gprs charging cdr-aggregation-limit

To specify the maximum number of call detail records (CDRs) that the GGSN aggregates in a charging data transfer message to a charging gateway, use the **gprs charging cdr-aggregation-limit** global configuration command. To restore the default value for this command (255 CDRs), use the **no** form of the command.

gprs charging cdr-aggregation-limit *CDR_limit*

no gprs charging cdr-aggregation-limit *CDR_limit*

Syntax Description

CDR_limit	An integer between 1 and 255 that specifies the number of CDRs that can be accumulated in a charging data transfer message. The default is 255 CDRs.

Defaults

255 CDRs

Command Modes

Global configuration

Command History

Release	Modification
12.1(1)GA	This command was introduced.
12.1(3)T	This command was integrated in Cisco IOS Release 12.1(3)T.

Usage Guidelines

Use the **gprs charging cdr-aggregation-limit** command to specify the maximum number of CDRs that can be accumulated in a charging data transfer message to a charging gateway connected to the GGSN.

When the aggregation limit is reached, the GGSN puts the CDRs into a message and immediately sends it to the charging gateway.

Examples

The following example specifies 128 CDRs:

```
gprs charging cdr-aggregation-limit 128
```

Related Commands

Command	Description
gprs charging container volume-threshold	Specifies the maximum number of bytes that the GGSN maintains in a user's charging container before closing the charging container and updating the CDR.
gprs charging packet-queue-size	Specifies the maximum number of unacknowledged charging data transfer requests that the GGSN maintains in its queue.
gprs charging transfer interval	Specifies the number of seconds that the GGSN waits before it transfers charging data to the charging gateway.

gprs charging cdr-option local-record-sequence-number

To enable the GGSN to use the local record sequence number field in G-CDRs, use the **gprs charging cdr-option local-record-sequence-number** global configuration command. To disable this feature, use the **no** form of the command**.**

gprs charging cdr-option local-record-sequence-number

no gprs charging cdr-option local-record-sequence-number

Syntax Description

This command has no arguments or keywords.

Defaults

Disabled

Command Modes

Global configuration

Command History

Release	Modification
12.1(1)GA	This command was introduced.
12.1(3)T	This command was integrated in Cisco IOS Release 12.1(3)T.

Usage Guidelines

Certain charging data systems use the local record sequence number field in CDRs to associate the partial records generated in the SGSN and GGSN with a particular PDP context. If the charging gateway implements this feature, use the **gprs charging cdr-option local-record-sequence-number** command to enable the feature on the GGSN.

Examples

The following example enables the GGSN to provide the local record sequence number field in G-CDRs:

```
gprs charging cdr-option local-record-sequence-number
```

Related Commands

Command	Description
gprs charging cdr-option node-id	Enables the GGSN to specify the node that generated the CDR in the node ID field in G-CDRs.
gprs charging cdr-option no-partial-cdr-generation	Disables the GGSN from creating partial G-CDRs.
gprs charging cdr-option packet-count	Enables the GGSN to provide uplink and downlink packet counts in the optional record extension field of G-CDRs.
gprs charging cdr-option served-msisdn	Enables the GGSN to provide the MSISDN number from the create PDP context request in G-CDRs.

gprs charging cdr-option node-id

To enable the GGSN to specify the node that generated the CDR in the node ID field in G-CDRs, use the **gprs charging cdr-option node-id** global configuration command. To disable this feature use the **no** form of the command.

gprs charging cdr-option node-id

no gprs charging cdr-option node-id

Syntax Description

This command has no arguments or keywords.

Defaults

Disabled

Command Modes

Global configuration

Command History

Release	Modification
12.1(1)GA	This command was introduced.
12.1(3)T	This command was integrated in Cisco IOS Release 12.1(3)T.

Usage Guidelines

Certain charging data systems use the node ID field in CDRs to identify the node that generated the CDR. If the charging gateway that your GGSN communicates with uses this feature, use the **gprs charging cdr-option node-id** command to enable the feature.

Examples

The following example enables the GGSN to use the node ID field in G-CDRs:

```
gprs charging cdr-option node-id
```

Related Commands

Command	Description
gprs charging cdr-option local-record-sequence-number	Enables the GGSN to use the local record sequence number field in G-CDRs.
gprs charging cdr-option no-partial-cdr-generation	Disables the GGSN from creating partial G-CDRs.
gprs charging cdr-option packet-count	Enables the GGSN to provide uplink and downlink packet counts in the optional record extension field of G-CDRs.
gprs charging cdr-option served-msisdn	Enables the GGSN to provide the MSISDN number from the create PDP context request in G-CDRs.

gprs charging cdr-option no-partial-cdr-generation

To disable the GGSN from creating partial CDRs, use the **gprs charging cdr-option no-partial-cdr-generation** global configuration command. To disable this feature use the **no** form of the command.

gprs charging cdr-option no-partial-cdr-generation

no gprs charging cdr-option no-partial-cdr-generation

Syntax Description

This command has no arguments or keywords.

