Diameter Failure Handling Template Configuration Mode Commands

Command Modes

Diameter Failure Handling Template Configuration Mode is accessed from the Global Configuration Mode. This mode allows an operator to configure failure handling template that can be associated to different Diameter services.

Exec > Global Configuration > Failure Handling Template Configuration

configure > failure-handling-template *template_name*

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-fh-template)#
```

Important The commands or keywords/variables that are available are dependent on platform type, product version, and installed license(s).

- end, on page 1
- exit, on page 2
- msg-type, on page 2

end

Exits the current configuration mode and returns to the Exec mode.

Product

All

Privilege

Security Administrator, Administrator

Syntax Description

end

Usage Guidelines

Use this command to return to the Exec mode.

exit

Exits the current mode and returns to the parent configuration mode.

Product

All

Privilege

Security Administrator, Administrator

Syntax Description

exit

Usage Guidelines

Use this command to return to the parent configuration mode.

msg-type

This command specifies the failure handling behavior in the event of a communication failure with the prepaid server.

Product

GGSN

HA

HSGW

IPSG

PDSN

P-GW

S-GW

SAEGW

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Failure Handling Template Configuration

configure > failure-handling-template *template_name*

Entering the above command sequence results in the following prompt:

`[local]`*`host_name`*`(config-fh-template)#`

Syntax Description

msg-type { any | authentication info request | authorization-request | check-identity-request | credit-control-initial | credit-control-terminate | credit-control-update | eap-request | eap-termination-request | notify-request | profile-update-request | purge-ue-request | update-location-request | user-data-request } failure-type { any | diabase-error | diameter result-code { any-error | *result-code* **[** *to end-result-code* **] } | diameter exp-result-code { any-error |** *result-code* **[** *to end-result-code* **] } | resp-timeout | tx-expiry } action { continue [discard-traffic | local-fallback [without-retry] | retry-server-on-event | send-ccrt-on-call-termination | without-retry] | retry-and-terminate**

