

Consolidated Service Test



CST4Q07 (RSU0712)

Dated: January 11, 2008

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 Connect
- DB2 for z/OS
- Geographically Dispersed Parallel Sysplex (GDPS/PPRC)
- IMS
- IRLM
- JAVA
- WebSphere Application Server for z/OS
- WebSphere MQ for z/OS
- IBM DB2 and IMS Tools
- IBM Tivoli
- eServer zSeries AD 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?

<p>2094-S38 (T102)</p>	<ul style="list-style-type: none"> • Microcode at Driver 67L + MCL bundle 11C with CFCC code G40953.003 (R15 srv lvl 00.19) • 8 LPARs running z/OS • 31 general processors shared amongst all 8 LPARs, 3 IFA processors, 2 zIIPs Logical processors per LPAR • All z/OS images are at either V1R6, V1R7 or V1R8 in z/Architecture mode • 14976M Central Storage for 4 MVS LPARs • 10304M Central Storage for 1 MVS LPARs • 7104M Central Storage for 2 MVS LPAR • 4992M Central Storage for 1 MVS LPAR • 1 CF with 8G storage at CFCC level 14 and 2 shared processors
<p>2084-D32 (G17)</p>	<ul style="list-style-type: none"> • Microcode at Driver 55K + MCL bundle 91 with CFCC code J13481.018 (R14 srv lvl 00.27) • 14 LPARs running z/OS, 2 CST images • 26 general processors shared amongst all z/OS LPARs, 6 IFA processors shared among SVT images • 10 Logical processors on 1 CST LPAR, 12 on the other. SVT varies. • 10240M Central Storage for 2 CST MVS LPARs. SVT varies. All are running in z/Architecture mode.
<p>2064-112 (FR32)</p>	<ul style="list-style-type: none"> • Microcode at Driver 3GF + MCL bundle 91 with CFCC code J11207.030 (R13 srv lvl 04.13) • 3 LPARs running z/OS • 2 LPARs running CF code (CFCC level 13) • Each CF image has 2 dedicated ICF processors; the other processors are shared amongst the OS images and are WLM-managed on the z/OS images. • Each CF image has 8192M storage. • 11 Logical processors shared amongst 2 OS LPARs. One image has 2 shared logical processor(SH0) • 10496M Central storage for 2 z/OS LPARs, 3840MB Central storage for 1 z/OS LPAR, running z/OS V1R7 and z/OS V1R8. All are running in z/Architecture mode.
<p>2064-116 (ECF1D)</p>	<ul style="list-style-type: none"> • Microcode at Driver 3GF + MCL bundle 79 - 87 with CFCC code J11207.030 (R13 srv lvl 04.13) • 3 LPARs running z/OS • 1 LPAR running CF code (CFCC level 13) • 7 processors shared amongst all 3 z/OS LPARs, WLM-managed on the z/OS images • 2 ICF processors for CF LPAR • 8192M Central storage for MVS LPARs running z/OS V1R6, z/OS V1R7 and z/OS V1R8. All are running in z/Architecture mode.
<p>IBM System z9 2094-S18 (T73)</p>	<ul style="list-style-type: none"> • Microcode at Driver 67L + MCL bundle 05 with CFCC code G40953.002 (R15 srv lvl 00.18) • 6 WLM-managed z/OS LPARs: 2 CST images with 12 shared processors, 4 SVT images with 15 shared processors. • 2 LPARs (SVT) configured as CFs, 1 shared general processor each • 10,240M Central Storage for CST LPARs. SVT varies. • All are running in z/Architecture mode.

