IBM Education Assistance for z/OS V2R1

Item: Migration Throughput Enhancements
Element/Component: DFSMShsm

Material is current as of June 2013

Agenda

- Trademarks
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- Overview
- Usage & Invocation
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Trademarks

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

Presentation Objectives

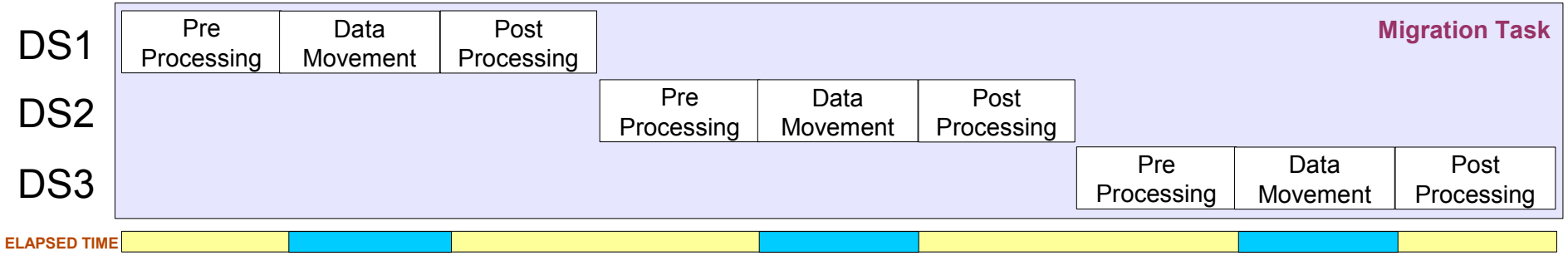
- Describe improvements
- Identify how to configure
- Discuss setup requirements

Overview

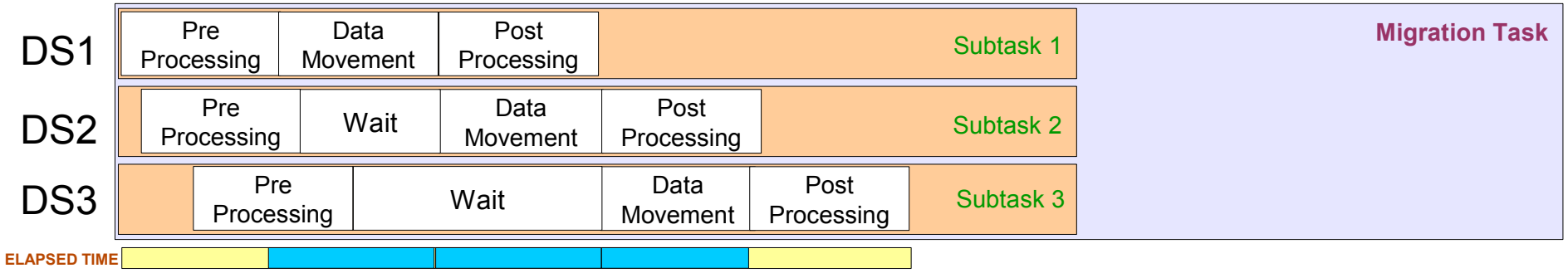
- Problem Statement / Need Addressed:
  - Throughput of DFSMShsm migration function is relatively low in comparison to copy utilities like DFSMSdss or IEBGENER.
    - Multiple tasks supported but operations such as pre-processing, data movement, and post-processing of each data set during migration are performed sequentially.
- Solution:
  - Allow a migration task to migrate multiple data sets concurrently
    - Subtasks can then perform pre-processing, data movement, and post-processing of multiple data sets concurrently with other subtasks.
    - Still only one concurrent data movement to tape per migration task
- Benefit:
  - Throughput of volume migration functions (Primary Space Management, Interval Migration, On Demand Migration) increased from concurrently running data set migrations as sub-tasks of the migration task.

Overview

Pre-V2R1



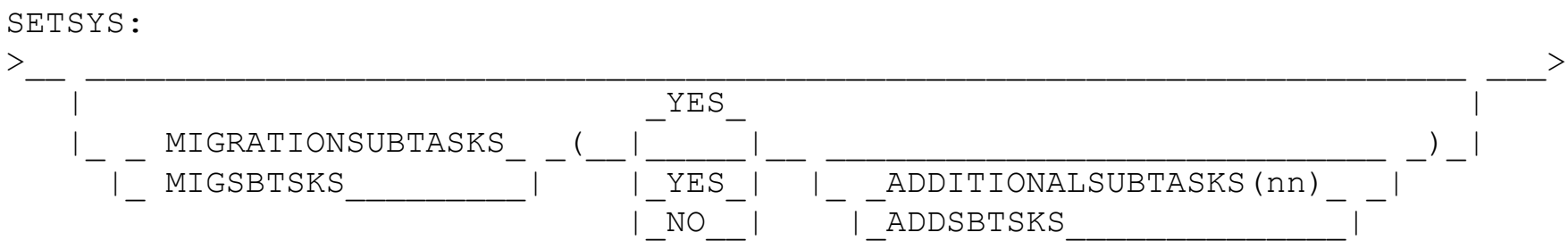
Migration Subtasking



Data movement to tape (only one concurrently per migration task)
Pre- & Post-Processing (Eligibility checking, Enqueue, CDS Updates, Catalog, Scratch)

Usage & Invocation

- User can select if DFSMShsm should enable migration subtasks during PSM, ODM, and IM (L0 to ML1/ML2 only) via the following command.



- MIGRATIONSUBTASKS(YES) enables the function and can only be specified on startup.
- A default number of subtasks will be used unless ADDITIONALSUBTASKS(nn) is specified which allows additional amount of concurrency. Allows users to increase throughput if additional CPU is available. May impact below-the-line storage usage.
- The default number of subtasks is a patchable value which is initially set to 5. Internal testing found this to be an ideal balance of throughput and CPU usage.

Presentation Summary

- DFSMShsm migration throughput is generally worse than data copy utilities (ie. DFSMSdss, IEBGENER)
- Allowing concurrent migration subtasks can increase throughput
- SETSYS MIGRATIONSUBTASKS(YES) enables the function with default number of concurrent subtasks
- Functions supported: PSM, IM, and ODM (L0 to ML1/ML2 migrations).

Appendix

- Publications:
  - *DFSMShsm Storage Administration* (SC23-6871-0)