Consolidated Service Test

CST3Q23 (RSU2309)

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Prepared by: CST Team

As part of IBM's commitment to quality and continuous improvement, IBM established the Consolidated Service Test (CST) team consisting of cross product test representatives. CST enhances the way IBM tests and recommends maintenance packages for z/OS software, including the major subsystems. In the past, many of the key product families on the z/OS software stacks had different recommended maintenance strategies, with little or no coordination between them. CST has been put in place to address this issue so that you can obtain and install the recommended PTF service level from the CST Web site for z/OS and their key subsystems consolidated into one package. This means you will receive a tested level of service for all of the following products/tools:

- z/OS
- CICS Transaction Server for z/OS
- Db2 for z/OS
- GDPS/Metro and GDPS/MGM
- IMS
- IRLM
- JAVA
- WebSphere Application Server for z/OS
- IBM MQ for z/OS
- z/OS Management Facility

Note: For a complete list of products/tools and levels tested, please refer to the *What Service was Installed* section.

We provide these recommendations free of charge to all z/OS customers. Note that CST testing is performed in addition to existing test criteria and does not replace any current Quality Assurance processes performed by other products.

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What is the CST Environment?

3931 – A01 (A131)	Microcode at Driver 51 + MCL bundle S21 with CFCC P30718.006 (R25 srv lvl 02.53) • 9 LPARs running z/OS • 20 general processors shared amongst all 9 LPARs, 6 ICF processors and 6 zIIP processors • 1 GDPS control image with 8192M of Central Storage • 6 z/OS LPARs with 20480M of Central Storage • 2 z/OS LPARs with 204800M of Central Storage • 2 CFs with 40G storage at CFCC level 24 and 2 dedicated processors each
3906 – M02 (M402)	Microcode at Driver 36C + MCL bundle S77 with CFCC P41419.010 (R23 srv lvl 00.22) • 87 general processors, 8 zIIPs • 2 z/OS images running 20480M each • 2 z/OS images running 204800M each • 2 GDPS control images running 8192M each • 1 z/OS image running 10240M • 2 CFs with 40G storage at CFCC level 23 and 2 dedicated processors
8561 – T01 (T62)	Microcode at Driver 41C + MCL bundle S55 with CFCC P46603.008 (R24 srv lvl 00.30) • 64 general processors, 4 zIIPs • 4 z/OS images running 20480M each • 1 GDPS control image running 8192M • 2 CFs with 40G storage at CFCC level 24 and 2 dedicated processors
Automated Tape Library (ATL)	3584 • 16 3592 tape drives, FICON-attached
Virtual Tape Server (VTS)	3494 B20 VTS • AIX with VTS CU • 32 emulated 3490 addresses in this VTS • 6 VTS 3590 drives (not directly accessible from z/OS) • 16 3590 tape drives are accessible from z/OS (FICON)
DS8886 GNP21 (SQ45) DS8886 CXT11 (SQ73) DS8886 DCK71 (SQ74) DS8951 LMK21 (SQ59) DS8951 LMK61 (SQ60)	Microcode level is 88.58.3.0 Microcode level is 88.58.3.0 Microcode level is 88.58.3.0 Microcode level is 89.32.40.0 Microcode level is 89..32.37.0
GDPS	Configuration info: we simulate two logical sites, it is purely a logical designation.
Lan attached	Both SNA and TCPIP
Data Sharing Groups	• 4 Way CICS/Db2 utilizing WAS/MQ and incorporating CICS Shared Temporary Storage CF Servers • 6-way Db2/CICS (Db2 V12R1M509) • 8-way Db2/CICS (Db2 V13R1M100) • 6-way -- Db2, CICS, IBM MQ, WAS, IMS (Db2 V12R1M509) • 3-way – Db2 (Db2 V12R1M100) • 3-way – Db2 (Db2 V12R1M506) • (2) 4-way Db2/CICS (Db2 V13R1M503, Db2 V13R1M502) • 8-way Db2 (Db2 V13R1M100)

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	4-way -- Db2, CICS, IBM MQ, WAS, IMS (Db2 V13R1M502) 6-way Db2/WAS (Db2 V12R1M509) (2) 4-way Db2/WAS (Db2 V13R1M503, Db2 V13R1M502) (2) 4-way Db2/WAS via CICS (Db2 V13R1M503, Db2 V13R1M502) 2-way Db2 for system back-up, restore and recovery testing (Db2 V13R1M503) 6-way Db2 V12R1M509 4-way Db2 V13R1M503 4-way Db2 V13R1M502 6-way CICS/VSAM-RLS and non-RLS (2) 4-way CICS/VSAM-RLS and non-RLS (2) 4-way TVS batch setup (2) 4 - Way CICS/VSAM workload using 3270 and CICS/Liberty Front ends 6-way IMS/TM (2) 4-way IMS/TM (2) 4-way IMS FastPath 4-way IMS/OTMA SMQ Cascading Transactions 6-way IMS/OTMA SMQ Cascading Transactions 6-way IMS/CICS (2) 4-way IMS/CICS 6-way IBM MQ/Db2 using Shared Queues (Note: Db2 used for Administration and Data Storage purposes) (2) 4-way IBM MQ/Db2 using Shared Queues and Clustering (Note: Db2 used for Administration and Data Storage purposes) - Background workloads to exploit CICS CF Servers (Shared Temporary Storage, Coupling Facility Data Tables and Named Counter Server)

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What Service was Installed:

NOTE: Refer to Appendix A for a list of the excluded maintenance due to unresolved PE fixes.

