

Configuring Pilot Packet

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Feature Summary and Revision History

Summary Data

Applicable Product(s) or Functional Area	• GGSN • P-GW
Applicable Platform(s)	• ASR 5500 • VPC-DI • VPC-SI
Feature Default	Disabled - Configuration Required
Related Changes in This Release	Not Applicable
Related Documentation	• *Command Line Interface Reference* • *P-GW Administration Guide* • *GGSN Administration Guide*

Revision History

Revision Details	Release
P-GW is enhanced to support inclusion of APN Name and Virtual APN Name as optional TLV attributes in pilot packets generated for subscriber session events. With this enhancement, external systems can perform	2026.01.0

Revision Details	Release
more granular tracking, apply context-specific policies, and generate APN-level reports based on pilot packet data. The feature is configurable per context and applies to all pilot packet triggers.	
P-GW is enhanced to support an increase in Pilot Packet server configuration to eight servers.	2025.04.0
First introduced.	21.11

Feature Description

The Pilot Packet feature provides key information about a subscriber session, such as subscriber identity and subscriber IP address, to an external element. When the subscriber allocates or deallocates IP address during an event trigger, a “pilot” packet is generated. Using this information new service such as Subscriber Analytics are enabled and sent in UDP transport.

Pilot Packet consists of the following information in the form of Type Length Values (TLVs):

- Allocation/De-allocation Flag
- Access Point Name (APN)
- MSISDN (MDN)
- IMSI
- Allocated Address-IPv4
- Allocated Address-IPv6-Address
- Allocated NAT IPv4 Address
- NAT Address Port Chunk Start
- NAT Address Port Chunk Size
- Serving Network Identifier
- Foreign Agent IP Address
- NAI
- RAT Type
- Virtual APN Name (vAPN)

The operator enables the network element with Pilot packet to gain and report enterprise-level information through the Flexible-Services-Container TLV on SGi interface.

Flexible-Services-Container consists of the following enterprise-level information:

- Enterprise Customer Profile Database Identification (ECPD ID)
- Account Number

For example: ECPD ID = 3458312; Account Number = 0442058164-00001

Notes

Following are the important notes:

- P-GW adds new TLV to the Pilot packet for subscribers, only if configured through CLI and received on S6b in AAA message.
- P-GW ignores Flexible-Services-Container received in the Re-Auth procedure.
- The contents and interpretation of the enterprise information (ECPD ID and Account Number) is not required for P-GW or GGSN services. The data is not parsed by P-GW or GGSN and passed transparently in Pilot packet.

In Pilot packet configuration, the operators can configure a maximum of eight pilot packet servers. Gateways can send pilot packets to up to eight IPv4 destination servers.

Note Operators cannot configure IPv6 address as pilot packet servers.

Configuring Pilot Packet Server

You can configure up to eight pilot packet servers for an APN under context configuration mode. Use these configuration commands to configure a pilot packet server.

```
configure
   context context_name
      [ no ] pilot-packet namename source-ip-address ip_address
destination-ip-address ip_address
     destination-udp-port port_number dscp-marking dscp_value
   end
```

NOTES:

- **no**: Disables the usage of Pilot packets.
- **pilot-packet**: Configures the Pilot packet.
- **name** : Configures Pilot packet server name.
- **source-ip-address** *ip_address*: Configures source ip address for sending Pilot packets.
- **destination-ip-address** *ip_address* : Configures source ip address for sending Pilot packets.
- **destination-udp-port** *port_number* : Configures destination UDP port number for sending Pilot packets.
- **dscp-marking** *dscp_value* : Configures DSCP value for Pilot packets.

Sample configuration

This is an example configuration.

```
[local]laas-setup# configure
[local]laas-setup(config)# context ISP1
[ISP1]laas-setup(config-ctx)# pilot-packet name SRV_01 source-ip-address xxx.xxx.xxx.1
destination-ip-address xxx.xxx.xxx.2 destination-udp-port 00000
…
…
 [ISP1]laas-setup(config-ctx)# pilot-packet name SRV_08 source-ip-address xxx.xxx.xxx.1
destination-ip-address   xxx.xxx.xxx.2 destination-udp-port 32000
[ISP1]laas-setup(config-ctx)# end
[local]laas-setup#
[ISP1]laas-setup(config-ctx)# no pilot-packet name SRV_01
[ISP1]laas-setup(config-ctx)# end
```

Configuring Pilot Packet attributes

To configure Pilot Packets containing key information about a subscriber session to third-party network elements, use the following configuration:

```
configure
   context context_name
     pilot-packet { attribute { foreign-agent-ip-address | nai | rat-type
 | serving-nw-id | flexible-services-container | apn-name |
virtual-apn-name } | name server_name source-ip-address source_ip_address
 | trigger rat-change generate { nat-info-only | user-info-and-nat-info
| user-info-only } }
     default pilot-packet { attribute { foreign-agent-ip-address | nai |
 rat-type | serving-nw-id | flexible-services-container } | trigger
rat-change }
     no pilot-packet { attribute { foreign-agent-ip-address | nai |
rat-type | serving-nw-id | flexible-services-container | apn-name |
virtual-apn-name } | name server_name | trigger rat-change }
     end
```

NOTES:

- **pilot-packet { attribute apn-name}**: Includes the Access Point Name (APN) in the pilot packets.
- **pilot-packet { attribute virtual-apn-name}**: Includes the Virtual Access Point Name (VAPN) in the pilot packets.
- **pilot-packet { attribute flexible-services-container}**: Sends the optional flexible-services-container in Pilot packets.
- **default pilot-packet { attribute flexible-services-container }**: Does not send the optional flexible-services -container in Pilot packets.
- **no pilot-packet { attribute flexible-services-container }**: Disables flexible services container information in Pilot packets.

Verifying the Configuration

Use the following commands to verify the Pilot packets configuration.

- **show configuration**

- **show configuration verbose**

show configuration

The output of this command includes the following field.

Table 1: show config Command Output Description

Field	Description
apn-name	Specifies the Access Point Name (APN) for the user session.
flexible-services-container	Indicates that an optional TLV Flexible Services Container is sent in Pilot packets.
virtual-apn-name	Specifies a logical or alias APN used for session handling.

The **show config verbose** command also includes similar field output.