

IBM Education Assistant

Health Check for JES2 Checkpoint Reconfiguration



Agenda

- Trademarks
- Session Objectives
- Overview
- Usage & Invocation
- Interactions & Dependencies
- Migration & Coexistence Considerations
- Installation
- Session Summary
- Appendix

Trademarks

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

Session Objectives

- Introduce the new JES2 Health Check for Checkpoint Reconfiguration
- Topics discussed will include:
 - Motivation behind creating this health check
 - How the check obtains the information needed to run the checks
 - How to read the output produced by the check
 - List of possible problems that could be found by the check
 - Recommended actions to take to correct those problems

Overview

- The goal of this health check is to identify issues with the checkpoint configuration that would prevent JES2 from automatically recovering from device errors.
- System programmers can view the report generated by the check, along with exception messages issued to the console, to determine what actions should be taken to improve the checkpoint settings to avoid potential outages.
- The check runs on an interval, so it is able to detect issues that could arise over time, such as the amount of space on the backup checkpoint volume becoming inadequate to hold a backup checkpoint.
- Check is also refreshed automatically when checkpoint settings are modified, either by a \$T CKPTDEF operator command or by the the

Usage & Invocation

- JES2 will automatically add the check to Health Checker as a part of initialization processing.
- One instance of the health check will exist for each JES2 node that has a member active on the LPAR.
 - Name of the check is based on the XCF group name of the MAS, for example, JES2_CKPT_CONFIG_POK .
- If there are JES2 members participating in the node across multiple LPARs in the SYSPLEX, an instance of the health check will exist on each LPAR, but will only execute on one LPAR.
- Health Checker will issue WTOs on behalf of the health check if it finds issues with the checkpoint configuration.

Usage & Invocation (cont.)

- This is a summary of the checks that are performed:
 - 1) “Are all checkpoints (CKPT1, CKPT2, NEWCKPT1, and NEWCKPT2) defined?”
 - 2) “Are both checkpoints (CKPT1 and CKPT2) currently in use?”
 - 3) “If the backup checkpoints are defined and exist on DASD, are they large enough to hold the current checkpoint?”
 - 4) “If the backup checkpoints are defined but do not exist on DASD, is there enough space on the volume to create them?”
 - 5) “If running in DUPLEX checkpoint mode, has at least one member specified DUPLEX=YES?”
 - 6) “Is OPVERIFY=NO specified to allow JES2 to handle device errors automatically without operator intervention?”

Usage & Invocation (cont.)

- By default, the health check will run on a 6 hour interval, similar to the NJE health check.
 - This interval can be modified via a policy statement in the HZSPRMxx parmlib member.
- If the check finds any issues, it will be put into an error state that will cause the check to be refreshed on a 3 hour interval.
- The check will also be refreshed automatically when checkpoint settings are modified by a \$T CKPTDEF command or by a checkpoint reconfiguration dialog request.
- If the health check finds no issues with the checkpoint configuration, this will be reflected in the health check output, and no WTOs will be

Usage & Invocation (cont.)

- By default, this health check is defined with a HIGH severity so that exception messages will appear highlighted in the console.
 - The severity and WTO type, along with many other options for the check, can be configured via policy statements in the HZSPRMxx parmlib member.
- Exception messages, along with an explanation of the exception and recommended system programmer response, also appear in the health check output in SDSF.
- Unlike the existing JES and JES2 health checks, this health check takes no parameters. Any parameters supplied to the check will be ignored.
- This health check does not produce any additional output when VERBOSE mode is enabled.

Interactions & Dependencies

- This health check will run against any JES2 MAS that has a member at the 2.4 level.
- Checkpoint settings are obtained via a new sub-function of the JES properties SSI.
- The XCF group name, used to qualify the health check name, is obtained from a new keyword-value pair returned by JES2 via the WHO-AM-I SSI.
- Information about checkpoint datasets and volumes are obtained via existing DFSMS macros.
- There are no specific software nor hardware dependencies for this item.

Migration & Coexistence Considerations

- In the case of a mixed-MAS, the health check will only obtain checkpoint settings from a 2.4 member in the MAS. Down level members will be ignored.
- There are no other migration/coexistence considerations.

Installation

- There are no specific installation steps that need to be taken to enable the use of this health check. The health check will be automatically added during JES2 initialization with recommended properties.
- The HZSPRMxx member can be used to modify the default check settings, if desired..
 - For example, this policy statement defines a check interval of 4 hours instead of the default of 6 hours:

```
ADDREPLACE POLICY STMT(JES_CKPT_TEST)
UPDATE CHECK(IBMJES2, JES2_CKPT_CONFIG_POK)
DATE(20190210)
INTERVAL(4:00)
REASON('We are paranoid ')
```

Session Summary

- This health check is intended to identify problems with the current checkpoint configuration for a given MAS.
- It will be added and run automatically without any specific installation steps, assuming that health checker has been configured to run on the system.
- This health check is a good opportunity to system programmers to assess their current checkpoint configuration which may no longer be adhering to best practices.
- Operators and system programmers should heed any exception messages produced by the health check to enable JES2 to automatically recovery device errors and avoid outages.

Appendix

- Health Checker
 - IBM Health Checker for z/OS User's Guide
- JES2
 - z/OS V2R4 JES2 Initialization and Tuning Guide
 - z/OS V2R4 JES2 Initialization and Tuning Reference
- MVS
 - z/OS V2R4.0 MVS System Messages