

Consolidated Service Test



CST4Q16 (RSU1612)

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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/PPRC and GDPS/MzGM
- IMS
- IRLM
- JAVA
- WebSphere Application Server for z/OS
- WebSphere MQ for z/OS
- IBM DB2 Tools
- IBM Tivoli OMEGAMON
- IBM Security 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.

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What is the CST Environment?

2964 – NC9 (S131)	Microcode at Driver 271 + MCL bundle S26 with CFCC N98780.006 (R21 srv lvl 00.68) <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 21 and 2 dedicated processors each
2964 - N96 (S134)	Microcode at Driver 271 + MCL bundle S26 with CFCC code P8416.003 <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)
DS8800 2421 XM550 (SQ31) DS8800 2421 XD070 (SQ32) DS8800 2421 01160 (SQ45) 2424VM240 (SQ59) 2424VM330 (SQ60)	2 Enterprise Storage Server DS8800 Microcode level is 86.31.195.0 (R10g.4b150316a) Microcode level is 87.51.63.0 (R15g.7i60204a)
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

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	<ul style="list-style-type: none"> • 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/WAS (Rajiv) vGyoh2pNpNNmlOB#ing • 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 □ ICS
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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 Transaction Gateway V9.0 (z/OS)	All service through the end of September 2016 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of November 2016.
- CICS TS 5.2 - CICS TS 5.3 - CICS Interdependency Analyzer for z/OS V3.2	All service through the end of September 2016 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of November 2016.
- DB2 V10 - DB2 V11	All service through the end of September 2016 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of November 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 September 2016 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of November 2016.
- GDPS V3.12 - GDPS V3.13	All service through the end of September 2016 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of November 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 DB2 Performance Expert on z/OS V5.3.0 / V5.2.0 - IBM Tivoli OMEGAMON XE for	All service through the end of September 2016 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of November 2016.

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<p>IMS on z/OS V5.1.0 / V5.3.0</p> <ul style="list-style-type: none"> - 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 - 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 V13 - IMS V14 	All service through the end of September 2016 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of November 2016.
<ul style="list-style-type: none"> - IRLM 2.3 	All service through the end of September 2016 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of November 2016.
<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 	All service through the end of November 2016 not already marked RSU.
<p>IBM Security Guardium S-TAP for IMS on z/OS V10.0 and V9.1</p>	All service through the end of September 2016 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of November 2016.
<p>WebSphere Application Server for z/OS</p> <p>V8.0 – Service level 8.0.0.12</p> <p>V8.5 – Service level 8.5.5.9</p>	<p>WAS 8.0 - All service through PTF UI34439</p> <p>WAS 8.5 - All service through PTF UI35842</p>
<ul style="list-style-type: none"> - WebSphere MQ V7.1.0 - WebSphere MQ V8.0.0 	All service through the end of September 2016 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of November 2016.
<ul style="list-style-type: none"> - z/OS V1R13 - z/OS V1R13H - z/OS V2R1 - z/OS V2R2 	All service through the end of September 2016 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of November 2016.

Roll-out of CST4Q16:

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 Tivoli OMEGAMON, IBM Security 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.

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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 CST4Q16

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

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Some highlights follow:

- DB2
 - (Completed) One 8 way data sharing group with CICS
- IBM Security Guardium S-TAP for IMS on z/OS
 - (Completed) We are in the completion stages of migrating from IBM Security Guardium S-TAP for IMS on z/OS 9.1 to V10
- IMS
 - (Completed) Migration of IMS V13 to IMS V14.
 - (Completed) Migration of IMS V12 to IMS V13.
- GDPS
 - (Completed) Setting up BHS (Basic Hyperswap) to perform planned and unplanned hyperswaps
 - (Completed) Migration of 3.12 to 3.13 in one environment and 3.11 to 3.12 on the other.
 - (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

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Problems Encountered during CST4Q16:

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 5.3	
PI71558	Abend0C4 in EYU0WMAA (WMAA) in a CMAS.
PI72752	DFHTR0112 bad data passed for tracing to module DFHTRPT
DFSMS 2.1.0	
OA48605	Abend0F4 RSN66692402 after a REBUILD is complete of lock structure
OA44395	Abend0C4 RSN00000011 in IGWLSLIC
IMS V13	
PI70363	MSGDFHDB8222 connection has failed. DBCTL return code is 12
DFSMS 220	
OA51474	ABEND0C4 RC0000004 in IGG0553G
GDPS 3.12	
PI70893	Abend0C1 RC=00000001 in IXCS1STB
Z/OS Problem Determination Tools	
PI74105	Abend0C4 in IDIXDCAP
	Not part of the CST RSU Recommendation:
WSIM 110	
PI63016	Abend0C4 RC10 when running TCP simulations that have more than 25 path statements or repeat more than 25 times

How is the Customer going to obtain and install the CST4Q16 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/>

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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

CICS/TS 5.3

Excludes (UI40033,UI42813,UI42764,UI41525,UI42269,UI42765,UI42270,UI40681,UI40682)

CICS/TS 5.2

Excludes (UI40361,UI41030)

IMS V13

Exclude (UI41047)

IMS V14

Excludes (UI40809,UI41160)

DB2 V10

Excludes (UI39318,UI39662,UI40334,UI40283)

DB2 V11

Excludes (UI39319,UI39663,UI40078,UI40284,UI40335,UI40371,UI40382,UI40715)

z/OS V2R1

Exclude (UA82705)

z/OS V2R2

Excludes (UA82706,UI38965,UI39328,UI40095,UI40331,UI40418)