IBM Education Assistance for z/OS V2R1

Item: Dynamic VLF
Element/Component: BCP Virtual Lookaside Facility

Material is current as of March 2013

Agenda

- Trademarks
- Presentation Objectives
- Overview
- Usage & Invocation
- Migration & Coexistence Considerations
- Appendix

Trademarks

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

Presentation Objectives

- Understand the new MODIFY VLF,REPLACE,NN= command
- Understand the new ability to concatenate VLF parmlib members

Overview

- Problem Statement / Need Addressed
  - Customers have asked to be able to change the VLF configuration without needing to restart VLF, which causes the loss of the current VLF cache and its performance benefit
  - Share requirement SSSHARE018333
- Solution
  - New MODIFY VLF,REPLACE,NN= command
  - Allow a concatenation of up to 16 COFVLFxx parmlib members
- Benefit / Value
  - The VLF configuration can be changed without needing to restart VLF, and the existing VLF cache is kept
  - A concatenation of VLF configuration options allows more complex VLF configuration options

Usage & Invocation – Concatenation of VLF parmlib members

- Up to 16 COFVLFxx parmlib members may be concatenated to form one VLF configuration when VLF is started
- This is true concatenation – class definitions may span from one member to the next
- VLF treats the entire concatenation of parmlib members as one configuration. Duplicate definitions will be rejected with the appropriate existing error messages
- When more than one COFVLFxx parmlib member is specified, the set of members should be enclosed in parenthesis and separated by commas. For example:

  s vlf,sub=mstr,nn=(aa,bb,cc)

Usage & Invocation – the MODIFY VLF,REPLACE,NN= command

- The MODIFY VLF,REPLACE,NN= command is used to completely replace the current VLF configuration with a new one
- Up to 16 COFVLFxx parmlib members may be concatenated as described on the previous page. For example:

  f vlf,replace,nn=xx or f vlf,replace,nn=(xx,yy,zz)

- Objects cached in VLF remain cached if that is still appropriate for a new configuration

Usage & Invocation – possible COFVLFxx parmlib changes

- Classes may be added or deleted. When a class is deleted, any programs that are currently using it will receive existing failure return codes. The cache for the class is purged
- Major names (EMAJ or EDSN) may be added to or deleted from an existing class. When a major name is deleted, any programs that are currently using it will receive existing failure return codes. The objects in the cache associated with the deleted major are purged
- MaxVirt can be specified, raised, or lowered for an existing class. Note that a decrease in MaxVirt may cause VLF trimming of the oldest objects to take place in order to reduce the cache to the new size
- AlertAge can be specified, raised, or lowered for an existing class. Note that an AlertAge check parameter specified for the VLF Health Check will override this value even if it is changed via a MODIFY command

Usage & Invocation – Check(IBMVLF,VLF_MAXVIRT) and AlertAge

- This new VLF Health Check monitors VLF trimming activity to detect when objects are being trimmed that are younger than an age threshold, which can be an indication of thrashing because MaxVirt is too low. AlertAge specifies that age threshold in seconds
- For example, if the AlertAge for class CSVLLA is set to 60 seconds but VLF finds that it has trimmed an object for CSVLLA that was cached for only 45 seconds, the Health Check raises an alert to recommend that the MaxVirt parameter be increased in order to provide more cache space for the CSVLLA class
- AlertAge is an optional class parameter in COFVLFxx. It has a default value of 60 seconds. AlertAge can also be specified as a check parameter for Check(IBMVLF,VLF_MAXVIRT). When it is specified as a check parameter, it overrides the value specified in COFVLFxx

Migration & Coexistence Considerations

- Note that releases prior to V2R1 do not support a concatenation of COFVLFxx parmlib members

Appendix

- New COFnnnx messages have been added, and some existing messages have been updated or corrected. See the z/OS V2R1 MVS System Messages manual, SA22-7634
- The MODIFY VLF,REPLACE,NN= command is documented in the z/OS V2R1 System Commands manual, SA22-7627 and described in VLF chapter in the z/OS V2R1 MVS Authorized Services Guide, SA22-7608
- The description of COFVLFxx parmlib members is updated in the z/OS V2R1 MVS Initialization and Tuning Reference, SA22-7592