



# Source Port Randomization on VPP for GTP-U Traffic

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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>• VPC-DI</li></ul>
Feature Default	Disabled - License Required
Related Changes in This Release	Not Applicable
Related Documentation	<i>Command Line Interface Reference</i>

Revision Details	Release
First introduced.	21.22

## Feature Description

Some Routers and switches in the core network balances packet load that crosses multiple links in LAG or ECMP by calculating a hash value based on packet header fields. To have a better load balance of traffic on core network fabric, it is essential to support randomized GTP-U source port functionality on the VPP-enabled ASR 5500 platform.

On the S5/S8 interface, the GTP header encapsulates the downlink user traffic with same destination/source IP address, destination/source port, and subscriber TEID. If there are incoming packets of 5 Gbps or higher single UE throughput traffic, the GTP-U traffic's IP addresses, ports, and TEID are all the same. GTP-U header fields hash polarization leads to uneven load distribution among LAG and ECMP member links and causes packets drop.

For the Downlink Traffic, the VPP does source port randomization based on the inner packet flow. The source port of the outer header (GTP-U packet) is randomized on the S5/S8 interface.

To enable randomized GTP-U source port, in the GTP-U Service Configuration Mode, the **source-port non-standard** CLI command is added. The port range supported is 32768–33791.




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**Note** P-GW uses GTP-U interheader to do hashing for load balance and distributes the load evenly to all LAG/interfaces.

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## Enabling Source Port Randomization for GTP-U Traffic

Use the following configuration command to enable source port randomization.

```
configure
  context context_name
    gtpu-service service_name
      source-port non-standard
  end
```

### NOTES:

- **source-port non-standard**: Configures randomized non-standard source port downlink to GTP-U data packets.

## Verifying GTP-U Source Port Randomization

**show gtpu-service name**

The **show gtpu-service name** *gtpu\_service\_name* CLI command now includes the value for the **GTPU Source-port non-standard** value.