Defaults

Non-primary partial CDR generation is enabled.

Command Modes

Global configuration

Command History

Release	Modification
12.1(5)T	This command was introduced.

Usage Guidelines

Use the **gprs charging cdr-option no-partial-cdr-generation** command when you want all of the fields in the primary G-CDR (both mandatory and optional fields) to be included in any subsequent G-CDRs (partial G-CDRs) for the same PDP context request.

The mandatory fields of a CDR identify its uniqueness and association with a particular PDP context. When you enable the **gprs charging cdr-option no-partial-cdr-generation** command, the GGSN creates any subsequent G-CDRs for the same PDP context request with the same fields in all G-CDRs and maintains sequence numbering.

To verify whether non-primary partial CDR creation is enabled or disabled on the GGSN, use the **show gprs charging parameters** command.

Examples

The following example disables non-primary partial CDRs on the GGSN:

```
gprs charging cdr-option no-partial-cdr-generation
```

Related Commands

Command	Description
gprs charging cdr-option local-record-sequence-number	Enables the GGSN to use the local record sequence number field in G-CDRs.
gprs charging cdr-option node-id	Enables the GGSN to specify the node that generated the CDR in the node ID field in G-CDRs.
gprs charging cdr-option packet-count	Enables the GGSN to provide uplink and downlink packet counts in the optional record extension field of G-CDRs.
gprs charging cdr-option served-msisdn	Enables the GGSN to provide the MSISDN number from the create PDP context request in G-CDRs.

gprs charging cdr-option packet-count

To enable the GGSN to provide uplink and downlink packet counts in the optional record extension field of a G-CDR, use the **gprs charging cdr-option packet-count** global configuration command. To disable this feature use the **no** form of the command.

gprs charging cdr-option packet-count

no gprs charging cdr-option packet-count

Syntax Description

This command has no arguments or keywords.

Defaults

Disabled

Command Modes

Global configuration

Command History

Release	Modification
12.1(5)T	This command was introduced.

Usage Guidelines

When you issue the **gprs charging cdr-option packet-count** command, then the GGSN provides a packet count in the optional record extension field for all uplink and downlink packets transferred since the CDR was opened and subsequently closed.

To verify whether the packet count CDR option is enabled or disabled on the GGSN, use the **show gprs charging parameters** command.

Examples

The following example enables uplink and downlink packet counts in CDRs on the GGSN:

```
gprs charging cdr-option packet-count
```

Related Commands

Command	Description
gprs charging cdr-option local-record-sequence-number	Enables the GGSN to use the local record sequence number field in G-CDRs.
gprs charging cdr-option node-id	Enables the GGSN to specify the node that generated the CDR in the node ID field in G-CDRs.
gprs charging cdr-option no-partial-cdr-generation	Disables the GGSN from creating partial G-CDRs.
gprs charging cdr-option served-msisdn	Enables the GGSN to provide the MSISDN number from the create PDP context request in G-CDRs.

gprs charging cdr-option served-msisdn

To enable the GGSN to provide the mobile station integrated services digital network (MSISDN) number from the create PDP context request in a G-CDR, use the **gprs charging cdr-option served-msisdn** global configuration command. To disable this feature use the **no** form of the command.

gprs charging cdr-option served-msisdn

no gprs charging cdr-option served-msisdn

Syntax Description

This command has no arguments or keywords.

Defaults

Disabled

Command Modes

Global configuration

Command History

Release	Modification
12.2(2)	This command was introduced.

Usage Guidelines

Use the **gprs charging cdr-option served-msisdn** command to enable the GGSN to provide the mobile station ISDN number from the create PDP context request in a G-CDR.

To verify whether the served MSISDN option is enabled or disabled on the GGSN, use the **show gprs charging parameters** command.

