

Consolidated Service Test



CST4Q17 (RSU1712)

January 2, 2018

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
- IBM MQ for z/OS
- 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.

Consolidated Service Test



What is the CST Environment?

3906 – M04 (M131)	<p>Microcode at Driver 32 + MCL bundle S05 with CFCC P42606.003 (R22 srv lvl 00.28)</p> <ul style="list-style-type: none"> • 9 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 5120M of Central Storage • 4 z/OS LPARs with 14848M of Central Storage • 2 z/OS LPARs with 14336M of Central Storage • 2 CF2 with 25G storage at CFCC level 22 and 2 dedicated processors each
2827 – HA1 (P03)	<p>Microcode at Driver 15F + MCL bundle 42 with CFCC H49559.013 (R19 srv lvl 2.18)</p> <ul style="list-style-type: none"> • 96 general processors, 2 zIIPs, 2 zAAPs • 2 z/OS images running 20480M each • 2 z/OS images running 204800M each • 2 z/OS images running 5120M each • 1 z/OS image running 10240M each • 2 CFs with 25G storage at CFCC level 19 and 2 dedicated processors
2827 – HA1 (P286)	<p>Microcode at Driver 15F + MCL bundle 42 with CFCC H49559.013 (R19 srv lvl 2.18)</p> <ul style="list-style-type: none"> • 96 general processors, 2 zIIPs, 2 zAAPs • 2 z/OS images running 20480M each • 1 z/OS images running 5120M each • 4 z/OS images running 14336M each • 2 CFs with 25G storage at CFCC level 19 and 2 dedicated processors
Automated Tape Library (ATL)	<p>3584</p> <ul style="list-style-type: none"> • 16 3592 tape drives, FICON-attached
Virtual Tape Server (VTS)	<p>3494 B20 VTS</p> <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)	<p>2 Enterprise Storage Server DS8800 Microcode level is 86.31.167.0 (R10g.4b150316a)</p> <p>Microcode level is 87.51.23.0 (R15g.7i60204a)</p>
GDPS	<p>Configuration info: we simulate two logical sites, it is purely a logical designation.</p>
Lan attached	<p>Both SNA and TCPIP</p>
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 V11NFM)

Consolidated Service Test



- 6-way -- DB2, CICS, IBM MQ, WAS, IMS
- 3-way -- DB2 (DB2 V11NFM)
- (2) 4-way DB2/CICS
- 8-way DB2 (DB2 V11NFM)
- 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 V12R1M100)
- 6-way DB2V11 CM
- 4-way DB2V12R1M500
- 4-way DB2V12R1M100
- 6-way CICS/VSAM-RLS and non-RLS
- (2) 4-way CICS/VSAM-RLS and non-RLS
- (2) 4-way TVS batch setup
- (2) 4 - Way CICS/VSAM workload using 3270 and CICS/Liberty Front ends
- 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 V9.1 (z/OS)	All service through the end of September 2017 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of November 2017.
- CICS TS 5.3 - CICS TS 5.4 - CICS Interdependency Analyzer for z/OS V3.2	All service through the end of September 2017 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of November 2017.
- DB2 V11 - DB2 V12	All service through the end of September 2017 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of November 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 September 2017 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of November 2017.
- GDPS V3.13 - GDPS V3.14	All service through the end of September 2017 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of November 2017.
IBM Tivoli - IBM Tivoli Monitoring Services on z/OS V6.3.0 - IBM Tivoli OMEGAMON XE for CICS on z/OS V5.3.0 / V5.5.0 - IBM Tivoli OMEGAMON XE for DB2 Performance Expert on z/OS V5.3.0 / V5.4.0	All service through the end of September 2017 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of November 2017.

Consolidated Service Test



<ul style="list-style-type: none"> - IBM Tivoli OMEGAMON XE for IMS on z/OS V5.3.0 / V5.5.0 - IBM Tivoli OMEGAMON XE for Mainframe Networks V5.3.0 / V5.5.0 - IBM Tivoli OMEGAMON XE for Storage on z/OS V5.3.0 / V5.4.0 - IBM Tivoli OMEGAMON XE on z/OS V5.3.0 / V5.5.0 - IBM Tivoli OMEGAMON XE for Messaging on z/OS V7.3.0 / V7.5.0 	
<ul style="list-style-type: none"> - IMS V13 - IMS V14 	All service through the end of September 2017 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of November 2017.
<ul style="list-style-type: none"> - IRLM 2.3 	All service through the end of September 2017 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of November 2017.
<ul style="list-style-type: none"> - IBM 31-bit SDK for z/OS V8 - IBM 64-bit SDK for z/OS V8 	All service through the end of November 2017 not already marked RSU.
IBM Security Guardium S-TAP for IMS on z/OS V10.0 and V9.1	All service through the end of September 2017 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of November 2017.
WebSphere Application Server for z/OS V8.0 – Service level 8.0.0.12 V8.5 – Service level 8.5.5.12	WAS 8.0 - All service through PTF UI34439 WAS 8.5 - All service through PTF UI48569
<ul style="list-style-type: none"> - IBM MQ V8.0.0 - IBM MQ V9 	All service through the end of September 2017 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of November 2017.
<ul style="list-style-type: none"> - z/OS V2R1 - z/OS V2R2 - z/OS V2R3 	All service through the end of September 2017 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of November 2017.