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Automated Tape Library (ATL)	<p>3495</p> <ul style="list-style-type: none"> Library Manager with OS/2 WARP 16 3490 tape drives, ESCON-attached 12 3590 tape drives, ESCON-attached 4 3592 tape drives, ESCON-attached
Virtual Tape Server (VTS)	<p>3494 V18 VTS</p> <ul style="list-style-type: none"> AIX with VTS CU 32 emulated 3490 addresses in this L10 VTS 6 VTS 3590 drives (not directly accessible from z/OS) 16 3590 tape drives are accessible from z/OS (FICON)
<p>DASD 800= 28211, 28355, 25924, 28644</p> <p>DASD (2107) DS8000=25030</p>	<p>2 Enterprise Storage Server 800 (Shark). Microcode level is 2.4.4.112 (R2i.8b061221)</p> <p>2 Enterprise Storage Server 800 (Shark). Microcode level is 2.4.3.73 (R2h.8b050826)</p> <p>1 Enterprise Storage Server DS8000. Microcode level is 62.42.83.0 (R11y.9b070823)</p>
GDPS	Configuration info: we simulate two logical sites by using 20K of fiber between the two DWDMs, through which all the cross-site links, including the PPRCs links, are sent.
Lan attached	Both SNA and TCP/IP
Data Sharing Groups	<ul style="list-style-type: none"> 6-way DB2/CICS (2) 4-way DB2/CICS 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 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 (2) IMS Connect Stress Test using Sysplex Distributor 6-way IMS/CICS (2) 4-way IMS/CICS 6-way WMQ/DB2 using Shared Queues (Note: DB2 used for Administration purposes only) (2) 4-way WMQ/DB2 using Shared Queues and Clustering (Note: DB2 used for Administration purposes only) 3-way DB2/WMQ using MQ Clustering (BookStore Application), and DB2 Connect Application running DB2 Coexistence mode. Background workloads to exploit CICS CF Servers (Shared Temporary Storage, Coupling Facility Data Tables and Named Counter Server)

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NOTES:

- Dedicated (24x7)
- Enhanced Catalog Sharing (ECS) was enabled (APAR OW51412).

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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 V6.1 (z/OS) CICS Transaction Gateway V7.0.00 Build c700-2006113 (z/OS) CICS Transaction Gateway V7.0.01 (Distributed)	All service through the end of September 2007 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of November 2007. Base
<ul style="list-style-type: none"> - CICS TS 2.3 - CICS TS 3.1 - CICS TS 3.2 - CICS Interdependency Analyzer for z/OS V2.1 - CICS Interdependency Analyzer for z/OS V1.3 	All service through the end of September 2007 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of November 2007.
<ul style="list-style-type: none"> - DB2 V8 - DB2 V9 CM only 	All service through the end of September 2007 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of November 2007.
<ul style="list-style-type: none"> - DB2 Connect 9.5 - DB2 Connect 9 - DB2 Connect v8.2 	All validation scenarios use Enterprise Edition for Connect Gateway. Connect Gateway and DB2 clients used the following service levels: - DB2 Connect 9.5 - DB2 Connect 9 Fixpak 3. - DB2 Connect v8.2 Fixpak 15 DB2 Windows Clients -> DB2 AIX Connect Gateway -> DB2 zOS Server DB2 Windows Clients -> DB2 Windows Connect Gateway -> DB2 zOS Server Windows 2003 clients Multiple Connect Gateway includes AIX 5.3 TL5 and TL6, AIX 5.2 TL8 SP2, SuSE SLES10 s390x kernel 2.6.16.21-0.8, Windows 2003 Server 64-bit Even though we utilized AIX, zLinux, Windows 64 bit Connect Gateway and Windows clients in our configuration, this report is valid for all other operating systems. For other Operating System pre-requisites, please visit http://www.ibm.com/software/data/db2/9/sysreqs.html Validation scenario includes testing IBM WebSphere Application Server 6.0.2.17 and 6.1.0.5 and WMQ 5.3 CSD 12 in DB2 Connect distributed environment DB2 z/OS service includes all service through the end of September 2007 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of November 2007.