Examples

The following example enables the GGSN to provide the MSISDN number from the create PDP context request in G-CDRs:

```
gprs charging cdr-option served-msisdn
```

Related Commands

Command	Description
gprs charging cdr-option local-record-sequence-number	Enables the GGSN to use the local record sequence number field in G-CDRs.
gprs charging cdr-option node-id	Enables the GGSN to specify the node that generated the CDR in the node ID field in G-CDRs.
gprs charging cdr-option no-partial-cdr-generation	Disables the GGSN from creating partial G-CDRs.
gprs charging cdr-option packet-count	Enables the GGSN to provide uplink and downlink packet counts in the optional record extension field of G-CDRs.

gprs charging cg-path-requests

To specify the number of minutes that the GGSN waits before trying to establish the TCP path to the charging gateway when TCP is the specified path protocol, use the **gprs charging cg-path-requests** global configuration command. To restore the default value of 0 minutes and disable the timer, use the **no** form of the command.

gprs charging cg-path-requests *minutes*

no gprs charging cg-path-requests

Syntax Description

minutes	Number of minutes the GGSN waits before retrying a charging request. The default value is 0 minutes, which disables the timer.

Defaults

0 minutes

Command Modes

Global configuration

Command History

Release	Modification
12.1(1)GA	This command was introduced.
12.1(3)T	This command was integrated in Cisco IOS Release 12.1(3)T.

Usage Guidelines

Use the **gprs charging cg-path-requests** command to specify the number of minutes that the GGSN waits before trying to establish the TCP path to the charging gateway when TCP is the specified path protocol.

Examples

The following example specifies that the GGSN waits 5 minutes before trying to establish the TCP path to the charging gateway:

```
gprs charging cg-path-requests 5
```

gprs charging container volume-threshold

To specify the maximum number of bytes that the GGSN maintains across all containers for a particular PDP context before closing and updating the G-CDR, use the **gprs charging container volume-threshold** global configuration command. To restore the default value for the command (1 megabyte), use the **no** form of the command.

gprs charging container volume-threshold *threshold_value*

no gprs charging container volume-threshold *threshold_value*

Syntax Description

threshold_value	A value between 1 and 4294967295 that specifies the container threshold value, in bytes. The default is 1,048,576 bytes (1 MB).

Defaults

1,048,576 bytes (1 MB)

Command Modes

Global configuration

Command History

Release	Modification
12.1(1)GA	This command was introduced.
12.1(3)T	This command was integrated in Cisco IOS Release 12.1(3)T.

Usage Guidelines

While a PDP context (mobile session) is active, charging events are generated based on various actions. One way that users can be charged is based on the amount of data transmitted between the PDN and the mobile station. Data volume is recorded in each of the containers of a G-CDR record. Service providers can use this recorded data volume to bill users by volume usage.

Use the **gprs charging container volume-threshold** command to control the maximum amount of data volume that can be reported in each G-CDR from an active PDP context before the G-CDR is eligible for an update to the charging gateway for subsequent billing. The GGSN opens another partial G-CDR for that PDP context while it remains in session on the GGSN.

For example, consider that a volume threshold setting of 1 MB is configured on the GGSN. The GGSN opens a container in a G-CDR for a new PDP context. A trigger occurs for the PDP context, and at that time the GGSN has registered transmission of 500 KB of data for the PDP context. The trigger causes the GGSN to close the container for the PDP context, which has occurred before the volume limit is reached (500 KB of data transmitted, and 1 MB allowed).

As transmission for the PDP context continues, the GGSN opens a new container in the G-CDR. The GGSN now has up to 500 KB more data that can be processed for that PDP context before reaching the volume threshold limit for the G-CDR. When the volume threshold is reached across all containers for the PDP context (that is, the sum of all of the byte counts across all containers for the PDP context reaches 1 MB), the GGSN closes the G-CDR with a volume limit cause so that the G-CDR can be sent to the charging gateway. The GGSN opens another partial G-CDR for the PDP context while it remains in session.

Examples

The following example specifies a threshold value of 2097152:

```
gprs charging container volume-threshold 2097152
```

Related Commands

Command	Description
show gprs charging parameters	Displays information about the current GPRS charging configuration.

gprs charging disable

To disable charging transactions on the GGSN, use the **gprs charging disable** global configuration command. To enable charging transactions, use the **no** form of the command.

gprs charging disable

no gprs charging disable

Syntax Description

This command has no arguments or keywords.

Defaults

Charging is enabled.

Command Modes

Global configuration

Command History

Release	Modification
12.1(1)GA	This command was introduced.
12.1(3)T	This command was integrated in Cisco IOS Release 12.1(3)T.

Usage Guidelines

Use the **gprs charging disable** command to disable charging. By default, charging processing is enabled on the GGSN.

