Consolidated Service Test

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
- Geographically Dispersed Parallel Sysplex (GDPS/PPRC) and XRC
- IMS
- IRLM
- JAVA
- WebSphere Application Server for z/OS
- WebSphere MQ for z/OS
- IBM DB2 Tools
- IBM Tivoli OMEGAMON
- InfoSphere Guardium S-TAP for IMS on z/OS
- z/OS Management Facility
- z/OS Problem Determination Tools

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.

2964 – NC9 (S131)	Microcode at Driver 22H + MCL bundle S22 with CFCC N98780.006 (R20 srv lvl 00.21) 358 LPARs running z/OS 3550 general processors shared amongst all 8 LPARs, 4 ICF processors, 6 zIIPs and 6 zAAPs logical processors 351 GDPS control image with 4864 of Central Storage 354 z/OS LPARs with 14848M of Central Storage 356 z/OS LPARs with 10240M of Central Storage 352 CFs with 25G storage at CFCC level 20 and 2 dedicated processors each
2964 - N96 (S134)	Microcode at Driver 22H + MCL bundle S22 with CFCC code N98780.006 352 LPARs running z/OS
2817 - M66 (R01)	Microcode at Driver 93G + MCL bundle 73 with CFCC code N48162.023 (R17 srv lvl 10.31) 3542 General processors on all LPARs, 4 ICF processor 351 z/OS Image with 4096M Central Storage 352 z/OS Images with 10240M of Central Storage each 352 CFs with 25G storage at CFCC level 17 and 2 dedicated processors each
2827 – HA1 (P03)	Microcode at Driver 15F + MCL bundle 42 with CFCC H49559.013 (R19 srv lvl 2.18) 3596 general processors, 2 zIIPS, 2 zAAPs 352 z/OS images running 770048M each 351 CF with 25G storage at CFCC level 19 and 2 dedicated processors
2827 – HA1 (P286)	Microcode at Driver 15F + MCL bundle 42 with CFCC H49559.013 (R19 srv lvl 2.18) 3596 general processors, 2 zIIPS, 2 zAAPs 352 z/OS images running 770048M each 351 CF with 25G storage at CFCC level 19 and 2 dedicated processors
Automated Tape Library (ATL)	3584 3516 3592 tape drives, FICON-attached
Virtual Tape Server (VTS)	3494 B20 VTS 35AIX with VTS CU 3532 emulated 3490 addresses in this VTS 356 VTS 3590 drives (not directly accessible from z/OS) 3516 3590 tape drives are accessible from z/OS (FICON)
DS8870=2421 VM240 (SQ59) DS8870=2421 VM330 (SQ60) DS8800=2421 01160 (SQ45) DS8800=2421 XM550 (SQ31) DS8800 2421 XD070 (SQ32)	2 Enterprise Storage Server DS8870 Microcode level is at 87.51.23.4 (R15g.7i160204a) 3 Enterprise Storage Server DS8800 Microcode level is 86.31.167.0.(R10g.4b150316a)
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/CTG/MQ and incorporating CICS Shared Temporary Storage CF Servers • 6-way DB2/CICS • 8-way DB2/CICS (DB2 V10NFM) • 6-way -- DB2, CICS, WebSphere MQ, WAS, IMS

	• 3-way -- DB2 (DB2 V10CM) • 3-way -- DB2, JES3 DB2 Tools (DB2 V10NFM) • (2) 4-way DB2/CICS • 8-way DB2 V10NFM • 4-way -- DB2, CICS, WebSphere MQ, WAS, IMS, OMEGAMON • 6-way DB2/WAS • (2) 4-way DB2/WAS • (2) 4-way DB2/WAS via CTG/CICS • 2-way DB2 for system back-up, restore and recovery testing (DB2 V11NFM) • 6-way DB2V10 NFM • 4-way DB2V11 NFM • 4-way DB2V11 CM • 6-way CICS/VSAM-RLS and non-RLS • (2) 4-way CICS/VSAM-RLS and non-RLS • (2) 4-way TVS batch setup • 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 WebSphere MQ/DB2 using Shared Queues (Note: DB2 used for Administration and Data Storage purposes) • (2) 4-way WebSphere 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)

