

Troubleshoot IP Chunk Loss in UPF after RCM-Triggered Switchover

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Introduction

This document describes troubleshooting the User Plane Function (UPF) upgrade after the Redundancy Configuration Manager (RCM) switchover.

Problem

Step 1: In the Active UPF (RCM-based), instances of missing chunks are observed:

```
<#root>
```

```
[local]UPF#
```

```
context n6
```

```
[n6]UPF#
```

```
show ipv6 chunks
```

Failure: This CLI is only for User-plane

 **Note:** Always check for [DIMM/ECC/UEC/ADDDC errors](#) on source and target UCS servers that are hosting UPFs and take RCM tac debug/

Step 2: On the Active UPF, in cases where chunks are missing, monitor SNMP trap events for the transition of UPF state from Standby to Active.

```
<#root>
```

```
[n6]UPF#
```

```
show snmp trap history verbose | grep RCM
```

```
Tuesday November 14 21:16:45 UTC 2023
```

```
Mon Oct 13 08:24:42 2023 Internal trap notification 1426 (RCMChassisState) RCM Chassis State: (0) Chassis
```

```
Mon Oct 13 08:24:49 2023 Internal trap notification 1414 (RCMServiceStart) Context Name:rcm Service Name:
```

```
Mon Oct 13 08:25:04 2023 Internal trap notification 1425 (RCMTCPCConnect) Context Name: rcm
```

```

Mon Oct 13 08:25:04 2023 Internal trap notification 1421 (RCMConfigPushCompleteSent) Context Name: rcm
Mon Oct 13 08:25:04 2023 Internal trap notification 1426 (RCMChassisState) RCM Chassis State: (2) Chass
Mon Oct 13 08:33:47 2023 Internal trap notification 1420 (RCMConfigPushCompleteReceived) Context Name:
Mon Oct 13 08:33:47 2023 Internal trap notification 1421 (RCMConfigPushCompleteSent) Context Name: rcm
Mon Oct 13 08:48:10 2023 Internal trap notification 1421 (RCMConfigPushCompleteSent) Context Name: rcm
Mon Oct 13 08:48:10 2023 Internal trap notification 1420 (RCMConfigPushCompleteReceived) Context Name:
Mon Oct 13 08:48:12 2023 Internal trap notification 1426 (RCMChassisState) RCM Chassis State: (1) Chass

```

Step 3: On the Active UPF, when encountering missing chunks, examine the syslog for log events indicating the cessation of the rest(5) sx-demux services in the corresponding Redundancy Group (RG-1), while the Standby UPF transitions to the active state.

```

Oct 13 08:48:11 UPF evlogd: [local-60sec11.091] [sessctrl 8066 info] [1/0/9050 <sessctrl:0> ctrl_mgrs_c
Oct 13 08:48:11 UPF evlogd: [local-60sec11.483] [sessctrl 8066 info] [1/0/9050 <sessctrl:0> ctrl_mgrs_c
Oct 13 08:48:11 UPF evlogd: [local-60sec11.582] [sessctrl 8066 info] [1/0/9050 <sessctrl:0> ctrl_mgrs_c
Oct 13 08:48:11 UPF evlogd: [local-60sec11.726] [sessctrl 8066 info] [1/0/9050 <sessctrl:0> ctrl_mgrs_c
Oct 13 08:48:18 UPF evlogd: [local-60sec18.749] [sessctrl 8066 info] [1/0/9050 <sessctrl:0> ctrl_mgrs_c

```

Step 4: On the Active UPF with missing chunks, enable debug mode (cli test-commands password <password>) and execute the command to monitor Sx DeReg transactions that align with the UPF active period.

```
<#root>
```

```
[n6]UPF#
```

```
show ip pool vpn-sx-transactions
```

```

Context: n6
Sx transactions:
    sent: 0, received: 0
Failed transactions: 0
*****

```

```

Sx Deregistration transactions:
*****

```

Peer Address	Deregistration Time
192.168.1.55	Mon Oct 13 08:48:18 2023
192.168.1.49	Mon Oct 13 08:48:18 2023
192.168.1.49	Mon Oct 13 08:48:18 2023
192.168.2.55	Mon Oct 13 08:48:18 2023
192.168.2.55	Mon Oct 13 08:48:18 2023
192.168.2.49	Mon Oct 13 08:48:18 2023
192.168.2.49	Mon Oct 13 08:48:18 2023

```
[n6]UPF#
```

Step 5: On the Active UPF with missing chunks, search the syslog for the logs occurring in the vicinity of the UPF transitioning to the Active state.

```
Oct 13 08:48:12 UPF evlogd: [local-60sec12.060] [vpn 5013 error] [1/0/9399 <vpnmgr:3> _cups_ip_pool.c:1
```

Observe log events continuously coming from vpnmgr instance 3 task (vpnmgr:3).

```
<#root>
```

```
localsystem:$
```

```
less UPF-Destination-UPF-Syslog.log | grep "Pool_name is not present" | head -1
```

```
Oct 13 08:48:18 UPF evlogd: [local-60sec18.811] [vpn 5013 error] [1/0/9399 <vpnmgr:3> vpn_ip_pool.c:274
```

```
localsystem:$
```

```
localsystem:$
```

```
less UPF-Destination-UPF-Syslog.log | grep "Pool_name is not present" | tail -1
```

```
Oct 13 09:29:59 UPF evlogd: [local-60sec59.671] [vpn 5013 error] [1/0/9399 <vpnmgr:3> vpn_ip_pool.c:274
```

```
localsystem:$
```

Solution

To address this issue, please refer to the bug report for more details: Cisco bug ID [CSCwh97931](#)

The fix for this issue involves enhancing SxDemux to prevent IP chunk clean-up during SRP transition while also improving log debug capabilities.

If the CDETS fix mentioned is not yet available in the UPF build you are using, you can employ this workaround:

Execute the Standard N4 association Dis-associate/Associate MOP within the MW timeframe.