

Consolidated Service Test



CST4Q15 (RSU1512)

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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.

Consolidated Service Test



What is the CST Environment?

2964 – NC9 (S131)	Microcode at Driver 22H + MCL bundle S22 with CFCC N98780.006 (R20 srv lvl 00.21) <ul style="list-style-type: none"> • 8 LPARs running z/OS • 50 general processors shared amongst all 8 LPARs, 4 ICF processors, 6 zIIPs and 6 zAAPs logical processors • 1 GDPS control image with 4864 of Central Storage • 4 z/OS LPARs with 14848M of Central Storage • 6 z/OS LPARs with 10240M of Central Storage • 2 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 <ul style="list-style-type: none"> • 2 LPARs running z/OS
2817 - M66 (R01)	Microcode at Driver 93G + MCL bundle 73 with CFCC code N48162.023 (R17 srv lvl 10.31) <ul style="list-style-type: none"> • 42 General processors on all LPARs, 4 ICF processor • 1 z/OS Image with 4096M Central Storage • 2 z/OS Images with 10240M of Central Storage each • 2 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) <ul style="list-style-type: none"> • 96 general processors, 2 zIIPs, 2 zAAPs • 2 z/OS images running 770048M each • 1 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) <ul style="list-style-type: none"> • 96 general processors, 2 zIIPs, 2 zAAPs • 2 z/OS images running 770048M each • 1 CF with 25G storage at CFCC level 19 and 2 dedicated processors
Automated Tape Library (ATL)	3584 <ul style="list-style-type: none"> • 16 3592 tape drives, FICON-attached
Virtual Tape Server (VTS)	3494 B20 VTS <ul style="list-style-type: none"> • 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)
DASD (2107/242x) DS8000=2107 25030 (SQ00) DS8000=2421 Y2430 (SQ13) DS8000=2421 Y4360 (SQ14) DS8000=2421 FA820 (SQ18) DS8000=2421 FB240 (SQ19) DS8800=2421 XM550 (SQ31) DS8800 2421 XD070 (SQ32)	5 Enterprise Storage Server DS8000. Microcode level is 64.36.103.0 (R12p.9b140924a) Microcode level is at 64.36.75.0 (R12p.9b130317ab) 2 Enterprise Storage Server DS8800 Microcode level is 86.31.167.0 (R10g.4b150316a)

Consolidated Service Test



GDPS	Configuration info: we simulate two logical sites, it is purely a logical designation.
Lan attached	Both SNA and TCPIP
Data Sharing Groups	<ul style="list-style-type: none"> • 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)

Consolidated Service Test



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 Transaction Gateway V9.0 (z/OS)	All service through the end of September 2015 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of November 2015.
- CICS TS 5.1 - CICS TS 5.2 - CICS Interdependency Analyzer for z/OS V3.2	All service through the end of September 2015 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of November 2015 .
- DB2 V10 - DB2 V11	All service through the end of September 2015 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of November 2015 .
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 September 2015 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of November 2015.
- GDPS V3.11 - GDPS V3.12	All service through the end of September 2015 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of November 2015 .
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	All service through the end of September 2015 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of November 2015 .

Consolidated Service Test



<ul style="list-style-type: none"> - IBM Tivoli OMEGAMON XE for IMS on z/OS V5.1.0 / V4.2.0 - IBM Tivoli OMEGAMON XE for Mainframe Networks V5.1.0 / V4.2.0 - IBM Tivoli OMEGAMON XE for Storage on z/OS V5.2.0 / V5.3.0 - 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 	
<ul style="list-style-type: none"> - IMS V12 - IMS V13 	<p>All service through the end of September 2015 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of November 2015 .</p>
<ul style="list-style-type: none"> - IRLM 2.3 	<p>All service through the end of September 2015 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of November 2015 .</p>
<p>IBM DB2 Tools <u>DB2 Tools:</u></p> <ul style="list-style-type: none"> - Administration Tool for z/OS V10.2 and V11.1 - High Performance Unload for z/OS V4.2 - Object Comparison Tool for z/OS V10.2 and V11.1 	<p>All service through the end of September 2015 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of November 2015 .</p>
<ul style="list-style-type: none"> - 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 	<p>All service through the end of November 2015 not already marked RSU.</p>
<p>InfoSphere Guardium S-TAP for IMS on z/OS V9.1</p>	<p>All service through the end of September 2015 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of November 2015 .</p>
<p>WebSphere Application Server for z/OS</p> <p>V8.0 – Service level 8.0.0.11 V8.5 – Service level 8.5.5.7</p>	<p>WAS 8.0 - All service through PTF UI29833 WAS 8.5 - All service through PTF UI30771</p>
<ul style="list-style-type: none"> - WebSphere MQ V7.1.0 - WebSphere MQ V8.0.0 	<p>All service through the end of September 2015 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of November 2015 .</p>
<ul style="list-style-type: none"> - z/OS V1R13 - z/OS V1R13H - z/OS V2R1 - z/OS V2R2 	<p>All service through the end of September 2015 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of November 2015 .</p>

