

z/OS 3.2 IBM Education Assistant

Solution Name: VSM RAS Enhancements

Solution Element(s): VSM

July 2025



Agenda

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Trademarks

- See url <http://www.ibm.com/legal/copytrade.shtml> for a list of trademarks.
- Additional Trademarks:
 - None.

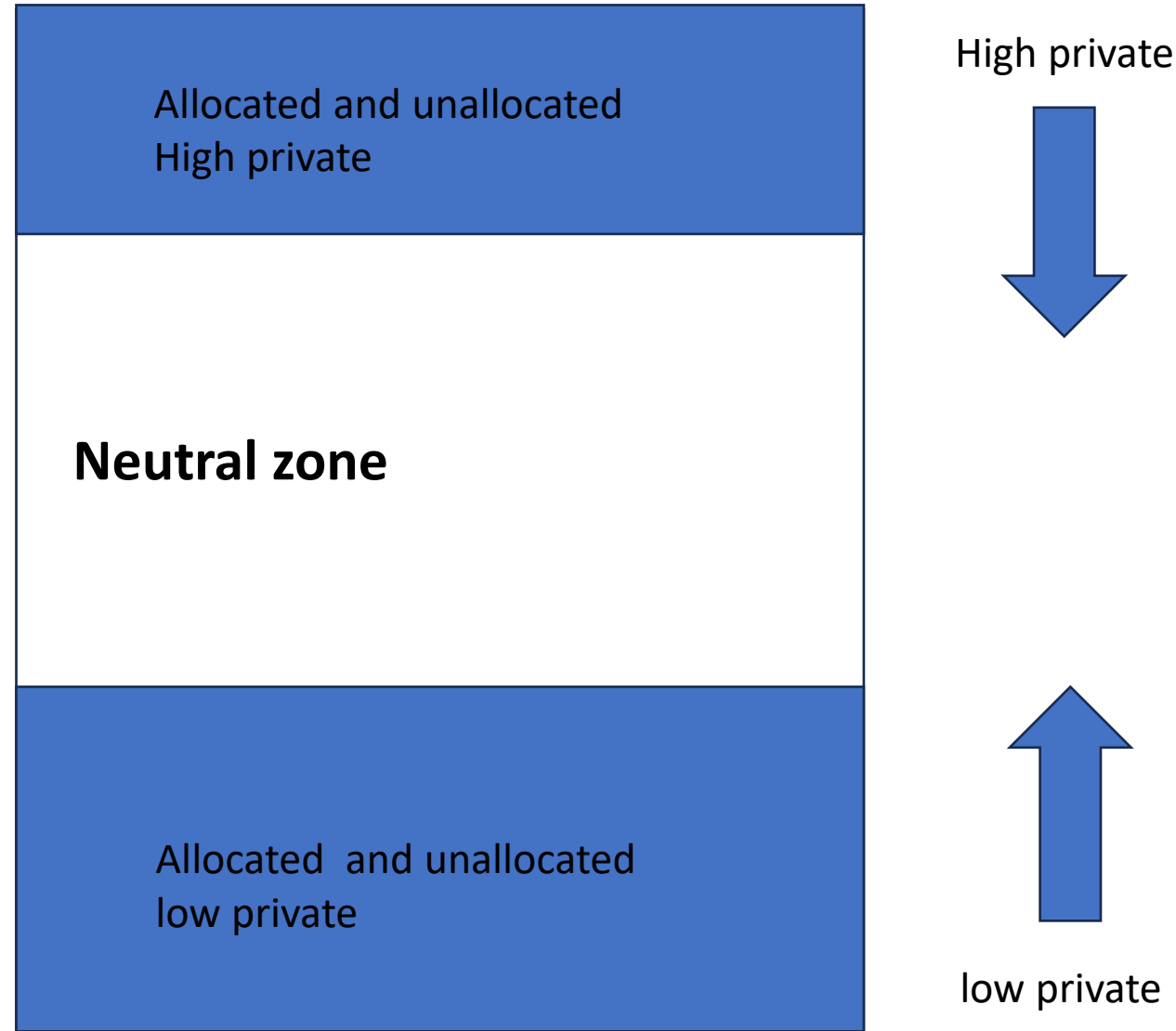
Objectives

- Reduce Abend 804,80A,878 for high private and LSQA and resulting 40D, 0F9 memterm – out of high private (authorized subpool allocation)
 - Difficult to diagnose
 - Reduce problems that occur b/c EOM prevented task level recovery from running

Overview

- Wow (Benefit / Value, Need Addressed)
 - Improved RAS (fewer abnormal memterms)

Usage & Invocation (1)



Usage & Invocation (2)

- A low private STORAGE OBTAIN that would reduce the neutral zone to less than its minimum size fails
- A high private STORAGE OBTAIN that reduces the neutral zone to less than half of its minimum size will cause the current job to be cancelled with ABEND822 RSN04

Interactions & Dependencies

- Software Dependencies
 - None
- Hardware Dependencies
 - None
- Exploiters
 - All users of 3.2 by default

Upgrade & Coexistence Considerations

- To exploit this solution, all systems in the Plex must be at the new z/OS level: No
- List any toleration/coexistence APARs/PTFs.
 - None
- List anything that doesn't work the same anymore
 - Possible ABEND822-04 in situations when the address space is running out of memory
 - Higher likelihood of ABEND 804-10, 80A-10, 878-10 for low private

Installation & Configuration (1)

- DIAGxx
 - VSM NEUTRALZONE(xxK|M, yyK|M)
 - NEUTRALZONE(56K,1M) is the default
- DISPLAY DIAG – will display the DIAGxx parms in effect
- Reducing the NEUTRALZONE values makes it less likely that the job will be cancelled, but reduces the effectiveness of the feature in preventing a memterm from an out of storage condition
 - First consider reducing the size of region before reducing the size of the minimum size of the neutral zone
- Increasing the NEUTRALZONE values, increases the likelihood of the job being cancelled, but improves the effectiveness of the feature in preventing a memterm from an out of storage condition

Installation & Configuration (2)

```
00- d diag
IGV007I 16.47.32 DIAG DISPLAY          FRAME 1      F      E      SYS=S7F0
VSM TRACK CSA(ON) SQA(ON)
VSM TRACE GET(ON) FREE(ON)
VSM DETECT CSA24(ON) CSA31(ON) SQA24(ON) SQA31(ON)
      SUFFIXDATA(0FF00FF00FF00FF0)
VSM PROTECT CSA24(OFF) CSA31(OFF) SQA24(OFF) SQA31(OFF)
VSM CHECKREGIONLOSS(256K,30M)
VSM NEUTRALZONE(56K,1M)
VSM ALLOWUSERKEYCSA(NO)
VSM ALLOWEARLYRUCSA(NO)
IEE612I CN=RSMCON1  DEVNUM=03E0 SYS=S7F0

IEE163I MODE= RD
```

Summary

- Out of 24/31 bit virtual storage memterms cause outages
- In 3.2, VSM is changed to detect when high private is getting close to the upper bounds of allocated low private and cancel the job
- The minimum size of the NEUTRALZONE for both 24 and 31 bit virtual is customizable and could be altered if necessary

Appendix

- z/OS MVS Authorized Assembler Services Guide (section 8 – Virtual Storage Management)
- z/OS MVS Initialization and Tuning Reference
- z/OS MVS Initialization and Tuning Guide