Consolidated Service Test

CST2Q09 (RSU0906)

Dated: July 2, 2009

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 OMEGAMON
- 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.

What is the CST Environment?

2097-E64 (H131)	Microcode at Driver 76D + MCL bundle 20 with CFCC code N10964.003 (R16 srv lvl 00.29) 10 LPARs running z/OS 56 general processors shared amongst all 10 LPARs, 6 IFA processors, 6 zIIPs Logical processors per LPAR 14976M Central Storage for 4 MVS LPARs 10240M Central Storage for 6 MVS LPARs • 2 CF with 12G storage at CFCC level 16 and 2 dedicated processors each
2084-D32 (G17)	Microcode at Driver 55 + MCL bundle 91 with CFCC code J13481.018 (R14 srv lvl 00.27) 16 LPARs running z/OS, 8 CST images 26 general processors shared amongst all z/OS LPARs, 6 IFA processors shared among SVT images 10 Logical shared processors on all LPARs. 10240M Central Storage for 3 CST MVS LPARs. All are running in z/Architecture mode. • 2 CF with 12G storage at CFCC level 14 and 2 dedicated processors each
2097-E26 (H134)	Microcode at Driver 76D + MCL bundle 20 with CFCC code N10964.003 (R16 srv lvl 00.29) **5** LPARs running z/OS 10496M Central storage for 3 z/OS LPARs • 2 GDPS control images with 3840MB Central storage running z/OS V1R9
2094-S54 (D32)	Microcode at Driver D67L + MCL bundle 39 • 10 Logical shared processors on all LPARs. •10240M Central Storage for 3 CST MVS LPARs.
Automated Tape Library (ATL)	3495 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)	3494 V18 VTS 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)
DASD (2105) 800= 28211, 28355, 28644 800=25924 DASD (2107/242x) DS8000=2107 25030 (SQ00) DS8000=2421 Y2430	3 Enterprise Storage Server 800 (Shark). Microcode level is 2.4.4.151 (R2i. 8b080215a) 1 Enterprise Storage Server 800 (Shark). Microcode level is 2.4.4.167 (R2i. 8b090325) 3 Enterprise Storage Server DS8000. Microcode level is 64.20.139.0 (R12r. 9b090308b)

(SQ13) DS8000=2421 Y4360 (SQ14) DS8000=2421 FA820 (SQ18) DS8000=2421 FB240 (SQ19)	2 Enterprise Storage Server DS8000 Microcode level is 64.25.5.0 (R12t. 9b090410a)
GDPS	Configuration info: in one environment, 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. In another environment, we do not have any DWDMs or additional fiber, and the designation of site1 and site2 is purely logical.
Lan attached	Both SNA and TCPIP
Data Sharing Groups	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 Connect Application running DB2 Coexistence mode. Background workloads to exploit CICS CF Servers (Shared Temporary Storage, Coupling Facility Data Tables and Named Counter Server)

NOTEs:

Dedicated (24x7)

Enhanced Catalog Sharing (ECS) was enabled (APAR OW51412).

