

Consolidated Service Test



CST1Q17 (RSU1703)

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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
- GDPS/PPRC and GDPS/MzGM
- IMS
- IRLM
- JAVA
- WebSphere Application Server for z/OS
- IBM MQ for z/OS
- IBM Tivoli OMEGAMON
- IBM Security Guardium S-TAP for IMS, DB2 and VSAM 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 271 + MCL bundle S31 with CFCC P08416.005 (R21 srv lvl 02.16) 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 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) 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) 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) 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 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

Consolidated Service Test



Shared Temporary Storage CF Servers

- 6-way DB2/CICS
- 8-way DB2/CICS (DB2 V10NFM)
- 6-way -- DB2, CICS, IBM 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, IBM 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 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)

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 December 2016 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of February 2017.
- CICS TS 5.2 - CICS TS 5.3 - CICS Interdependency Analyzer for z/OS V3.2	All service through the end of December 2016 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of February 2017.
- DB2 V10 - DB2 V11	All service through the end of December 2016 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of February 2017.
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 2016 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of February 2017.
- GDPS V3.12 - GDPS V3.13	All service through the end of December 2016 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of February 2017.
IBM Tivoli - IBM Tivoli Monitoring Services on z/OS V6.3.0 - 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 / V5.4.0 - IBM Tivoli OMEGAMON XE for	All service through the end of December 2016 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of February 2017.

Consolidated Service Test



<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 V5.3.0 / V5.4.0 - 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 December 2016 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of February 2017.
<ul style="list-style-type: none"> - IRLM 2.3 	All service through the end of December 2016 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of February 2017.
<p>JAVA Technology Edition</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 	All service through the end of February 2017 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 December 2016 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of February 2017.
<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"> - IBM MQ V7.1.0 - IBM MQ V8.0.0 	All service through the end of December 2016 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of February 2017.
<ul style="list-style-type: none"> - z/OS V2R1 - z/OS V2R2 	All service through the end of December 2016 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of February 2017.

Roll-out of CST1Q17:

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, IBM 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.

Consolidated Service Test



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 CST1Q17

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
 - (In Progress) Migrating from DB2 V11 to DB1 V12
 - (In Progress) Migrating from DB2 V10 to DB2 V11

- 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
 - (In Progress) We are currently bringing in IBM Security Guardium STAP for DB2 V10
 - (In Progress) We are currently bringing in IBM Security Guardium STAP for Data Set V10

- 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

- IBM MQ
 - (In Progress) Migrating from WMQ V8 to IBM MQ V9
 - (In Progress) Migrating from WMQ V710 to WMQ V80

- IBM WebSphere Application Server
 - (In Progress) Migrating from WAS V8.5 to WAS V9
 - (In Progress) Migrating from WAS V8 to WAS V8.5

- z/OS:
 - (Completed) Migration to z/OS V2R2

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

Problems Encountered during CST1Q17:

Consolidated Service Test



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 5.2.0	
PI76018	'CICS Assign Program(PROGRAM) INITPARM(DATA)';SAY Program not returning expected data
CICS/TS 5.3.0	
PI76917	DFH5275 message is reported as an error instead of a warning which causes all future commands to stop
PI74854	DFHRM0001 An abend (code ---/AKEC) and Abend0C4 in DFHRMLK3
DB2 V11	
PI74729	DSNT773I message contains an invalid profiled value
DFSMS 2.2.0	
OA51700	NFS Server received AbendU801 decimal U2049, reason code E2B91F3 in GFSCRTHD
OA52096	CATALOG address space hangs after abend if RLS quiesce exit does not complete
OA52138	Abend0C4 in IDAVRM31 for RLS enabled user catalog
OA52029	Abend0F4 RSN66863602 while rebuilding a secondary lock structure
GDPS 3.13	
PI76268	Abend0C4 RC04 due to GDPS overlay
PI69734	IRX0011I Error running VPCESTD1, line 3125: Control stack full
PI41822	Improve GDPS Cross-System communication reliability
PI78508	Change VPCEHSCR from serially
IRLM 2.3.0	
PI77688	IRLM incorrectly codes CFLEVEL on the IXLCONN
RMF V2.2.0	
OA51936	AbendA78-18 in RMF address space during normal RMF shut down

Consolidated Service Test



Z/OS V2.1.0	
OA51858	Abend066 during JES3 hyperswap
Z/OS V2.2	
OA51936	AbendA78 RC18 in RMF address space during normal RMF shut down
Debug Tool for Z/OS V12.1	
PI76348	Abend0C1 during CICS startup after failed LOAD of EQA00OSX

How is the Customer going to obtain and install the CST1Q17 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

IMS V14

Excludes: (UI42189, UI42684, UI43180, UI43183, UI43189, UI43385, UI43388, UI43393, UI42745, UI42746)

DB2 V11

Excludes: (UI42583, UI42934, UI41360, UI42584, UI42935)

z/OS V2R1

Excludes: (UA83007, UA83296, UA83388, UA83392, UA83396, UA83413, UA83434, UA83517, UA83983, UA83921)

z/OS V2R2

Excludes: (UA82981, UA82982, UA83008, UA83025, UA83107, UA83108, UA83168, UA83169, UA83297, UA83389, UA83393, UA83395, UA83414, UA83435, UA83516, UA83984, UA91102, UA91212, UA83922)