IBM Education Assistance for z/OS V2R2

Item: Large Storage Enhancements
Element/Component: WLM

Material current as of May 2015

Agenda

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Trademarks

- See url http://www.ibm.com/legal/copytrade.shtml for a list of trademarks.

Presentation Objectives

- Large real storage systems need optimized storage thresholds in the IEAOPTxx member, to make an optimal use of the storage
- This session explains how the changed OPT keywords work and how these changes work on systems with a large real storage configuration

Overview

- Problem Statement / Need Addressed
  - Some OPT parameter have percentage values, which make it hard to define targets for large LPARs
    - MCCFXTPR
    - RCCFXTT
    - RCCFXET
- Solution
  - Changes the OPT parameter calculations
- Benefit / Value
  - Simpler to set storage targets with the OPT parameter
  - Run more workload in parallel

Usage & Invocation – OPT Parameter MCCFXTPR

- The *MCCFXTPR* keyword in the IEAOPTxx parmlib member specifies the percentage of online storage that may be page fixed before a pageable storage shortage is detected and message IRA400E is issued.

  The current *MCCFXTPR* default of 80% requires that 20% (100 minus *MCCFXTPR*) of storage remain pageable regardless of the amount of online storage. On systems with large amounts of central storage, the *MCCFXTPR* default of 80% can result in a pageable storage shortage being detected, when there is still plenty of pageable storage.

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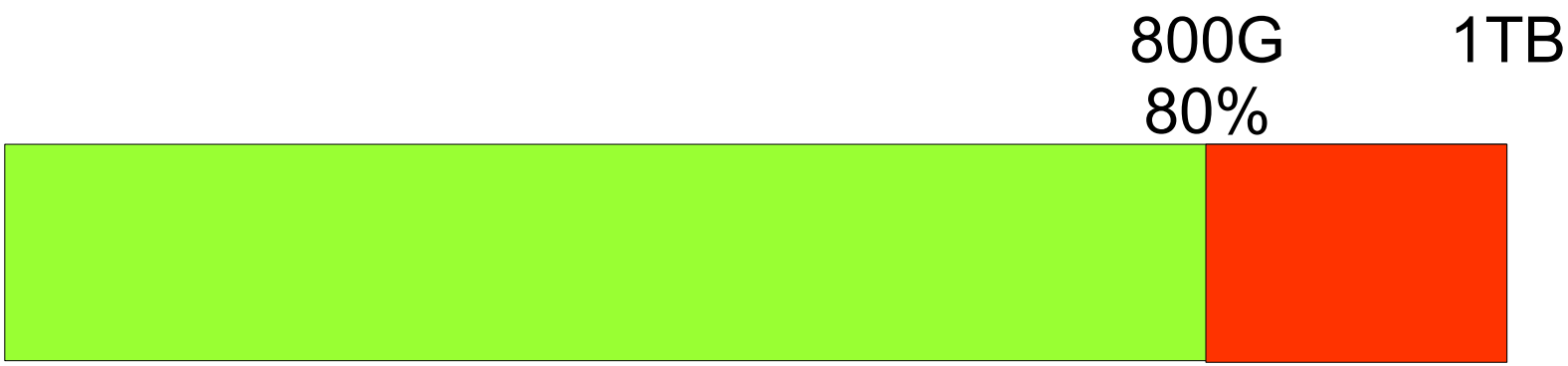
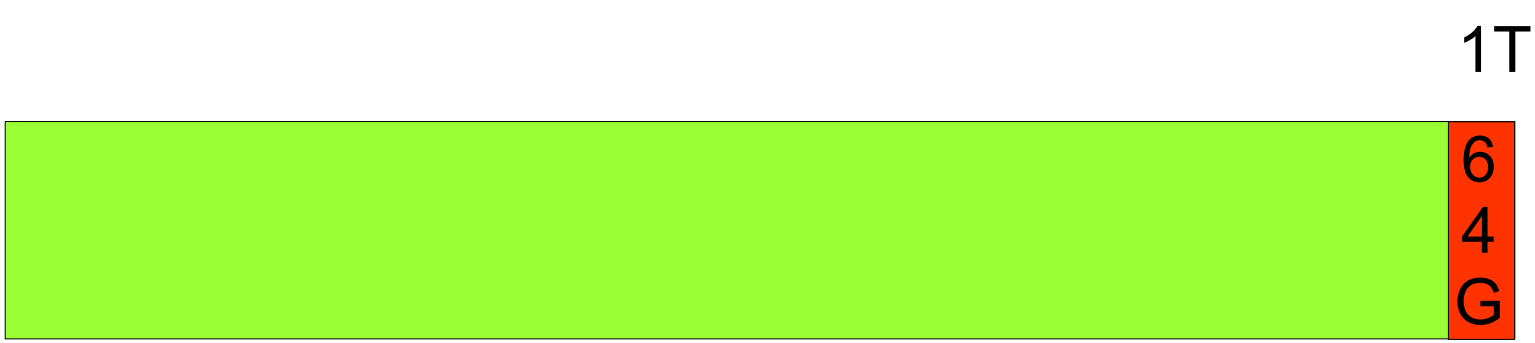


