Consolidated Service Test

CST4Q21 (RSU2112)

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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
- CICS Transaction Gateway for z/OS
- DB2 for z/OS
- GDPS/Metro and GDPS/MzGM
- 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?

8561 – T01 (T131)	Microcode at Driver 41C + MCL bundle S034 with CFCC P46603.006 (R24 srv lvl 00.21) • 9 LPARs running z/OS • 120 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 25G storage at CFCC level 24 and 2 dedicated processors each
3906 – M02 (M402)	Microcode at Driver 36C + MCL bundle S30 with CFCC P41419.005 (R23 srv lvl 00.16) • 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 25G storage at CFCC level 23 and 2 dedicated processors
2964 – N63 (S72)	Microcode at Driver D27I + MCL bundle S89 with CFCC P08416.009 (R21 srv lvl 02.21) • 64 general processors, 4 zIIPs • 4 z/OS images running 20480M each • 1 GDPS control image running 8192M • 2 CFs with 25G storage at CFCC level 21 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) DS8870 LMK21 (SQ59) DS8870 LMK61 (SQ60)	Microcode level is 88.56.9.0 Microcode level is 88.55.9.0 Microcode level is 88.55.9.0 Microcode level is 87.52.35.0 Microcode level is 87.52.35.0
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 • 8-way Db2/CICS (Db2 V12R1M504) • 6-way -- Db2, CICS, IBM MQ, WAS, IMS • 3-way – Db2 (Db2 V12R1M100) • 3-way – Db2 (Db2 V12R1M500)

	• (2) 4-way Db2/CICS (Db2 V12R1M508, Db2 V12R1M510 • 8-way Db2 (Db2 V12R1M504) • 4-way -- Db2, CICS, IBM MQ, WAS, IMS • 6-way Db2/WAS (Db2 V12R1M502) • (2) 4-way Db2/WAS (Db2 V12R1M508, Db2 V12R1M510) • (2) 4-way Db2/WAS via CICS (Db2 V12R1M508, Db2 V12R1M510) • 2-way Db2 for system back-up, restore and recovery testing (Db2 V12R1M100) • 6-way Db2 V12R1M502 • 4-way Db2V12R1M508 • 4-way Db2V12R1M510 • 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)

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 5.6 - CICS TS 5.5 - CICS Interdependency Analyzer for z/OS V3.2	All service through the end of September 2021 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of November 2021.
- Db2 V12	All service through the end of September 2021 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of November 2021.

- GDPS V4.4.0 - GDPS V4.3.0	All service through the end of September 2021 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of November 2021.
- IMS V15 - IMS V15.2	All service through the end of September 2021 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of November 2021.
- IRLM 2.3	All service through the end of September 2021 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of November 2021.
JAVA Technology Edition - IBM 31-bit SDK for z/OS V8 - IBM 64-bit SDK for z/OS V8	All service through the end of November 2021 not already marked RSU.
WebSphere Application Server for z/OS V9 – Service level 9.0.5.9 V8.5 – Service level 8.5.5.20	 Service Level 9.0.5.9 with the following ifix: 9.0.5.7-WS-WAS-IFPH38929 - Java 8, build 8.0.6.36 - pmz6480sr6fp36-20210913_01 Service level 8.5.5.20 (all service through PTF UI76307) with the following iFixes: 8.5.5.12-WS-WAS-IFPH34690 8.5.5.19-WS-WAS-IFPH38929 - Java 8, build 8.0.6.31 - pmz6480sr6fp31-20210510_01
- IBM MQ V9.2.0 LTS - IBM MQ V9.1.0 LTS	All service through the end of September 2021 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of November 2021.
- z/OS V2R3 - z/OS V2R4 - z/OS V2R5	All service through the end of September 2021 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of November 2021.

Roll-out of CST4Q21:

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:

https://www.ibm.com/support/pages/ibm-zos-consolidated-service-test-our-mission

or can be directly accessed at:

http://public.dhe.ibm.com/systems/z/servicetest/zOS_Preventive_Maintenance_Strategy.pdf

Highlights of CST4Q21

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
- 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
- Db2
  - (Completed) 4-way Db2 V12 group has been migrated from V12R1M508 to V12R1M510

- (Completed) 4-way Db2 V12 group has been migrated from V12R1M507 to V12R1M508
- (Completed) 8-way Db2 V12 group has been migrated from V12R1M100 to V12R1M504
- (Completed) 6-way Db2 V11 group has been migrated from V11CM to V12R1M502
- (Completed) 3-way Db2 V11 group has been migrated from V11CM to V12R1M100
- (Completed) 3-way Db2 V11 group has been migrated from V11NFM to V12R1M500

- GDPS
  - (Completed) Migration to GDPS 4.4 from GDPS 4.3
  - (Completed) Migrating to GDPS 4.3 from GDPS 4.2

- IMS
  - (In Progress) IBM z Pervasive Encryption – Setup and run IMS Workload with encrypted IMS datasets.
  - (Completed) Deployment of IMS V15.2 for OSAM LDS Encryption

- z/OS:
  - (Completed) Migrations to z/OS V2R5
  - (Ongoing) Working on Pervasive Encryption

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

Problems Encountered during CST4Q21:

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 5.5	
IJ36488	CICS Explorer connection list cannot be scrolled
CICS/TS 5.6	
PH41256	Provide support for Liberty angelRequiredServices
PH41529	Abend AKEF occurs after DFHRL0122 message issued when resource recreation fails
PH42907	Additional terminology changes are being made to CICS to compliment those made in PH33489.
GDPS 4.3.0	
PH41115	HYPERSWAP phase 3 unsuccessful - FREEZE TIME > 60 seconds

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PH41408	GPDS dump option does not show standalone dump messages
GDPS 4.4.0	
PH41036	GDPS/XRC inadvertently responds to a GEO2668 from GDPS/Metro when the Kx-sys fails
PH41043	z/OS HEALTHCHECK HZSPROC Abend0C4 in GDPS_CHECK_LOGR routine VPC8C015
PH41115	Hyperswap Phase 3 unsuccessful – freeze time > 60 seconds
IBM MQ for z/OS 9.2.0 LTS	
PH40878	Abend026 RC08110102 during CF rebuild attempt due to inconsistent behavior of some queue managers in a QSG
PH42238	CHINIT hang during shutdown
PH42610	Abend5C6-00C51165 in CSQELPLM.CSQERUSH occurs during queue manager startup when admin structure is full
JAVA V8	
PH40199	JAVA 8 ON Z/OS SR6 FP35 prevents z/OSMF from starting
z/OS V2R4	
OA60252	DFSMStvs can hang during initialization if multiple V SMS,TRANVSAM,E or D commands are issued.
OA62295	XCF improves response to AVQLO real frame shortage to prevent outage resulting in WAIT0A2 RSN0104
	Not part of the CST RSU:
SA 4.2.0	
OA62214	Abend0C4 in INGHWCOM when an incorrect SNMP object id is received by the hardware
OA62417	Abend0C4 in Netview ERRMOD=INGPHLLC, RCYMOD=DSIMSX because of an incomplete API buffer

How is the Customer going to obtain and install the CST4Q21 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:
https://www.ibm.com/support/pages/ibm-zos-consolidated-service-test-customer-feedback

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Appendix A: Excluded Maintenance

z/OS V2R3 Excludes:
(UI76942, UJ05882, UJ05997, UJ06118, UJ06271, UJ06275, UJ06278)

z/OS V2R4 Excludes:
(UI76949, UJ05883, UJ05998, UJ06119, UJ06272, UJ06276, UJ06279, UJ06333)

z/OS V2R5 Exclude:
(UJ05884)