Before the GGSN can disable charging, any currently open CDRs must be cleared. To clear any open CDRs, use the **clear gprs charging cdr** command.

If you disable charging on the GGSN using the **gprs charging disable** command, then you can re-enable charging using the **no gprs charging disable** command.

Caution The **gprs charging disable** command removes charging data processing on the GGSN, which means that the data required to bill customers for network usage is not being collected by the GGSN nor sent to the charging gateway. Cisco Systems recommends that you avoid using this command in production GPRS network environments. If you must configure this command, use it with extreme care and reserve its usage only for non-production network conditions.

The **gprs charging disable** command is a hidden command in the Cisco IOS software and does not appear when querying the command line interface help using "?".

Examples

The following example disables GPRS charging processing:

```
gprs charging disable
```

gprs charging flow-control private-echo

To implement an echo request with private extensions for maintaining flow control on packets transmitted to the charging gateway, use the **gprs charging flow-control private-echo** global configuration command. To disable private extensions for flow control, use the **no** form of the command.

gprs charging flow-control private-echo

no gprs charging flow-control private-echo

Syntax Description

This command has no arguments or keywords.

Defaults

Private flow control is disabled.

Command Modes

Global configuration

Command History

Release	Modification
12.1(1)GA	This command was introduced.
12.1(3)T	This command was integrated in Cisco IOS Release 12.1(3)T.

Usage Guidelines

If the charging gateway that the GGSN communicates with implements a proprietary private extension to the echo signal that maintains flow control, use the **gprs charging flow-control private-echo** command to enable private echo signaling. If your charging gateway does not implement this feature, disable the feature.

Examples

The following example enables an echo request:

```
gprs charging flow-control private-echo
```

Related Commands

Command	Description
gprs charging container volume-threshold	Specifies the maximum number of bytes that the GGSN maintains in a user's charging container before closing the charging container and updating the CDR.
gprs charging map data tos	Specifies an IP ToS mapping for GPRS charging packets.
gprs charging packet-queue-size	Specifies the maximum number of unacknowledged charging data transfer requests that the GGSN maintains in its queue.
gprs charging path-protocol	Specifies the protocol that the GGSN uses to transmit and receive charging data.
gprs charging server-switch-timer	Specifies a timeout value that determines when the GGSN attempts to find an alternate charging gateway after a destination charging gateway cannot be located or becomes unusable.

Command	Description
gprs charging tariff-time	Specifies a time of day when GPRS charging tariffs change.
gprs charging transfer interval	Specifies the number of seconds that the GGSN waits before it transfers charging data to the charging gateway.

gprs charging map data tos

To specify an IP ToS mapping for GPRS charging packets, use the **gprs charging map data tos** global configuration command. To restore the default value for the command (3) use the **no** form of the command.

gprs charging map data tos *tos_value*

no gprs charging map data tos *tos_value*

Syntax Description

tos_value	Specifies a ToS mapping value between 0 and 5. A higher number indicates a higher service priority. The default value is 3.

Defaults

ToS mapping value 3.

Command Modes

Global configuration

Command History

Release	Modification
12.1(1)GA	This command was introduced.
12.1(3)T	This command was integrated in Cisco IOS Release 12.1(3)T.

Usage Guidelines

Use the **gprs charging map data tos** command to specify a value for the ToS precedence bits in the IP header for charging packets transmitted by the GGSN.

Examples

The following example shows type of service mapping value of 5:

```
gprs charging map data tos 5
```

Related Commands

Command	Description
gprs charging container volume-threshold	Specifies the maximum number of bytes that the GGSN maintains in a user's charging container before closing the charging container and updating the CDR.
gprs charging flow-control private-echo	Implements an echo request with private extensions for maintaining flow control on packets transmitted to the charging gateway.
gprs charging packet-queue-size	Specifies the maximum number of unacknowledged charging data transfer requests that the GGSN maintains in its queue.
gprs charging path-protocol	Specifies the protocol that the GGSN uses to transmit and receive charging data.

Command	Description
gprs charging server-switch-timer	Specifies a timeout value that determines when the GGSN attempts to find an alternate charging gateway after a destination charging gateway cannot be located or becomes unusable.
gprs charging tariff-time	Specifies a time of day when GPRS charging tariffs change.
gprs charging transfer interval	Specifies the number of seconds that the GGSN waits before it transfers charging data to the charging gateway.

gprs charging packet-queue-size

To specify the maximum number of unacknowledged charging data transfer requests that the GGSN maintains in its queue, use the **gprs charging packet-queue-size** global configuration command. To restore the default value for this command, use the **no** form of the command.

gprs charging packet-queue-size *queue_size*

no gprs charging packet-queue-size *queue_size*

Syntax Description

queue_size	Value between 1 and 512 that specifies the maximum queue size for the GGSN charging packet data queue. The default is 128 packets.