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

- CICS Transaction Gateway V9.0 (z/OS)	All service through the end of March 2016 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of May 2016.
- CICS TS 5.1 - CICS TS 5.2 - CICS Interdependency Analyzer for z/OS V3.2	All service through the end of March 2016 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of May 2016.
- DB2 V10 - DB2 V11	All service through the end of March 2016 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of May 2016.
z/OS Problem Determination Tools - Application Performance Analyzer Version 12 Release 1 - Application Performance Analyzer Version 13 Release 1 - Debug Tool for z/OS Version 12 Release 1 - Debug Tool for z/OS Version 13 Release 1 - Fault Analyzer for z/OS Version 12 Release 1 - Fault Analyzer for z/OS Version 13 Release 1 - File Manager for z/OS Version 12 Release 1 - File Manager for z/OS Version 13 Release 1	All service through the end of March 2016 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of May 2016.
- GDPS V3.11 - GDPS V3.12	All service through the end of March 2016 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of May 2016.
IBM Tivoli - IBM Tivoli Monitoring Services on z/OS V6.2.3/6.3.0 - IBM Tivoli OMEGAMON XE for CICS on z/OS V5.1.0 / V5.3.0 - IBM Tivoli OMEGAMON XE for CICS Transaction Gateway on z/OS V5.1.0 - IBM Tivoli OMEGAMON XE for DB2 Performance Expert on z/OS V5.3.0 / V5.2.0 - IBM Tivoli OMEGAMON XE for IMS on z/OS V5.1.0 / V5.3.0 - IBM Tivoli OMEGAMON XE for Mainframe Networks V5.1.0 / V5.3.0 - IBM Tivoli OMEGAMON XE for Storage on z/OS V5.2.0 / V5.3.0	All service through the end of March 2016 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of May 2016.

- IBM Tivoli OMEGAMON XE on z/OS V5.1.0 / V5.3.0 -IBM Tivoli OMEGAMON XE for Messaging on z/OS V7.1.0 / V7.3.0	
- IMS V13 - IMS V14	All service through the end of March 2016 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of May 2016.
- IRLM 2.3	All service through the end of March 2016 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of May 2016.
IBM DB2 Tools DB2 Tools: - Administration Tool for z/OS V11.2 and V11.1 - High Performance Unload for z/OS V4.2 - Object Comparison Tool for z/OS V11.2 and V11.1	All service through the end of March 2016 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of May 2016.
- IBM 31-bit SDK for z/OS V710 - IBM 64-bit SDK for z/OS V710 - IBM 31-bit SDK for z/OS V8 - IBM 64-bit SDK for z/OS V8	All service through the end of May 2016 not already marked RSU.
InfoSphere Guardium S-TAP for IMS on z/OS V10 and V9.1	All service through the end of March 2016 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of May 2016.
WebSphere Application Server for z/OS V8.0 – Service level 8.0.0.12 V8.5 – Service level 8.5.5.9	 WAS 8.0 - All service through PTF UI34439 WAS 8.5 - All service through PTF UI35842
- WebSphere MQ V7.1.0 - WebSphere MQ V8.0.0	All service through the end of March 2016 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of May 2016.
- z/OS V1R13 - z/OS V1R13H - z/OS V2R1 - z/OS V2R2	All service through the end of March 2016 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of May 2016.

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, CTG, GDPS, Java, WebSphere MQ, WebSphere Application Server for z/OS, IBM DB2 Tools, IBM Tivoli OMEGAMON, InfoSphere Guardium S-TAP for IMS on z/OS and z/OS Problem Determination Tools) 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.

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 "links" page of the CST website:

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

or can be directly accessed at:

http://www-03.ibm.com/systems/resources/zos_preventive_maintenance_strategy.pdf

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
  - (In progress) Completing upgrade to CICS TS 5.3

- DB2
  - (Added) One 8 way data sharing group with CICS

- DB2 Tools
  - (In progress) Installing DB2 Administrative Tool for z/OS 11.2
  - (In progress) Installing DB2 Object Comparison Tool for z/OS 11.2

- InfoSphere Guardium S-TAP for IMS on z/OS
  - (Ongoing) Guardium S-TAP for IMS v9.1 monitors the IMS V13 DLI calls
  - (Ongoing) Guardium S-TAP for IMS v10 monitors the IMS V14 DLI calls

- GDPS
  - (Completed) Setup of BHS (Basic Hyperswap) to perform planned and unplanned hyperswaps

- z/OS:
  - (Completed) Replaced z10 2097 processor with z13 processor

- CICS, CTG, DB2, GDPS, IMS, WebSphere MQ, WAS, and z/OS recovery scenarios performed

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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.

PI60899	CLIST DFH$CAT2 contains duplicate RACF permit commands
OA50627	Abend0F4 RSN66863602 while rebuild on secondary lock structure is processing
PI60962	GDPS Client performed CDS Normal action and operation is success but unexpected message "CDS Configuration change is FAILED" is received
PI60870	GEOXCFQ does not set the system name correctly prior to issuing the GEO706I with POST PARTITIONING CLEANUP
PI56254	Abend0C4 in KIPMSDO0
OA50468	IXL013I – Structure still indicates that an "ALTER IN PROGRESS" condition exists. Connection fails with RSN X'00000C65
OA50296	GEO565I system not hyperswap ready with various texts in JES3 environment
IV85026	Unable to Quiesce multiple AORS from an active workload

Please proceed to the CST website for the steps involved.

The URL is http://www-03.ibm.com/systems/z/os/zos/support/servicetest/

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)

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DB2 V10
Exclude(UI34292)

DB2 V11
Exclude(UI34293)

z/OS V2R2
Excludes (UA79318,UA80258)

z/OS V2R1
Exclude (UA79317)

z/OS V1R13
Excludes (UA79316)