```
 [ max-transmissions | without-term-req ] | terminate [ without-term-req
 ] }
no msg-type { any | authentication info request | authorization-request
| check-identity-request | credit-control-initial |
credit-control-terminate | credit-control-update | eap-request |
eap-termination-request | notify-request | profile-update-request |
purge-ue-request | update-location-request | user-data-request }
failure-type { any | diabase-error | diameter result-code { any-error |
result-code [ to end-result-code ] } | diameter exp-result-code { any-error |
result-code [ to end-result-code ] } | resp-timeout | tx-expiry }
```

no

Removes the configuration associated with the failure handling template.

{ any | authentication info request | authorization-request | check-identity-request | credit-control-initial | credit-control-terminate | credit-control-update | eap-request | eap-termination-request | notify-request | profile-update-request | purge-ue-request | update-location-request | user-data-request }

Defines the failure handling behavior based on the failures in the following request messages:

- Any request
- Authentication-Information Request through S6a or S13 Diameter interface
- Authorization Request through PDIF-EAP, STa, S6b, or Wm interface
- Check-Identity-Information-Request through S6a or S13 interface
- Credit-Control-Initial-Request (CCR-I) through Gx, Gy or Ty interface
- Credit-Control-Terminate-Request (CCR-T) through Gx, Gy or Ty interface
- Credit-Control-Update-Request (CCR-U) through Gx, Gy or Ty interface
- EAP request through Cx, PDIF-EAP, STa, S6b, or Wm interface
- EAP Termination request through Cx, PDIF-EAP, STa, S6b, or Wm interface
- Notify-Request through S6a or S13 interface
- Profile-Update-Request through Sh interface
- Purge-UE-Request through S6a or S13 interface
- Update-Location-Request through S6a or S13 interface
- User-Data-Request through Sh interface

failure-type { any | diabase-error | diameter result-code { any-error | *result-code* [*to end-result-code*] } | diameter exp-result-code { any-error | *result-code* [*to end-result-code*] } | resp-timeout | tx-expiry }

Defines the failure handling behavior based on the different types of failure, for example, Diabase error or any error due to expiry of response timeout or Tx timer, etc.

result-code [to end-result-code]: result-code specifies the result code number, must be an integer from 3000 through 9999. end-result-code specifies the upper limit of a range of result codes. end-result-code must be greater than result-code.

action { continue [discard-traffic | local-fallback[without-retry] | retry-server-on-event | send-ccrt-on-call-termination | without-retry] | retry-and-terminate [max-transmissions *number-of-retries* | without-term-req] | terminate [without-term-req] }

Configures the action to be taken in the event of a communication failure with the server from one of the following:

- **continue** – In the event of a failure the user session continues. DCCA/Diameter will make periodic request and/or connection retry attempts and/or will attempt to communicate with a secondary peer depending on the peer configuration and session-binding setting.
  - **discard-traffic** – Continue the session but blocks/discards the data traffic.

    Use this command to specify the behavior in the event of a communication failure with the prepaid server. If there are different failure handling configurations present within the template for the same message type, the action is applied as per the latest error encountered.

    If previously configured, use the **no msg-type { credit-control-initial | credit-control-terminate | credit-control-update } failure-type any action continue discard-traffic** CLI command to remove the configuration associated with the failure handling template.

    The **discard-traffic** keyword takes effect when "continue" action is configured and Gy failure happens.

    This CLI option is disabled by default.
  - **local-fallback** – Continue the session with the PCC rules defined in the local policy.
    - **without-retry** – Continue the session without retrying the secondary PCRF server. By default, the message will be retried to secondary PCRF before falling back to the local policy.

      The **without-retry** keyword is introduced to support Overload Control on Diameter interfaces such as Gx, S6b and SWm and also to prevent network overload and outages. For more information on Diameter Overload Control feature, refer to the *AAA Interface Administration and Reference* guide.
  - **retry-server-on-event** – Reconnects to PCRF server on update and termination requests or re-authorization from server, for failure-handling CONTINUE sessions.

Important This option is valid only for credit-control-update request though it is allowed to configure for all the requests.

  - **send-ccrt-on-call-termination** – Sends CCR-T to PCRF on call termination for failure-handling CONTINUE.

Important This option is valid only for credit-control-update request though it is allowed to configure for all the requests.

- **without-retry** – Continue the session without retrying the secondary PCRF.

- **retry-and-terminate** – In the event of a failure the user session continues for the duration of one retry attempt with the server. If this retry attempt also fails, the session is terminated.
  - **max-transmissions** *number-of-retries*: Specifies the maximum number of retries to the server. The maximum server retries that can be configured is 5 and the default value for retries is 1. When max-retries are exhausted, session termination happens.

    CCR-U is retried for a maximum of number of retries configured in the failure handling template when experimental result code (4198 - DIAMETER_PENDING_TRANSACTION) is received from PCRF in CCA-U.

Important In releases prior to 17, CCR-U is retried for a maximum of number of times configured in the failure handling template when experimental result code with a proprietary value "4198 - DIAMETER_PENDING_TRANSACTION" is received from PCRF in CCA-U. In release 17 and later, support is added for Negotiation of Pending Transactions (PT) in initial session establishment, and the standards-defined experimental result code (4144) is used in CCA/RAA to advertise the support of the PT feature.

  - **without-term-req** – Terminate the session without sending the termination request (CCR-T).

- **terminate** – In the event of a failure the user session is terminated.
  - **without-term-req** – Terminate the session without sending the termination request (CCR-T).

Usage Guidelines

Use this command to specify the behavior in the event of a communication failure with the prepaid server. If there are different failure handling configurations present within the template for the same message type, the action is applied as per the latest error encountered.

Lookup is done first to identify if there is an exact match for **message-type** and **failure-type**. If not present, lookup is done for 'any' match for message and failure type.

That is, when there are multiple matches, it is preferred to find a match to a specifically configured value over a match to something configured with **any** or **any-error**. If there are multiple best matches, the one with a specifically configured **msg-type** over a match to **msg-type any** is preferred.

There are two levels of possible communication failure:

- The TCP connection failed
- DIAMETER routing failed to deliver a request or failed to receive a response.

The specified behavior is used for sessions when no behavior is specified by the server, such as by the CC-Failure-Handling AVP in DIAMETER messages. This command may be entered once for each type of message.

The following are the default action for Diameter result codes:

- For all protocol error codes 3000 to 3999, the default action is **terminate**. For all transient error codes 4000, 4001, 4004 to 4180, and 4182 to 4999, the default action is **continue**.
- For transient error codes 4002, 4003, and 4181, the default action is retry-and-**terminate**.

- For error code 4001, the default action is **terminate**.
- For permanent error codes 5000 to 5999, the default action is **terminate**.

Example

The following command configures to terminate the session when the Diameter application encounters a failure due to Diabase error in the Credit-Control Initial Request (CCR-I) message:

```
msg-type credit-control-initial failure-type diabase-error action terminate
```