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<p>eServer zSeries AD Tools</p> <ul style="list-style-type: none"> - Application Performance Analyzer Version 8 Release 1 - Application Performance Analyzer Version 7 Release 1 - Debug Tool for z/OS Version 8 Release 1 - Debug Tool Utilities and Advanced Functions for z/OS Version 8 Release 1 - Debug Tool for z/OS Version 7 Release 1 - Debug Tool Utilities and Advanced Functions for z/OS Version 7 Release 1 - Fault Analyzer for z/OS Version 8 Release 1 - Fault Analyzer for z/OS Version 7 Release 1 - File Manager for z/OS Version 8 Release 1 - File Manager for z/OS Version 7 Release 1 - WebSphere Developer for zSeries Version 7 	<p>All service through the end of September 2007 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of November 2007, unless an eServer zSeries AD Tool references a specific PTF number.</p>
<p>GDPS V3.4</p>	<p>All service through the end of September 2007 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of November 2007.</p>
<p>IBM Tivoli OMEGAMON</p> <ul style="list-style-type: none"> - IBM Tivoli Monitoring Services on z/OS V6.1.0 - IBM OMEGAMON z/OS Management Console V4.1.0 - IBM OMEGAMON z/OS Management Console V4.1.0 - IBM Tivoli OMEGAMON XE for CICS on z/OS V4.1.0 - IBM Tivoli OMEGAMON XE for IMS on z/OS V4.1.0 - IBM Tivoli OMEGAMON XE for Mainframe Networks V4.1.0 - IBM Tivoli OMEGAMON XE for Storage on z/OS V4.1.0 - IBM Tivoli OMEGAMON XE on z/OS V4.1.0 	<p>All service through the end of September 2007 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of November 2007.</p>
<ul style="list-style-type: none"> - IMS V8 - IMS V9 - IMS Connect V2.1 	<p>All service through the end of September 2007 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of November 2007.</p>
<ul style="list-style-type: none"> - IRLM 2.1 - IRLM 2.2 	<p>All service through the end of September 2007 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of</p>

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	November 2007.
<p>IBM DB2 and IMS Tools</p> <p><u>DB2 Tools:</u></p> <ul style="list-style-type: none"> - Administration Tool for z/OS V7.1 and V7.2 - High Performance Unload for z/OS V2.2 and V3.1 - Object Comparison Tool for z/OS V7.1 and V7.2 <p><u>IMS Tools:</u></p> <ul style="list-style-type: none"> - High Performance Load V2.1 - High Performance Unload V1.1 - High Performance Image Copy V4.1 - Library Integrity Utility V1.1 - High Performance Pointer Checker V2.1 - High Performance Prefix Resolution V3.1 - IMS Index Builder 2.3 - IMS Performance Analyzer 4.1 	All service through the end of September 2007 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of November 2007.
JAVA 1.4.2, service level SR9a (PTF UK28320)	All service through the end of September 2007 not already marked RSU
<p>WebSphere Application Server for z/OS</p> <ul style="list-style-type: none"> - V5.1, service level W510243 - V6.0.1, service level 6.0.2.24 build level cf240747.03 - V6.1.0 service level 6.1.0.13 build level cf130745.06 	<p>WAS V5.1 - All service through PTF UK30046</p> <p>WAS V6.0.1 - All service through PTF UK31693</p> <p>WAS V6.1.0 - All service through PTF UK31301</p>
<ul style="list-style-type: none"> - WebSphere MQ 5.3.1 - WebSphere MQ V6 	All service through the end of September 2007 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of November 2007.
<ul style="list-style-type: none"> - z/OS V1R7 - z/OS V1R7 zIIP - z/OS V1R8 - z/OS V1R9 	All service through the end of September 2007 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of November 2007.

Roll-out of CST4Q07:

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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, DB2 Connect, GDPS, Java, WebSphere MQ, WebSphere Application Server for z/OS, IBM DB2 and IMS Tools and eServer zSeries AD 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.

Highlights of CST4Q07:

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:

- CICS
 - (In Progress) Initial stages of a new general, high availability application installed – this is based on an application that performs customer adds/deletes/inquiries using CICS and DB 2 as the primary servers in a CICSplex SM managed environment.
- DB2:
 - (Added) 2 DRDA Windows based client workloads for DB2 V9
 - (Added) Implementation of Dynamic VIPA on two 4-way DB2 V9 Data Sharing Groups
- IBM DB2 and IMS Tools:
 - DB2 Tools:
 - (Added) High Performance Unload V2.2 was tested with DBV8
 - (Added) High Performance Unload V3.1 was tested with DB2 V8 and V9 CM
 - (Added) Administration Tool for z/OS V7.1 was tested with DB2 V8
 - (Added) Administration Tool for z/OS V7.2 was tested with DB2 V8 and V9 CM
 - (Added) Object Comparison Tool for z/OS V7.1 was tested with DB2 V8
 - (Added) Object Comparison Tool for z/OS V7.2 was tested with DB2 V8 and V9 CM



