

Consolidated Service Test



CST1Q16 (RSU1603)

April 1, 2016

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
- 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 !"#ir\$"me"t%

2964 – NC9 (S131)	Microcode at Driver 22H + MCL bundle S22 with CFCC N98780.006 (R20 srv lvl 00.21) ³⁵ ₁₇ 8 LPARs running z/OS ³⁵ ₁₇ 50 general processors shared amongst all 8 LPARs, 4 ICF processors, 6 zIIPs and 6 zAAPs logical processors ³⁵ ₁₇ 1 GDPS control image with 4864 of Central Storage ³⁵ ₁₇ 4 z/OS LPARs with 14848M of Central Storage ³⁵ ₁₇ 6 z/OS LPARs with 10240M of Central Storage ³⁵ ₁₇ 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 ³⁵ ₁₇ 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) ³⁵ ₁₇ 42 General processors on all LPARs, 4 ICF processor ³⁵ ₁₇ 1 z/OS Image with 4096M Central Storage ³⁵ ₁₇ 2 z/OS Images with 10240M of Central Storage each ³⁵ ₁₇ 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) ³⁵ ₁₇ 96 general processors, 2 zIIPs, 2 zAAPs ³⁵ ₁₇ 2 z/OS images running 770048M each ³⁵ ₁₇ 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) ³⁵ ₁₇ 96 general processors, 2 zIIPs, 2 zAAPs ³⁵ ₁₇ 2 z/OS images running 770048M each ³⁵ ₁₇ 1 CF with 25G storage at CFCC level 19 and 2 dedicated processors
Automated Tape Library (ATL)	3584 ³⁵ ₁₇ 16 3592 tape drives, FICON-attached
Virtual Tape Server (VTS)	3494 B20 VTS ³⁵ ₁₇ AIX with VTS CU ³⁵ ₁₇ 32 emulated 3490 addresses in this VTS ³⁵ ₁₇ 6 VTS 3590 drives (not directly accessible from z/OS) ³⁵ ₁₇ 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	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

Consolidated Service Test



(SQ31) DS8800 2421 XD070 (SQ32)	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	<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)

What Service is a (" talled:

Consolidated Service Test



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

Pr\$d)&t*T\$\$I	+ai"te"a"&e ,e#el
- CICS Transaction Gateway V9.0 (z/OS)	All service through the end of December 2015 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of February 2016.
- CICS TS 5.1 - CICS TS 5.2 - CICS Interdependency Analyzer for z/OS V3.2	All service through the end of December 2015 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of February 2016.
- DB2 V10 - DB2 V11	All service through the end of December 2015 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of February 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 December 2015 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of February 2016.
- GDPS V3.11 - GDPS V3.12	All service through the end of December 2015 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of February 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 / V4.2.0 - IBM Tivoli OMEGAMON XE for Mainframe Networks V5.1.0 / V4.2.0 - IBM Tivoli OMEGAMON XE for	All service through the end of December 2015 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of February 2016.

Consolidated Service Test



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	
- IMS V12 - IMS V13	All service through the end of December 2015 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of February 2016.
- IRLM 2.3	All service through the end of December 2015 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of February 2016.
IBM DB2 Tools <u>DB2 Tools:</u> - 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	All service through the end of December 2015 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of February 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 February 2016 not already marked RSU.
-InfoSphere Guardium S-TAP for IMS v9.1 -InfoSphere Guardium S-TAP for IMS V10	All service through the end of December 2015 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of February 2016.
WebSphere Application Server for z/OS V8.0 – Service level 8.0.0.12 V8.5 – Service level 8.5.5.8	WAS 8.0 - All service through PTF UI34439 WAS 8.5 - All service through PTF UI33142
- WebSphere MQ V7.1.0 - WebSphere MQ V8.0.0	All service through the end of December 2015 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of February 2016.
- z/OS V1R13 - z/OS V1R13H - z/OS V2R1 - z/OS V2R2	All service through the end of December 2015 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of February 2016.

R\$II-\$)t \$. CST1Q16:

Consolidated Service Test



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/ 0e'

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

1i2hli2ht \$. CST1Q16

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:

Consolidated Service Test



- CICS
 - (In progress) Reviewing documentation and preparing for installation of 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
 - (Completed) Migration from InfoSphere Guardium S-TAP for IMS on z/OS 9.1 to V10
 - (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
- IMS
 - (Completed) Installed IMS V14, and migrated IMS V13 to IMS V14 in a 4-way SQ and in a 4-way non-SQ data sharing group.
 - (Completed) Migrated IMS V12 to IMS V13 in a 6-way SQ datasharing group
- 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

Problem Identifier: CST1Q16:

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



C(CS*TS 34240	
PI56334	CFDT Server loses connectivity to structure but does not terminate, instead gets a series of messages and hangs
56PS 3411	
PI56236	Storage overlay by GDPS health check causes abends in other health checks
56PS 3412	
PI40786	Storage overlay
PI58656	VPCEPFO running on invalid task AUTGEO5
(".\$Sphere 5)ardi)m S- TAP .\$r (+S \$" 7*8S	
PI57492	Abend0C4 in AUISFMG or AUIGPING
(+S 913	
PI52405	Abend0C4 in DFSRCP10
WebSphere .\$r +Q 9:10	
PI54455	Abend0C4 RC00000011 in CSQRUC01
7*8S 92R1	
OA49500	Abend0C4 PIC4 in IDAVRR10
OA50092	Abend438 RC02390003 occurred in ISGGNRM
	Pr\$d)&t "\$t part \$. the CST RSU
0et#ie ' 93R3	
OA49403	Abend0C4 in Netview during shutdown

Consolidated Service Test



1\$' i the C) t\$mer 2\$ i" 2 t\$ \$btai" a" d i" tall the CST1Q16 le#el \$. er#i&e%
Please proceed to the CST website for the steps involved.

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

;\$r Q)e ti\$" a" d C\$mme"t

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>)

Appe" di< A: Excluded Maintenance

(R, + 9243
Exclude (UI32254)

6=2 911
Excludes (UI31908, UI32604)

6=2 910
Excludes (UI32254, UI32603)

6=2 Admi"i trati#e T\$\$l . \$r 7*8S 911
Exclude (UI33257)

WebSphere . \$r +Q 9>00
Excludes (UI31499, UI32981)

WebSphere . \$r +Q 9:10
Exclude (UI31498)

7*8S 92R2
Excludes (UA79817, UI33862)

7*8S 92R1
Excludes (UA79818, UI33863)