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 (z/OS) CICS Transaction Gateway V7.1.01 (z/OS) CICS Transaction Gateway V7.2 (z/OS)	All service through the end of March 2009 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of May 2009.
- 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 March 2009 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of May 2009.
- DB2 V8 - DB2 V9	All service through the end of March 2009 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of May 2009.
- DB2 Connect 9.5 - DB2 Connect 9	All validation scenarios use Enterprise Edition for Connect Gateway. DB2 remote clients -> DB2 Connect Gateway -> DB2 for zOS servers DB2 local clients on DB2 Connect Gateway -> DB2 for zOS servers DB2 Connect Gateway uses the following service levels: - DB2 Connect 9.5 Fixpack 4 - DB2 Connect 9 Fixpack 7 DB2 remote clients include downlevel clients: - V9.5 Fixpack 4, V9.5 Fixpack 3, and V9 Fixpack 7 clients in the V9.5 DB2 Connect Gateway scenarios - V9 Fixpack 7, V9 Fixpack 3, and V8 Fixpack 17 clients in the V9 DB2 Connect Gateway scenarios DB2 Connect Gateway and clients run on the following distributed platforms: - AIX 64bit 5.3 TL9 - zLinux SLES 10 - Windows 2003 32bit Server SP2 - Windows 2003 64bit Server SP2 - Windows 2008 64bit Server Even though we utilized AIX, zLinux, Windows Connect Gateway and 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 DB2 for zOS server releases include V8NFM and V9CM SYSPLEX, V9NFM SYSPLEX. DB2 Connect concentrator, automatic client reroute, workload balance, and sync point manager features were tested in the validation scenarios. Application interfaces include CLI, ADO.NET, JCC type 4, and JCC type 2. The CLI scenarios test DB2 CLI driver on distributed platforms. The ADO.NET scenarios test DB2 .NET data provider with .NET framework 1.1 and 2.0 on Windows. The JCC scenarios test JCC driver and IBM WebSphere Application Server with J2EE applications (EJB, servlet, JSP, JMS) on distributed platforms. XA feature was tested in both ADO.NET and JCC scenarios. The ADO.NET XA scenario used Microsoft Transaction Server as the transaction manager. The JCC XA scenario used IBM WebSphere Application Server 6.1.0.23 as the transaction manager. JCC type 4 trusted connection feature was tested with IBM WebSphere Application Server 6.1.0.23 in the DB2 Connect Gateway 9.5 Fixpack 4 and DB2 for zOS V9.1 scenario. DB2 z/OS service includes all service through the end of March 2009 not already marked RSU. PE resolution and HIPER/Security/ Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of May 2009.
z/OS Problem Determination Tools - Application Performance Analyzer Version 9 Release 1 - Application Performance Analyzer Version 8 Release 1 - Debug Tool for z/OS Version 9 Release 1 - Debug Tool for z/OS Version 8 Release 1 - Debug Tool Utilities and Advanced Functions for z/OS Version 8 Release 1 - Fault Analyzer for z/OS Version 9 Release 1 - Fault Analyzer for z/OS Version 8 Release 1 - File Manager for z/OS Version 9 Release 1 - File Manager for z/OS Version 8 Release 1 - WebSphere Developer for zSeries Version 7	All service through the end of March 2009 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of May 2009, unless a z/OS Problem Determination Tool references a specific PTF number.
GDPS V3.4 GDPS V3.5	GDPSis a services offering, and it's PTFsdo not get marked RSUyymm. However, all GDPSservice that was available through

	the end of March 2009 was installed. The following is the list of PTFsinstalled this quarter: GDPS V3.4 UK40313 UK40489 UK40514 UK40583 UK40590 UK40591 UK40763 UK41106 UK41125 UK41158 UK41230 UK41237 UK41350 UK41360 UK41461 UK42159 UK42392 UK42395 UK42618 UK42743 UK43035 UK43045 UK43371 UK43418 UK43835 UK43863 UK44124 UK44210 UK44215 UK44275 UK44340 UK44366 UK44493 UK44501 UK44546 UK44865 UK44871 UK44935 UK44941 UK45278 GDPS V3.5 UK40314 UK40381 UK40382 UK40496 UK40585 UK40615 UK40616 UK40693 UK41165 UK41231 UK41353 UK41361 UK41466 UK41646 UK41647 UK41648 UK41688 UK42022 UK42156 UK42394 UK42403 UK42566 UK42567 UK42621 UK42739 UK42742 UK42744 UK42904 UK43036 UK43046 UK43180 UK43342 UK43419 UK43485 UK43563 UK43721 UK43722 UK43723 UK43728 UK43810 UK43869 UK44183 UK44211 UK44212 UK44217 UK44276 UK44342 UK44365 UK44367 UK44369 UK44491 UK44492 UK44497 UK44502 UK44577 UK44700 UK44866 UK44913 UK44936 UK44937 UK44942 UK44992 UK45071 UK45075 UK45279 UK46317
IBM Tivoli OMEGAMON - IBM Tivoli Monitoring Services on z/OS V6.2.1 - 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 CICS Transaction Gateway on z/OS V4.1.0 - IBM Tivoli OMEGAMON XE for DB2 Performance Expert on z/OS V4.1.0 - IBM Tivoli OMEGAMON XE for IMS on z/OS V4.2.0 - IBM Tivoli OMEGAMON XE for Mainframe Networks V4.1.0 - IBM Tivoli OMEGAMON XE for Storage on z/OS V4.2.0 - IBM Tivoli OMEGAMON XE on z/OS V4.1.0 - IBM Tivoli Monitoring Services on z/OS V6.1.0 - IBM OMEGAMON z/OS	All service through the end of March 2009 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of May 2009.