Defaults

128 packets

Command Modes

Global configuration

Command History

Release	Modification
12.1(1)GA	This command was introduced.
12.1(3)T	This command was integrated in Cisco IOS Release 12.1(3)T.

Usage Guidelines

Use the **gprs charging packet-queue-size** command to specify the maximum size of the GGSN queue of outstanding charging data transfer requests. This queue stores all unacknowledged charging data requests.

When the charging packet queue reaches the specified size, the GGSN stops queuing charging packets until a packet is cleared from the queue and stores new charging packets in memory.

If monitoring of the performance of the charging gateway indicates that it is processing charging packets slowly, you can increase the size of the charging packet queue. Conversely, if the performance of the charging gateway is fast, you can decrease the size of the charging packet queue.

Examples

The following example specifies a GGSN queue of 512 charging data transfer requests:

```
gprs charging packet-queue-size 512
```

Related Commands

Command	Description
gprs charging container volume-threshold	Specifies the maximum number of bytes that the GGSN maintains in a user's charging container before closing the charging container and updating the CDR.
gprs charging flow-control private-echo	Implements an echo request with private extensions for maintaining flow control on packets transmitted to the charging gateway.
gprs charging server-switch-timer	Specifies a timeout value that determines when the GGSN attempts to find an alternate charging gateway after a destination charging gateway cannot be located or becomes unusable.
gprs charging tariff-time	Specifies a time of day when GPRS charging tariffs change.
gprs charging transfer interval	Specifies the number of seconds that the GGSN waits before it transfers charging data to the charging gateway.

gprs charging path-protocol

To specify the protocol that the GGSN uses to transmit and receive charging data, use the **gprs charging path-protocol** global configuration command. To restore the default value for the command (UDP), use the **no** form of the command.

gprs charging path-protocol {**udp** | **tcp**}

no gprs charging path-protocol {**udp** | **tcp**}

Syntax Description

udp	User Datagram Protocol, which is a connectionless transport protocol.
tcp	Transport Control Protocol, which is a connection-based transport protocol.

Defaults

UDP

Command Modes

Global configuration

Command History

Release	Modification
12.1(1)GA	This command was introduced.
12.1(3)T	This command was integrated in Cisco IOS Release 12.1(3)T.

Usage Guidelines

Use the **gprs charging path-protocol** command to specify the protocol used by the GGSN to transfer charging data.

Examples

The following example shows a UDP protocol:

```
gprs charging path-protocol udp
```

Related Commands

Command	Description
gprs charging container volume-threshold	Specifies the maximum number of bytes that the GGSN maintains in a user's charging container before closing the charging container and updating the CDR.
gprs charging flow-control private-echo	Implements an echo request with private extensions for maintaining flow control on packets transmitted to the charging gateway.
gprs charging packet-queue-size	Specifies the maximum number of unacknowledged charging data transfer requests that the GGSN maintains in its queue.
gprs charging server-switch-timer	Specifies a timeout value that determines when the GGSN attempts to find an alternate charging gateway after a destination charging gateway cannot be located or becomes unusable.

Command	Description
gprs charging tariff-time	Specifies a time of day when GPRS charging tariffs change.
gprs charging transfer interval	Specifies the number of seconds that the GGSN waits before it transfers charging data to the charging gateway.

gprs charging server-switch-timer

To specify a timeout value that determines when the GGSN attempts to find an alternate charging gateway after a destination charging gateway cannot be located or becomes unusable, use the **gprs charging server-switch-timer** global configuration command. To restore the default value for this command (60 seconds), use the **no** form of the command.

gprs charging server-switch-timer *seconds*

no gprs charging server-switch-timer *seconds*

Syntax Description

seconds	Timeout value (between 0 and 300 seconds), that the GGSN waits before attempting to contact an alternate charging gateway. The default value is 60 seconds.

Defaults

60 seconds

Command Modes

Global configuration

Command History

Release	Modification
12.1(1)GA	This command was introduced.
12.1(3)T	This command was integrated in Cisco IOS Release 12.1(3)T.

