Next Hop Routing Support

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Feature Summary and Revision history

Summary Data

Table 1: Summary Data

Applicable Product(s) or Functional Area	PCF
Applicable Platform(s)	SMI
Feature Default Setting	Enabled – Configuration required to disable
Related Documentation	Not Applicable

Revision History

Table 2: Revision History

Revision Details	Release
First introduced.	2023.03.0

Feature Description

PCF needs to support configuration to accept inputs for next hop route for the following: route rating, application Id, destination host, destination realm, next hop realm, next hop destination, and next hop destination rating.

When the diameter connection gets set up, the DRA displays the origin host and realm values, and all diameter application messages includes the actual host's origin host and realm. PCF requires a method to determine the DRA connection that delivers the message to the desired host.

PCF sends the Diameter Request Messages to check the next hop route matches for the message's application Id, destination host, and destination realm. If there is any match for the next hop routes, the message is sent to the Diameter Peer mapped to the next hop destination and next hop realm.

For multiple next hop routes, there are multiple next-hop destinations with the same or different ratings. PCF needs to find the next hop realm and destination combo that carries higher ratings for the next next hop destination and deliver the message for a combination of the application Id, destination host, and destination realm..

How It Works

This section describes how Next Hop Routing Support feature works.

Feature Configuration

This section describes how to configure the Next Hop Routing Support.

To configure the Next Hop Routing Support, use the following configuration:

```
config
  diameter
    next-hop-route* [application-id destination-realm destination-host
rating]
    application-id       -> /diameter/application/application-id
    destination-realm   string
    destination-host    string
    rating              int32
    next-hop-realm   string
    next-hop-host*  [next-hop-host-name]
    next-hop-host-name  string
        rating?         int32
        end
```

NOTES:

- **next-hop-route**—Specifies the next hop realm and next next-hop-host details for a combination of application-id, destination-host and destination-realm of the outgoing diameter request message.
- **application-id**—Specifies the Auth-Application-Id from diameter request message.
- **rating**—Specifies the rating of the route.
- **destination-realm**—Specifies the Destination-Realm from the diameter request message.
- **destination-host**—Specifies the Destination-Host from the diameter request message.
- **next-hop-realm**—Specifies the peer-realm configured in the diameter client stack at the PCF which need to be used for combination of application-id, destination-host and destination-realm in the diameter request message.

- **next-hop-host**—Specifies the details about the next hop host to be used with host name and rating:
  - **next-hop-host-name**—Specifies the peer-host configured in the diameter client stack at the PCF which need to be used for combination of application-id, destination-host and destination-realm in the diameter request message
  - **rating**—Specifies the rating of the next-hop-host-name. Higher rated destination host will be selected when multiple destination-hosts are configured and reachable.