Management Console V1.1.0 - IBM Tivoli OMEGAMON XE for CICS on z/OS V3.1.0 - IBM Tivoli OMEGAMON XE for DB2 Performance Expert on z/OS V3.1.0 -IBM Tivoli OMEGAMON XE for IMS on z/OS V4.1.0 - IBM Tivoli OMEGAMON XE for Mainframe Networks V3.1.0 - IBM Tivoli OMEGAMON XE for Storage on z/OS V4.1.0 - IBM Tivoli OMEGAMON XE on z/OS V3.1.0	
- IMS V9 - IMS V10	All service through the end of March 2009 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of May 2009.
- IRLM 2.1 - IRLM 2.2	All service through the end of March 2009 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of May 2009.
IBM DB2 and IMS Tools <u>DB2 Tools</u>: - 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 <u>IMS Tools</u>: - High Performance Fast Path Utilities 3.2 - 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 - Batch Terminal Simulator 3.1 - IMS HP Fast Path Utilities 2.2	All service through the end of March 2009 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of May 2009.

JAVA 1.4.2, service level SR13 (PTF UK45225) IBM 31-bit SDK for z/OS, Java 2 Technology Edition, V5, service level SR 9-2 (PTF UK45902) IBM 64-bit SDK for z/OS, Java 2 Technology Edition, V5,, service level SR 9-2 (PTF UK45914)	All service through the end of May, 2009 not already marked RSU.
WebSphere Application Server for z/OS - V6.1.0 service level 6.1.0.24 build level cf240910.19	WAS V6.1.0 - All service through PTF UK45480
- WebSphere MQ V6 - WebSphere MQ V7	All service through the end of March 2009 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of May 2009.
- z/OS V1R8 - z/OS V1R9 - z/OS V1R10	All service through the end of March 2009 not already marked RSU. PE resolution and HIPER/Security/Integrity/Pervasive PTFs and their associated requisites and supersedes through the end of May 2009.

Roll-out of CST2Q09:

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 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.

Highlights of CST2Q09

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

○ (Progress Update) General, high availability application: WAS, CTG, CICS, MQ, DB2 workload implementation has been successfully single stream tested. We are exercising the following routes within the application now:

WAS -> CTG -> CICS using EXCI
WAS -> CTG -> CICS using IPIC
WAS -> JMS -> CICS

•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
- (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
- (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

•IBM Tivoli OMEGAMON

○ (Added) We have installed and are 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 and V6.2.1
-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 V4.1.0 and V4.2.0
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 V4.1.0 and V4.2.0
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
-IBM Tivoli OMEGAMON XE for DB2 Performance Expert on z/OS V4.1.0
-IBM Tivoli OMEGAMON XE for DB2 Performance Expert on z/OS V3.1.0

- (Added) We have installed and will soon begin testing the following:
  -IBM Tivoli OMEGAMON XE for Messaging on z/OS V7.0.0
  OMEGAMON XE for WebSphere MQ Monitoring
  OMEGAMON XE for WebSphere MQ Configuration
  OMEGAMON XE for WebSphere Message Broker Monitoring
  - IBM Tivoli OMEGAMON XE for Messaging on z/OS V6.0.1
  OMEGAMON XE for WebSphere MQ Monitoring
  OMEGAMON XE for WebSphere MQ Configuration
  OMEGAMON XE for WebSphere Message Broker Monitoring

•IMS:

- (Added) We have installed and customized IMS Soap Gateway and will be running it with an internal application
- (Implemented) Configured IMS Connect and implemented Sysplex Cascaded Transactions using full function databases in a 4-way IMS OTMA-Shared Queue sysplex environment with IMS V9. The transactions are entering IMS front-end (FE) system via IMS Connect and being processed on IMS back-end (BE) systems.

•WMQ

- (Added) Various stack and listener configurations have been made to handle TCPIP recycling and validate listeners reconnect to TCPIP.