Usage Guidelines

Use the **gprs charging server-switch-timer** command to specify a timeout value that determines when the GGSN contacts an alternate charging gateway when the current charging gateway becomes unusable or cannot be located.

To specify that the switch-over to an alternate charging gateway takes place immediately, specify a value of 0.

Examples

The following example configures a time-out value of 30 seconds:

```
gprs charging server-switch-timer 30
```

gprs charging tariff-time

To specify a time of day when GPRS charging tariffs change, use the **gprs charging tariff-time** global configuration command. To delete an existing tariff time, use the **no** form of the command. You can set up a maximum of 32 tariff change times.

gprs charging tariff-time *time*

no gprs charging tariff-time *time*

Syntax Description

time	A time of day when the charging tariff changes. Specify the time format as hh:mm:ss.

Defaults

No default behavior or values.

Command Modes

Global configuration

Command History

Release	Modification
12.1(1)GA	This command was introduced.
12.1(3)T	This command was integrated in Cisco IOS Release 12.1(3)T.

Usage Guidelines

Use the **gprs charging tariff-time** command to specify up to 32 times when the charging tariff for using GPRS will change. When the tariff time changes, a container is attached to the CDR for the user.

Examples

The following example specifies 14:30:00 as the time when the charging tariff changes:

```
gprs charging tariff-time 14:30:00
```

gprs charging transfer interval

To specify the number of seconds that the GGSN waits before it transfers charging data to the charging gateway, use the **gprs charging transfer interval** global configuration command. To restore the default setting for the transfer interval, use the **no** form of the command.

gprs charging transfer interval *seconds*

no gprs charging transfer interval

Syntax Description

seconds	Interval between charging transfers, in seconds. Can be a value between 1 and 4294967295 seconds. The default is 105 seconds.

Defaults

105 seconds

Command Modes

Global configuration

Command History

Release	Modification
12.1(1)GA	This command was introduced.
12.1(3)T	This command was integrated in Cisco IOS Release 12.1(3)T.

Usage Guidelines

Use the **gprs charging transfer interval** command to specify how often the GGSN transfers charging data for a given PDP context (mobile session) to a charging gateway.

Examples

The following example specifies an interval of 512 seconds:

```
gprs charging transfer interval 512
```

Related Commands

Command	Description
gprs charging container volume-threshold	Specifies the maximum number of bytes that the GGSN maintains in a user's charging container before closing the charging container and updating the CDR.
gprs charging flow-control private-echo	Implements an echo request with private extensions for maintaining flow control on packets transmitted to the charging gateway.
gprs charging packet-queue-size	Specifies the maximum number of unacknowledged charging data transfer requests that the GGSN maintains in its queue.

Command	Description
gprs charging server-switch-timer	Specifies a timeout value that determines when the GGSN attempts to find an alternate charging gateway after a destination charging gateway cannot be located or becomes unusable.
gprs charging tariff-time	Specifies a time of day when GPRS charging tariffs change.

gprs default charging-gateway

To specify the default charging gateway, use the **gprs default charging gateway** global configuration command. To delete the charging gateways, use the **no** form of the command.

gprs default charging-gateway {*ip-address* | *name*} [{*ip-address* | *name*}]

no gprs default charging-gateway {*ip-address* | *name*} [{*ip-address* | *name*}]

Syntax Description

ip-address	IP address of a default gateway.
name	Host name for a default gateway.

Defaults

No default charging gateway is assigned.

Command Modes

Global configuration

Command History

Release	Modification
12.1(1)GA	This command was introduced.
12.1(3)T	This command was integrated in Cisco IOS Release 12.1(3)T.

Usage Guidelines

Use the **gprs default charging-gateway** command to specify the IP address or host name of a default charging gateway that the GGSN uses to communicate charging information. If you specify two gateways, then the first gateway is the primary gateway, and the second gateway is the backup.

Examples

The following example specifies two default charging gateway IP addresses:

```
gprs default charging-gateway 99.100.0.3 99.100.0.2
```

Related Commands

Command	Description
gprs charging container volume-threshold	Specifies the maximum number of bytes that the GGSN maintains in a user's charging container before closing the charging container and updating the CDR.
gprs charging flow-control private-echo	Implements an echo request with private extensions for maintaining flow control on packets transmitted to the charging gateway.
gprs charging packet-queue-size	Specifies the maximum number of unacknowledged charging data transfer requests that the GGSN maintains in its queue.
gprs charging server-switch-timer	Specifies a timeout value that determines when the GGSN attempts to find an alternate charging gateway after a destination charging gateway cannot be located or becomes unusable.