Product/Tool	Maintenance Level
- CICS TS 6.1 - CICS TS 5.6 - CICS Interdependency Analyzer for z/OS V3.2	All service through the end of June 2023 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of August 2023.
- Db2 V12 - Db2 V13	All service through the end of June 2023 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of August 2023.
- GDPS V4.5.0 - GDPS V4.6.0	All service through the end of June 2023 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of August 2023.
- IMS V15 - IMS V15.2 - IMS V15.3	All service through the end of June 2023 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of August 2023.
- IRLM 2.3	All service through the end of June 2023 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of August 2023.
JAVA Technology Edition - IBM 31-bit SDK for z/OS V8 - IBM 64-bit SDK for z/OS V8 Java V11	All service through the end of August 2023 not already marked RSU.
WebSphere Application Server for z/OS V9 – Service level 9.0.5.16 V8.5 – Service level 8.5.5.24	All service through the end of August 2023 - Java 8, build 8.0.8.6 - pmz6480sr8fp6-20230601_01 All service through the end of August 2023 - Java 8, build 8.0.8.5 - pmz3180sr8fp5-20230418_01
- IBM MQ V9.3.2 CD - IBM MQ V9.3.0 LTS - IBM MQ V9.2.0 LTS	All service through the end of June 2023 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of August 2023.
- z/OS V2R4 - z/OS V2R5	All service through the end of June 2023 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of August 2023.

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Roll-out of CST3Q23:

  IBM recommends that the Customer stage the roll-out of the quarterly recommended service upgrade (RSU) by product on any single system, and not change all the major products (such as z/OS, Db2, IMS, CICS, GDPS, Java, IBM MQ, WebSphere Application Server for z/OS) all at once. Changing all the major products in a single system simultaneously complicates the tasks of problem diagnosis and back-out if a severe problem occurs.

  Additionally, IBM recommends that the Customer thoroughly test the maintenance level applied, including testing in a parallel sysplex application data sharing environment.

  IBM makes this recommendation based on our testing in the environment described in this report. Your environment and applications are likely to differ in numerous ways.   Therefore, your results may be different than ours. The Customer must consider their environment, their maintenance philosophy, and their production needs in making the final decision on what maintenance to apply, and how you roll this maintenance out in your environment.

What's New

As part of IBM's continuing efforts to provide Customers with suggestions on maintaining their z/OS systems for availability, we have provided a new document which describes a *z/OS Preventive Maintenance Strategy to Maintain System Availability.*

A link to the document can be found on the "Mission" page of the CST website:

http://www-03.ibm.com/systems/z/os/zos/support/servicetest/links.html

or can be directly accessed at:

https://www.ibm.com/support/pages/node/664965

Highlights of CST3Q23

This quarterly CST focused on enhancements to the environment and workloads.   This included:
- Additional product(s)

- Additional tool(s)

- Additional product / tool scenarios

- Additional workloads / applications

- Workloads run continuously

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- Service applied, as needed

Some highlights follow:

- CICS/TS
  - (In Progress) Enhancements to increase the amount of encrypted TCP/IP traffic including ATLS in our environment
  - (In Progress) enabled CICSPlex/SM ability to store and provide task history

- GDPS
  - (Completed) Migration from GDPS MzGM to GDPS MGM
  - (Completed) Migration from GDPS 4.5 to 4.6

- IMS
  - (In Progress) IBM z Pervasive Encryption – Setup and run IMS Workload with encrypted IMS datasets.

- z/OS:
  - (Ongoing) Working on Pervasive Encryption
  - (In Progress) z/OS 3.1 for GA in September 2023

- CICS, Db2, GDPS, IMS, IBM MQ, WAS, and z/OS recovery scenarios performed.

Problems Encountered during CST 3Q23:

The APARs listed in the table below represent the problems the CST team encountered during the quarterly test; however, if a problem was encountered and corrected for this recommendation, it will not be listed in the table below. The APARs listed below are either open, or their associated PTFs were not yet available for testing in the CST environment prior to this recommendation.

Customers should verify APAR status through normal means.

Note: Consolidated Service Test does not replace the regular service procedure. If a problem is encountered with product code, you should report the problem to IBM support.

CICS/TS 6.1	
PH55576	DFHFC0002 APPLID a severe error has occurred in module DFHFCDR
IBM MQ for z/OS 9.3.0	
PH56304	Abend5C6-00F2003F in CSQ2QCP0 after control block has wrong state.

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IBM MQ V9.3.3 CD	
PH54045	Abend0C4 RC00000010 in CSQMCGLM.CSQMCLMT
PH55657	CSQX036E cpf CSQXSUPR Unable to open , Pub/Sub applications and workloads fail with MQRC_PUBSUB_INHIBITED.
PH55658	Abend0C4-00000011 in CSQMLPLM.CSQMPUT
	Not part of the CST RSU
GDPS 4.6	
PH55737	DSI203I, DSI202I, DSI069I messages issued because of an issue in parameters GDPS uses

How is the Customer going to obtain and install the CST3Q23 level of service?
Please proceed to the CST website for the steps involved.

The URL is https://www.ibm.com/support/pages/ibm-zos-consolidated-service-test-and-rsu

For Questions and Comments
To submit questions or comments regarding Consolidated Service Test or the CST Web site, please use the feedback form on the CST web site (URL is:
http://www-03.ibm.com/systems/z/os/zos/support/servicetest/contact.html

Appendix A: Excluded Maintenance

IMS V15 Exclude: (UI91852)

Db2 V12 Exclude: (UI92181)

Db2 V13 Exclude: (UI92182)

z/OS V2R4 Excludes: (UJ92353, UJ92355)

z/OS V2R5 Excludes: (UJ92354, UJ92356)