

Troubleshoot Memory Mismatch on Some RSP and LC on ASR 9000 Series Router

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Introduction

This document describes what to do if the amount of available memory on some of Route Switch Processor (RSP) and Line Cards (LC) is less than expected.

Background Information

As stated in [the datasheet](#), for example, A9K-RSP440-TR has 6 GB of Dynamic Random Access Memory (DRAM). The same information is shown if you run **show platform summary** <>:

```
RP/0/RSP1/CPU0:rodos#sho platform summary location 0/RSP0/CPU0  
Wed Nov 21 15:33:08.874 CET
```

```
-----  
Platform Node : 0/RSP0/CPU0 (slot 1)  
PID : A9K-RSP440-TR  
Card Type : ASR9K Fabric, Controller, 6G memory
```

Problem: Memory Mismatch on Some RSP and LC on ASR 9000 Series Router

At times when you check the actual memory available for particular RSP, you see that instead of 6GB only 4GB is available.

```
RP/0/RSP0/CPU0:medved#sh memory summary  
Tue Nov 20 21:27:18.920 CET  
Physical Memory: 4096M total (827M available)  
Application Memory : 3708M (827M available)  
Image: 98M (bootram: 98M)  
Reserved: 224M, IOMem: 0, flashfsys: 0  
Total shared window: 47M
```

A known issue exists in the current IOS XR releases. Not only ASR 9000 does not currently track the amount of available memory or compares it to an expected value. It does not even generate any logs if you are missing some DRAM. Enhancement [CSCvf32213](#) is risen to fix this issue. The root cause is related to HW issue when RSP cannot recognize one of the memory bank installed.

Solution

The root cause is related to the hardware (HW) issue when RSP cannot recognize one of the memory bank installed. Typical action plan in such cases is to:

1. Try a reset to see if the memory reported after a reseal is the correct value.
2. Replace LC/RSP by RMA.