Usage & Invocation – OPT Parameter MCCFXTPR …

- In zOS V2R2, the required pageable storage for large systems (>320G) is always 64G. This allows to fix much more storage without running into a pageable storage shortage.



- Rollback to zOS V2R1 is available via APAR OA44668.

Usage & Invocation – OPT Parameter RCCFXTT

- The *RCCFXTT* keyword in the IEAOPTxx parmlib member specifies the low and high threshold of fixed real storage. SRM uses these thresholds to determine if the system MPL needs to be increased/decreased. The default is 66% and 72%.
- On small systems such percentages are not a problem.
- On a 1T machine these percentages mean, when 660G of storage is fixed the system is not longer under utilized and WLM will stop increasing the MPL.
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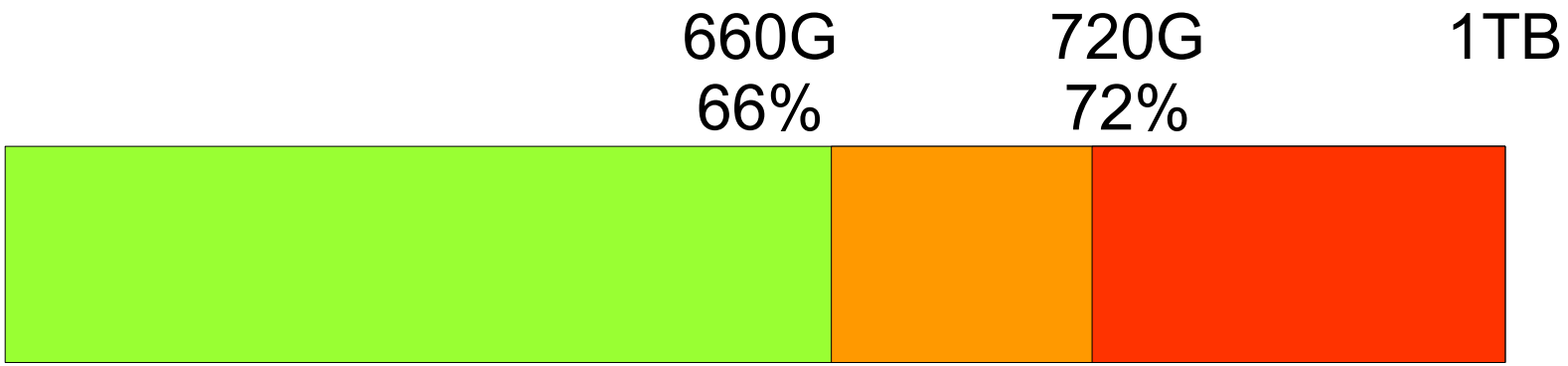
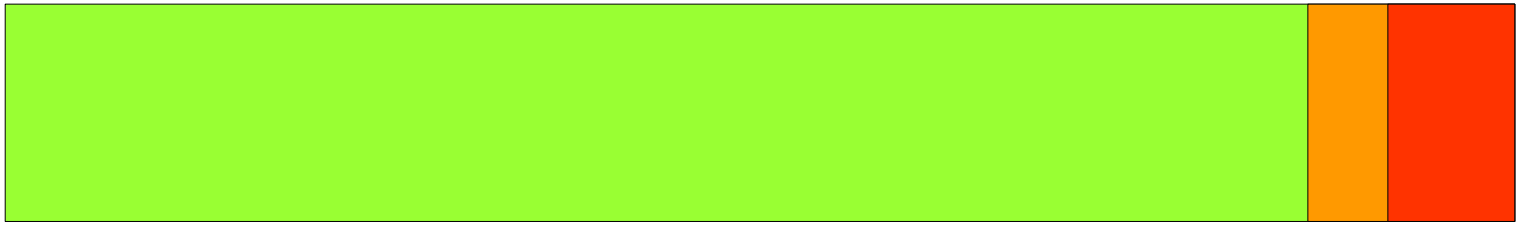