Command	Description
gprs charging tariff-time	Specifies a time of day when GPRS charging tariffs change.
gprs charging transfer interval	Specifies the number of seconds that the GGSN waits before it transfers charging data to the charging gateway.

gprs default dhcp-server

To specify a default Dynamic Host Configuration Protocol (DHCP) server from which the GGSN obtains IP address leases for mobile users, use the **gprs default dhcp-server** global configuration command. To delete the default DHCP server, use the **no** form of the command.

gprs default dhcp-server {*ip-address* | *name*} [{*ip-address* | *name*}]

no gprs default dhcp-server {*ip-address* | *name*} [{*ip-address* | *name*}]

Syntax Description

ip-address	IP address of a DHCP server. The first IP address is the name of the primary DHCP server. The second (optional) *ip_address* argument specifies the IP address of a backup DHCP server.
name	Host name of a DHCP server. The second (optional) *name* argument specifies the host name of a backup DHCP server.

Defaults

No default behavior or values.

Command Modes

Global configuration

Command History

Release	Modification
12.1(1)GA	This command was introduced.
12.1(3)T	This command was integrated in Cisco IOS Release 12.1(3)T.

Usage Guidelines

Use the **gprs default dhcp-server** command to specify a DHCP server from which the GGSN obtains IP address leases for mobile users.

In addition to specifying a DHCP server for the GGSN, you must perform the following tasks:

- Specify DHCP as the method for assigning proxy IP addresses using the **ip address-pool** global configuration command or the **gprs default ip-address-pool** global configuration command.
- Specify one or more DHCP servers for the entire router using the **ip dhcp-server** global configuration command.

Use the optional second set of arguments to specify the name, or IP address, of a backup DHCP server to use if the primary DHCP server is unavailable. If you do not specify a backup DHCP server, then no backup DHCP server is available.

If you specify a default DHCP server at the global configuration level, then for individual access points, you have two options:

- Specify a DHCP server for individual access points using the **dhcp-server** access-point configuration command. In this case, the DHCP server that you specify for the individual access point is used for dynamic address allocation.
- If you do not specify a DHCP server for a specified access point, then the DHCP server specified with the **gprs default dhcp-server** command is used for that access point.

Examples

```
ip address-pool dhcp-proxy-client
ip dhcp-server 60.0.0.1
ip dhcp-server 101.100.0.3
ip dhcp-server 102.100.0.3
ip dhcp excluded address 60.0.0.1
gprs default ip-address-pool dhcp-proxy-client
gprs default dhcp-server 101.100.0.3

interface virtual-template 1
 ip address 15.10.10.1 255.255.255.0
 no ip directed-broadcast
 encapsulation gtp
 gprs access-point-list abc
!

gprs access-point-list abc
 access-point 1
  access-point-name gprs.everywhere.com
  dhcp-server 101.100.0.3
  ip-access-group 101 in
  exit
!
 access-point 2
  access-point-name xyz.com
  dhcp-server 60.0.0.1
  dhcp-gateway-address 60.0.0.1
  exit
!
 access-point 3
  access-point-name www.my_isp.com
  access-mode non-transparent
  exit
```

Related Commands

Command	Description
dhcp-server	Specifies a primary (and backup) DHCP server to allocate IP addresses to MS users entering a particular PDN access point.
gprs default ip-address-pool	Specifies a dynamic address allocation method using IP address pools for the GGSN.

gprs default ip-address-pool

To specify a dynamic address allocation method using IP address pools for the GGSN, use the **gprs default ip-address-pool** global configuration command. To disable the address allocation method, use the **no** form of the command.

gprs default ip-address-pool {**dhcp-proxy-client** | **disable** | **radius-client**}

no gprs default ip-address-pool {**dhcp-proxy-client** | **disable** | **radius-client**}

Syntax Description

dhcp-proxy-client	GGSN dynamically acquires IP addresses for an MS from a DHCP server.
disable	Disables dynamic address allocation by the GGSN.
radius-client	GGSN dynamically acquires IP addresses for an MS from a RADIUS server.

Defaults

IP address pools are disabled.

Command Modes

Global configuration

Command History

Release	Modification
12.1(1)GA	This command was introduced.
12.1(3)T	This command was integrated in Cisco IOS Release 12.1(3)T.

Usage Guidelines

Use the **gprs default ip-address-pool** command to specify the method by which the GGSN obtains address leases for mobile sessions.