Consolidated Service Test



Roll-out of CST4Q15:

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.

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 "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

Highlights of CST4Q15

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

Consolidated Service Test



Some highlights follow:

- DB2
 - (Added) One 8 way data sharing group with CICS
- Infosphere Guardium S-TAP for IMS on z/OS
 - (In Progress) We are in the completion stages of migrating from InfoSphere Guardium S-TAP for IMS on z/OS 9.1 to V10
- IMS
 - (In Progress) Installing IMS V14. Will migrate IMS V13 to IMS V14 on 4 LPARs, and will run IMS V13 - IMS V14 in coexistence mode on a 4-way SQ and a 4-way non-SQ data sharing group.
 - (In Progress) Migration of IMS V12 to IMS V13 on 3 LPARs, and running IMS V12 - IMS V13 in coexistence mode on a 6-way SQ datasharing group
- GDPS
 - (In progress) Setting up BHS (Basic Hyperswap) to perform planned and unplanned hyperswaps
 - (Completed) Migration of 3.10 to 3.11 and 3.11 to 3.12
 - (Completed) Converted our GDPS/PPRC and GDPS/XRC into a GDPS/MxGM configuration
- z/OS:
 - (Completed) Migration to z/OS V2R2
- CICS, CTG, DB2, GDPS, IMS, WebSphere MQ, WAS, and z/OS recovery scenarios performed

Problems Encountered during CST4Q15:

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.

Consolidated Service Test



DB2 V11	
PI52101	Abend04E RC00C90101 in DSNKUNR2 ERQUAL5007 while executing the image copy with SHRLEVEL CHANGE FLASHCOPY CONSISTENT against the index space
DFSMS D10	
OA46460	Abend0C4 in IDCIO02
DFSMS 210	
OA49430	Abend0F4 RSN650E1912 may occur during a REBUILD of a SMSVSAM cache structure if an active request causes a CA split
DFSMS 220	
OA48726	Abend0F4 RC24 RSN1213950B in IGWLGXIT
OA49208	Possible hang when DADSM makes a catalog call when it holds SYSVTOC
IMS V12	
PI52409	Abend0C4 in DFSRCP10
IMS V13	
PI51920	AbendC0D RC2A00010X or RC2A00020X after prior abend on 64-bit FP system
Z/OS V2R1	
OA49001	Hyperswap failure - IOSHS0010I PPRC primary device is boxed
OA49367	Abend088 ILRCMP RSN=1 occurs during AUX paging when PTEX not cleared
OA48979	Abend0C4 in IWMW4SRS
Z/OS V2R2	
OA49469	AbendC78 RC5C in IEFAB490
OA49343	ERB306D issued repeatedly during RMF initialization
OA49378	Abend0F4 RSN64190212 can happen during a CA SPLIT for a VSAM data set using RLS
PI54018	AbendAC7 RSN00090003 in SDSF
	Not part of the CST RSU product group:
SA 3.5.0	
OA49460	Abend0C4 in HSAPHSP

Consolidated Service Test



How is the Customer going to obtain and install the CST4Q15 level of service?

Please proceed to the CST website for the steps involved.

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

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

DB2 V11

Exclude (UI30638)

z/OS V2R2

Exclude (UA79080)

z/OS V2R1

Excludes (UA77807,UI28901,UI31160)

z/OS V1R13

Excludes (UA77806,UI28901,UI31160)