Usage & Invocation – OPT Parameter RCCFXTT ...

- In zOS V2R2, SRM is able to calculate the optimal RCCFXTT lower and upper threshold
- The ***RCCFXTT=AUTO*** definition activates the threshold calculation by SRM
- The default is still: *RCCFXTT=(66, 72)*

1TB



Usage & Invocation – OPT Parameter RCCEXTT

- The *RCCEXTT* keyword in the IEAOPTxx parmlib member specifies the low and high threshold of fixed real storage below 16M. SRM uses these thresholds to determine if the system MPL needs to be increased/decreased. The default is 82% and 88%.
- This OPT keyword is also enhanced, mainly to stay consistent with the *RCCFXTT* keyword. The ***RCCEXTT=AUTO*** definition activates the threshold calculation by SRM
- The default is still: *RCCEXTT=(82, 88)*
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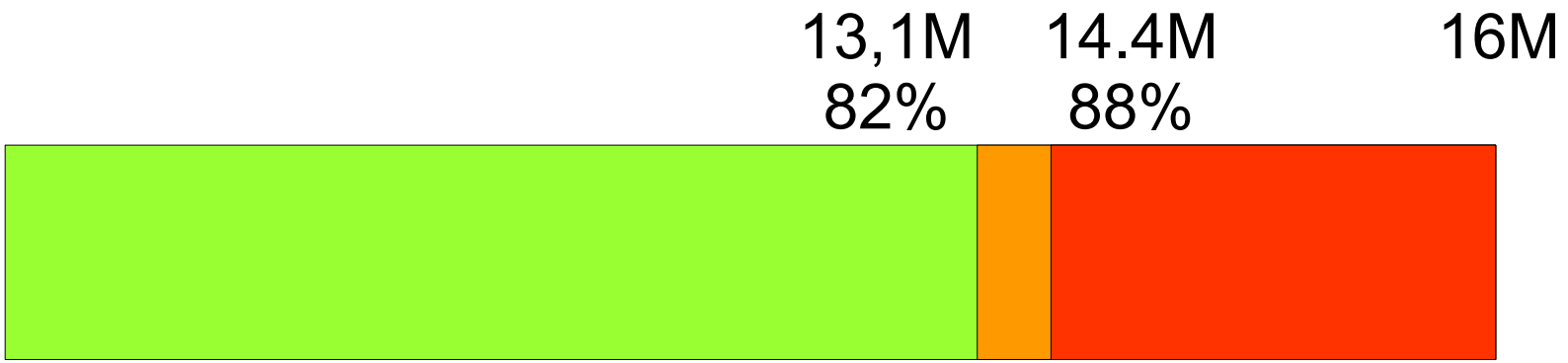

Presentation Summary

- The MCCFXTPR change allows to fix more storage as in the past, without getting a shortage message
- The changed OPT parameter logic for RCCEXTT and RCCFXTT makes it much easier to define the optimal threshold. An optimal storage threshold increases the MPL and more workload can run in parallel.

Appendix

- Publication References
  - *Initialization and Tuning Reference* – SA23-1380
    Chapter: IEAOPTxx (OPT Parameters)