Roll-out of CST4Q17 :

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.

Additionally, IBM recommends that the Customer thoroughly test the maintenance level applied, including testing in a parallel sysplex application data sharing environment.

Consolidated Service Test



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 CST4Q17

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/TS
 - (Completed) Migrating from CICS/TS V5R3 to CICS/TS V5R4
 - (Completed) Migrating from CICS/TS V5R2 to CICS/TS V5R3
- DB2
 - (Completed) Migration of DB2 V11 to DB2 V12
 - (Completed) Migration of DB2 V10 to DB2 V11 CM and DB2 V11 NFM
- IBM Security Guardium S-TAP for IMS on z/OS
 - (In Progress) Installing IBM Security Guardium S-TAP for DB2 on z/OS V10
 - (In Progress) Installing IBM Security Guardium S-TAP for Data Set on z/OS V10
- IMS
 - (Completed) Built IMS catalog databases in a 4-way non-SQ IMS V14 data sharing group and in a 4-way SQ IMS V14 data sharing group and successfully migrated to IMS-managed ACBs
 - (In Progress) Migration from IMS V14 to V15 in a 4-way SQ datasharing group and in a 4-way non-SQ datasharing group and currently running IMS V14 - IMS V15 in coexistence mode using IMS Managed ACBs.
 - (In Progress) Migration from IMS V13 to V14 in a 6-way SQ datasharing group and currently running IMS V13 - IMS V14 in coexistence mode.
- IBM MQ
 - (Completed) Migration of IBM MQ V7 to IBM MQ V8
 - (Completed) Migration of IBM MQ V8 to IBM MQ V9
- z/OS:
 - (Completed) Installation of IBM z14 processor
 - (Completed) Migration to z/OS V2R3
 - (In Progress) Installing IBM Pervasive Encryption
- CICS, DB2, GDPS, IMS, IBM MQ, WAS, and z/OS recovery scenarios performed

Consolidated Service Test



Problems Encountered during CST4Q17 :

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 5.4	
PI91378	EYUVC1278E in WUI or CNX0593E / CNX0624E in CICS EXPLORER if query directed to region that terminated end of memory
PI91601	Unnecessary DFHSO1000 dump taken for timed out socket connect request
CICS/TS 5.3	
PI89796	When invoking the supplied rexx CLIST DFHINST to generate the EYUCSYDS job, it fails to generate valid JCL
PI90027	MPSYNCCR (Maintenance Point Synchronization) diagnostic improvements
DB2 V12	
PI88638	A duplexing rebuild structure was none responsive with Abend026 RSN08110102 seen in DB2
DFSMS 2.2.0	
OA54466	SYSZCAXW and SYSIGGV2 hang during DDR swap
OA54291	Abend0F4 RC24 RSN650C1942 from IGWSDRDS during high coupling facility and cache activity
OA54158	Abend0C4 RC04 in IGDOPSL1
DFSMS 2.3	
OA54191	Abend0F4 RC1008 with RSN6117FB77 from IDAVRBFM
GDPS 3.14	
PI87484	IXC256A reply delayed due to console retrieval hanging
PI89310	GDPS SYSPLEX CDS operation may fail RC=1
PI89374	Abend0C4 and dump for NetView task GEOXCF

Consolidated Service Test



z/OS V2R2	
OA54161	F HZR,ANALYZE can result in false hits for the ENQ contention report
z/OS V2R3	
OA54166	MSGGEO565W FC=15 RC=00000012 REAS=00000000 when system not HyperSwap ready with JES3
PI89400	With the fix for PI78252 applied, CEELUCT may not return the DST updated time unless the system is IPL'd
OA54324	Abend0C4 may occur in CSVFORKM if an invalid CDX address is obtained from the CDE.

How is the Customer going to obtain and install the CST4Q17 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 V13 Excludes: (UI44434,UI42746,UI42745, UI47374,UI48803,UI44435,UI51964,UI49053,UI49054)

z/OS V2R1 Exclude (UI48802)

z/OS V2R2 Exclude (UI48801)