If you specify **dhcp-proxy-client** for the GPRS default IP address pool, then you must use the **gprs default dhcp-server** command, or the access-point mode **dhcp-server** command, to specify a DHCP server for address allocation. You should also configure the router to use DHCP using the **ip dhcp-server dhcp-proxy-client** command.

If you specify **radius-client** as the method for IP address allocation, then you must use the **gprs default radius-server** command or the access-point mode **radius-server** command to specify a RADIUS server to provide the address pool. You also need to configure AAA on the router.

To disable the selected IP address allocation method, use the **no** form of the command or issue the command with the **disable** keyword (the default form of the command).

Examples

The following example specifies a dhcp-proxy-client dynamic address allocation method for the GGSN:

```
gprs default ip-address-pool dhcp-proxy-client
```

Related Commands

Command	Description
dhcp-server	Specifies a primary (and backup) DHCP server to allocate IP addresses to MS users entering a particular PDN access point.
gprs default dhcp-server	Specifies a default DHCP server from which the GGSN obtains IP address leases for mobile users.
gprs default radius-server	Specifies a primary (and backup) RADIUS server that the GGSN uses to authenticate mobile users for access to PDNs.
radius-server	Specifies a primary (and backup) RADIUS server that the GGSN uses at a particular access point to authenticate mobile users for access to a PDN.

gprs default radius-server

To specify a primary (and backup) RADIUS server that the GGSN uses to authenticate mobile users for access to PDNs, use the **gprs default radius-server** global configuration command. To delete the RADIUS server identification, use the **no** form of the command.

gprs default radius-server {*ip-address* | *name*} [{*ip-address* | *name*}]

no gprs default radius-server {*ip-address* | *name*} [{*ip-address* | *name*}]

Syntax Description

ip-address	IP address of a RADIUS server. The first IP address is the name of the primary RADIUS server. The second (optional) *ip_address* argument specifies the IP address of a backup RADIUS server.
name	Host name of a RADIUS server. The second (optional) *name* argument specifies the host name of a backup RADIUS server.

Defaults

No default RADIUS server is used.

Command Modes

Global configuration

Command History

Release	Modification
12.1(1)GA	This command was introduced.
12.1(3)T	This command was integrated in Cisco IOS Release 12.1(3)T.

Usage Guidelines

Use the **gprs default radius-server** command to specify a RADIUS server that the GGSN uses to authenticate remote users for access to the PDN. If you have specified **radius-client** as the IP address allocation method using the **gprs default ip-address-pool** command, then you must specify a RADIUS server using the **gprs default radius-server** global configuration command or **radius-server** access-point configuration command.

Use the optional second set of arguments to specify the name, or IP address, of a backup RADIUS server to use in the event that the primary RADIUS server is unavailable. If you do not specify a backup RADIUS server, then a backup is not available if the primary server fails.

If you specify a default RADIUS server at the global configuration level, then for individual access points, you have two options:

- Specify a RADIUS server for individual access points using the **radius-server** command. In this case, the specified RADIUS server for the individual access point is used for dynamic address allocation.
- If you do not specify a RADIUS server for a specified access point, then the RADIUS server specified with the **gprs default radius-server** command is used for that access point.

Examples

The following example sets up three access points. For the first two access points (access-points 1 and 2) the RADIUS server specified at the global configuration level using the **gprs default radius-server** command is used. For access-point 3, a separate RADIUS server is specified using the **radius-server** command.

```
aaa new-model
aaa authentication ppp default radius
aaa authorization network default radius

radius-server host 100.10.10.1 auth-port 1645 acct-port 1646
radius-server host 101.11.11.1 auth-port 1645 acct-port 1646

radius-server key mykey

gprs default ip-address-pool radius-client
gprs default radius-server 100.10.10.1
!
! Virtual Template configuration
interface virtual-template 0
  ip address 100.10.10.1 255.255.255.0
  no ip directed-broadcast
  encapsulation gtp
  gprs access-point-list abc
!
!
! Access point list configuration
gprs access-point-list abc
 access-point 1
  access-point-name gprs.somewhere.com
  exit
!
 access-point 2
  access-point-name xyz.com
  exit
!
 access-point 3
  access-point-name www.gprs_alcatel.fr
  access-mode non-transparent
  radius-server 101.11.11.1
  exit
```

Related Commands

Command	Description
gprs default ip-address-pool	Specifies a dynamic address allocation method using IP address pools for the GGSN.
radius-server	Specifies a primary (and backup) RADIUS server that the GGSN uses at a particular access point to authenticate mobile users for access to a PDN.