A	Peer A	Server A IP address does not exist (Server A exist in peer table, but the IP address is wrong)	YES
4	No accounting server configured	Peer A	UP or Down	<ul style="list-style-type: none"> <li>• ACR is sent to the server if connection state is UP</li> <li>• ACR is written to HDD if the connection state is DOWN.</li> </ul>

Case#	Aaa group configuration	Diameter endpoint configuration	Server Connection States	Write to Hard Disk
5	Diameter accounting server B	Peer A	Server B does not exist in peer table in endpoint	ACR is written to the archive list and pushed to the server when the connection is UP.

The following illustration shows the scenario when the Diameter accounting server B does not exist (case 5) and the P-GW Rf record writing logic scenario.

Figure 1: Call flow for Writing Rf Charging Record with Error



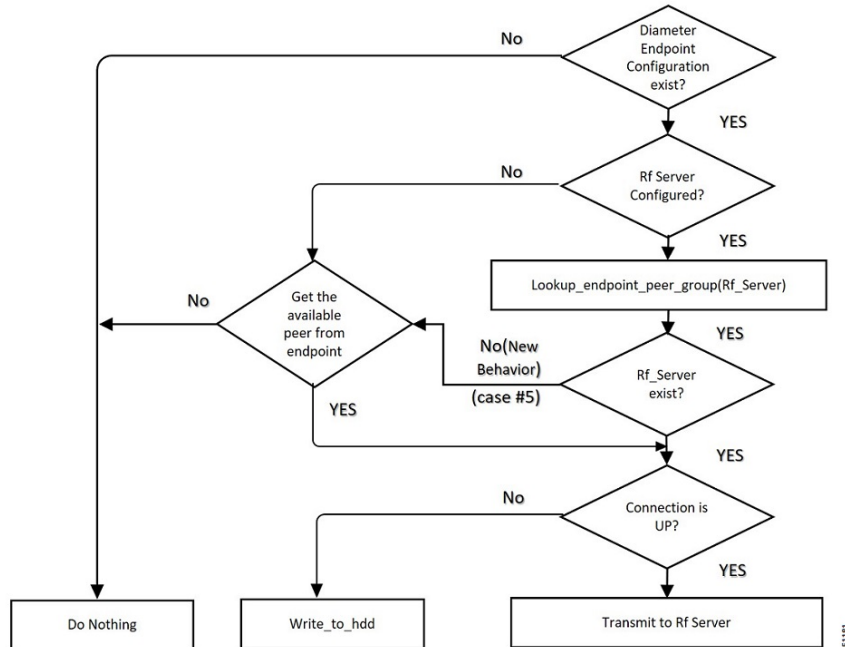
If the P-GW cannot find the server configured under **aaa group** within the diameter endpoint group, P-GW follows logic listed in the table:

Table 2: Writing Rf Charging Record Logic

Step	Description
1	P-GW receives the first available ACTIVE peer entry in the diameter endpoint and sends the ACR to the respective server.
2	If Step1 fails, none of the peer entries in the diameter endpoint are in ACTIVE state. The P-GW uses a random peer entry in the diameter endpoint and triggers the function to write ACR to local hard disk.

The following illustration shows the logic when the Diameter accounting endpoint is correctly configured under the aaa group.

Figure 2: Call Flow for Writing Rf Charging Record without Error



**Note** If multiple Diameter accounting servers are configured under the **aaa group**, the same logic (Step1 and Step2) applies for forwarding an ACR from P-GW.

## Configuring aaa-group

Use the following commands to configure one or multiple diameter accounting servers as the CDF/CCF end points:

```

configure
  context context_name
    aaa group group_name
      diameter accounting endpoint endpoint_name
      diameter accounting server host_name
    exit
  
```

### Notes

- **diameter accounting endpoint**: Enables Diameter to be used for accounting, and specifies which Diameter endpoint to use. *endpoint\_name* must be a string of 1–63 characters.
- **diameter accounting server** : Configures Diameter host *host\_name* from this AAA server group for Diameter accounting.

### Writing Diameter Record to P-GW Local Hard Disk

The function of writing diameter record to local hard disk is disabled by default. To enable the function, configure the following commands under aaa group:

```
configure
  context context_name
    aaa group group_name
      diameter accounting hd-mode fall-back-to-local
      diameter accounting hd-storage-policy hd_policy
    exit
```

#### Notes

- **diameter accounting hd-mode fall-back-to-local**: Specifies that records be copied to the local HDD if the Diameter server is down or unreachable. CDF/CGF pulls the records through SFTP.
- **diameter accounting hd-storage-policy** : Associates the specified HD Storage policy with the AAA group. *hd\_policy* must be the name of a configured HD Storage policy, and must be an alphanumeric string of 1 through 63 characters. HD Storage policies are configured through the Global Configuration Mode. *hd\_policy* and the *hd-mode* commands enable storage of Rf Diameter Messages to HDD in case all Diameter Servers are down or unreachable