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- IBM Tivoli Omegamon
 - (In Progress) We have installed and begun testing the following:
 - IBM OMEGAMON z/OS Management Console V1.1.0 and V4.1.0
 - IBM Tivoli Monitoring Services on z/OS V6.1.0
 - IBM Tivoli OMEGAMON XE for CICS on z/OS V3.1.0 and V4.1.0
 - OMEGAMON for CICS
 - OMEGAMON II for CICS (CUA Interface)
 - IBM Tivoli OMEGAMON XE for IMS on z/OS V3.1.0 and V4.1.0
 - OMEGAMON for IMS
 - OMEGAMON II for IMS (CUA Interface)
 - IBM Tivoli OMEGAMON XE for Mainframe Networks V3.1.0 and V4.1.0
 - OMEGAMON II for Mainframe Networks (CUA Interface)
 - IBM Tivoli OMEGAMON XE for Storage on z/OS V3.1.0 and V4.1.0
 - OMEGAMON II for SMS (CUA Interface)
 - IBM Tivoli OMEGAMON XE on z/OS V3.1.0 and V4.1.0
 - OMEGAMON for MVS
 - OMEGAMON II for MVS (CUA Interface)
 - OMEGAMON II for MVS CSA Analyzer
 - OMEGAMON II for MVS Epilog Collector
 - OMEGAMON II for MVS Historical Data Interface
 - OMEGAMON II for MVS Zoom to Epilog
- IMS:
 - (Added) Implemented Common Service Layer on Datasharing Group2. The Common Service Layer (CSL) provides the infrastructure for improving IMS system management. It reduces the complexity of managing multiple IMS systems by providing you with a single-image perspective in an IMSPLEX.
 - (Implemented) Two new IMS systems to enhance IMS Bridge Testing with MQ
 - (In Progress) Migration of IMS V9 to IMS V10
 - (In Progress) DB2 / IVP
 - (In Progress) IMS V10 SOAP Gateway on z/OS
- MQ :
 - (Added) High Intensity IMS Bridge Tests using Shared Bridge Queue and Local Bridge Queue
 - (Added) Recovery tests for Very Large Shared Message (63K bytes to 100M bytes)
- z/OS, DB2 V8 and the System z9 Integrated Information Processor:
 - (In Progress) Investigating and planning for DB2 exploitation of zIIP. A future recommendation is coming.
- CICS, CTG, DB2, IMS, MQ, WAS and z/OS recovery scenarios performed.
- z/OS
 - Upgraded systems from z/OS v1R6 to z/OS V1R9

Problems Encountered during CST4Q07:

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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 3.1	
PK39051	CICS Address space hangs when CEJR is executing a call to the DNS server and CICS is shutdown
PK57307	Map button not supported for CICS system group views when using the CPSM WUI
PK56147	After applying PTF UK28703 you see inconsistent results when displaying resources either from the EUI or the WUI
DB2 V8	
PK56349	Corrupted LOBs RC00C90101 DSNODAL1 ERQUAL5003
DB2 V9	
PK57172	Abend04E RC00E70005 at DSNXI14 :P038 during alter index to change the limit key value for a partition
DFSMS 190	
OA23162	Abend0C4 RC=00000000 RSN=00000038 in IGWRDLSS received during health checker contention analysis
GDPS 340	
PK55691	Production systems reset by GDPS after hyperswap trigger
IRLM 220	
PK53623	PLOCK negotiations is not completed
WAS 610	
PK54727	CORBA.BAD_OPERATION THE DELEGATE HAS NOT BEEN SET! Error in the FFDC log for controller during WebSphere startup can be ignored.
z/OS V1R9	
OA23299	Various abends due to storage overlay
OA23444	\$Q03 \$HASP095 JES2 Catastrophic error during failed member restart

How is the Customer going to obtain and install the CST4Q07 level of service?

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Please proceed to the CST website for the steps involved.
The URL is: <http://www.ibm.com/servers/eserver/zseries/zos/servicetst/>

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.ibm.com/servers/eserver/zseries/zos/servicetst/contact.html>)

Appendix A: Excluded Maintenance

z/OS V1R8

EXCLUDEs (UK26987
UK26988
UK27017
UK27062
UK27063
UK27927)

DB2V8

EXCLUDE (UK28138)

IMS8

EXCLUDEs (UK23703
UK27564
UK23702
UK24792
UK24903
UK23826
UK25747
UK26728
UK24862
UK25748
UK28081)

IMS9

EXCLUDEs (UK27743
UK27783)