•z/OS

- (In progress) Set up SMF logstream recording per enhancement introduced with z/OS V1R9
- (Added) Set up STP (Server Time Protocol) on processors in mixed environment with ETR

- (Completed) White Paper for IBM z/OS® Regular to Large Volume Migration
  This paper discusses the Consolidated Service Test experience in migrating data from various 3390 volumes to larger 3390 volumes. Information is provided on techniques to migrate from a direct access storage device (DASD) with smaller source volumes to an enterprise Storage Server® (ESS) device with Large Volume support and z/OS V1R10 Extended Address Volume Support. You can find the white paper at:

  http://www-03.ibm.com/systems/storage/disk/ess/whitepapers.html

- z/OS Problem Determination Tools (formerly known as eServer zSeries AD Tools)
  - (Added) Application Performance Analyzer Version 9 Release 1
  - (Added) Debug Tool for z/OS Version 9 Release 1
  - (Added) Fault Analyzer Version 9 Release 1
  - (Added) File Manager Version 9 Release 1

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

Problems Encountered during CST2Q09:

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.

DB2 V9	
PK79858	Abend04E RC00E30001 DSNTTMGR missing suspend leaves one parallel child task not resumed on terminated group
PK83996	Growth in catalog and directory pagesets due to space not being reused properly
PK84607	Abend0C4 can happen if the Recover Utility is invoked by WLM and the recovery base is a system level backup
PK86457	Abend47B in PURGEDB followed by Abend066
PK90177	RC00C90105 DSNKINSL:0D60 after alter columns from VARCHAR TO CHAR
DFSMS	

110	
OA28853	Abend0F4 after CF failure
OA29494	IGD040D IGD058I RETURN CODE 8 REASON CODE 6040; SAVE ACDS; INVALID ACDS; COPY POOL STORAGE GROUP;
IMS V9	
PK87345	DFSSRBFR allocations fill below the line LSQA causing Abend878 RC10 and sometimes Abend40D
IMS V10	
PK87335	DFSSRBFR allocations fill below the line LSQA causing Abend878 RC10 and sometimes Abend40D
MQ V7.0	
PK81737	Fixpack 7.0.0.3 for WebSphere MQ for z/OS Version 7 provides fixes for the problems described in this APAR
PK83347	Application receives a RC=2110 MQRC_FORMAT_ERROR while doing a MQGET with convert from an MQ V7 shared queue
PK85544	Abend0C4 in CSQMTPUV
PK87083	CSQX112E Abend0C4 RC10 or AbendC78-000000A in CSQXDISP
PK88310	Abend0C4 in CSQXGSSI
PK89890	Abend5C6 RC00E70059 CSQX053E CSQXFFST error information recorded in CSQSNAP
WAS V6.0	
PK89653	One can create "NEW" resource adapters in a cluster only when every node in the cluster has the RAR installed
WAS V7	
PK83434	Fixes to the default messaging provider in WebSphere Application Server V7.0.0.5
z/OS V1R9	
OA28991	Abend20D in ISGLPRGS can occur during ASYNC processing
z/OS V1R10	
OA28494	Abend233 RC10 occurred followed by 2 Abend0C4s in ICYBLD64 while processing a request for Health Check IBMCSV
OA28906	RACF/RRSF ASID may fail to respond to a CF structure rebuild hanging the SYSPLEX (timing issue)

How is the Customer going to obtain and install the CST2Q09 level of service?

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 (UA44609
UA44985
UK43799)

z/OS V1R9
EXCLUDEs (UA44593
UA44610
UA44986
UK41409
UK41891
UK43800
UA44594
UA44595
UA44596
UA44597
UA45943
UA45949
UA45950
UA45951
UA45952)

z/OS V1R10
EXCLUDEs (UA42647
UA44611
UA44983
UK41410
UK41892
UK43801
UA45669
UA46378)

CICSTS V3.1
EXCLUDEs (UK43491

UK44093)

DB2 V9
EXCLUDEs (UK40300
UK40807
UK42300
UK42301
UK42420
UK42300
UK42301
UK42420
UK42448
UK42488
UK42816
UK42448
UK42488
UK42816
UK42817
UK43411
UK43504
UK43512
UK43520
UK43521
UK43839
UK44120
UK44258
UK44259
UK44822
UK44893
UK44927
UK44930
UK44934
UK44958
UK45046
UK45310
UK42448)

DB2 V8
EXCLUDEs (UK40299
UK40806
UK41937
UK42829
UK43511
UK41937

UK42829
UK43511
UK43716
UK44048
UK44050
UK43716
UK44048
UK44050
UK44761
UK44762
UK44957
UK44761
UK44762)

IMS V910
EXCLUDE (UK42176)

IMS V110
EXCLUDE (UK42410)