

FDRPAS & FDRPASVM ANNOUNCEMENTS

Recommended maintenance to be applied before running FDRPAS

Last updated: November 10, 2017

Changes Since Last Update

Updated: "[Recommended Microcode Enhancement for Query Host Access \(QHA\)](#)" to add information for Hitachi subsystems.

Supported FDRPAS Releases

Version 5.4L80 of FDRPAS and higher are supported. You should not run earlier releases of FDRPAS. Version 5.4L80 will reach End of Support on Dec 31, 2017.

The current release, as of this announcement, is FDRPAS Version 5.4L87.

Please check the link below for versions released after this announcement:
<http://www.fdr.com/osreq.cfm>

Recommended Microcode Enhancement for Query Host Access (QHA)

For IBM, Query Host Access is available for the DS8880, DS8870, DS8800, and DS8700 control units at the following levels:

- DS8880 and later - All levels
- DS8870 - Release 7.1, released 6/07/2013
- DS8800 - Microcode Bundle 86.31.95.0, released 12/13/2013
- DS8700 - Microcode Bundle 76.31.79.0, released 12/13/2013

For Hitachi, Query Host Access is available for the VSP G1000, G1500, and F1500 control units at the following level, and higher:

- SVOS 7.2 at microcode level 80-05-44, released 9/13/2017

We urge all FDRPAS customers to install these microcode levels to support enhanced validation by FDRPAS.

Query Host Access gives FDRPAS a list of all the LPARs that have a source volume online, allowing FDRPAS to ensure that monitor tasks are running on all these LPARs. This eliminates the need to use EXCLUDE CPUID= commands for LPARs that are connected to a source volume but do not have the volume online.

For more information on Query Host Access, see sections 320.1, 305.1, and 310.4 in the FDRPAS manual.

NOTE: All EMC Symmetrix control units (except the 4xxx series) already provide comparable support.

FDRPAS & FDRPASVM ANNOUNCEMENTS**FDRPAS Support for z/OS 2.3**

FDRPAS users who are running z/OS 2.3 require FDRPAS V5.4L87 or higher.

Required Zaps for z/OS 2.2 Support

FDRPAS users who are running z/OS 2.2 with FDRPAS V5.4L80, or V5.4L83 prior to SPIN3, will need to install a fix to correct a SOC4 abend in certain FDRPAS modules. See below for a complete description of the problem.

For FDRPAS users running FDRPAS Version 5.4L83 prior to SPIN3, you will need to install fix P-54.8326. This fix is included in FDRPAS Version 5.4L83 SPIN3 and above.

For FDRPAS users running FDRPAS Version 5.4L80, you will need to install fix P-54.8155.

PROBLEM:

ABEND SOC4 when SWA=ABOVE is in effect on z/OS 2.2.
QMAT Version 3 is Above the Bar.

NOTE:

To show what JOB Classes, if any, are exposed to this problem, issue the command: **\$DJOBCLASS,SWA=ABOVE,SWA**

The command response may show:

- BATCH JOB CLASSES
- JOBCLASS(STC), WHICH MEANS STARTED TASKS
- JOBCLASS(TSU), WHICH MEANS TSO USERS

If the response is: **\$HASP003 RC=(52) ... NO SELECTABLE ENTRIES FOUND MATCHING SPECIFICATION** then the problem does not apply to that system.

CIRCUMVENTION:

Specify **SWA=BELOW** or execute in a JOB class where **SWA=BELOW** is specified.

To request zap P-54.8326 or P-54.8155, click support@fdrinnovation.com.

To request the latest version click <http://www.fdr.com/upgrade/exform.cfm>.

Special Considerations for zHyperLink Support

IBM has announced a new hardware feature called zHyperLink for the new z14. zHyperLink will provide faster speeds for certain types of DASD I/O. It will be supported on z/OS 2.1 and above. FDRPAS cannot support zHyperLink until IBM supplies more information and INNOVATION is able to test with it.

Before you run a SWAP or SWAPDUMP on a source volume for which zHyperLink is enabled, you must disable zHyperLink, with the command:

```
SETIOS ZHYPERLINK,OPER=NONE
```

When all of the SWAPs or SWAPDUMPs have completed, you can re-enable zHyperLink with the command:

```
SETIOS ZHYPERLINK,OPER=READ
```

or

```
SETIOS ZHYPERLINK,OPER=ALL
```

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Consult IBM documentation for details when available.

FDRPAS V 5.4/87 checks for zHyperLink being enabled on the source volume, and gives an error message and fails the SWAP(DUMP). You can then disable zHyperLink as above and resubmit the FDRPAS job. Earlier releases of FDRPAS will not make this check, and it is a customer responsibility not to have zHyperLink enabled on the source volume of a SWAP(DUMP). Otherwise, results are unpredictable.

There are no restrictions on SWAP or SWAPDUMP from a source volume that does **not** have zHyperLink enabled, to a target volume that does have zHyperLink enabled. FDRPAS itself does not use zHyperLink. After the SWAP, applications can start to use zHyperLink on the target volume.

Recommended Maintenance for OMEGAMON from IBM TIVOLI

The fix for APAR OA52945 (Omegamon V5.4) or APAR OA49210 (Omegamon V5.1-V5.3) should be applied to prevent a spin loop and re-IPL when the storage agent is restarted while a SWAP is running. Until the fix is installed, the circumvention is to not do a storage agent restart during a SWAP. There is no problem with restarting the storage agent after all SWAPs have completed.

Important Warning on zHPF

All FDRPAS users who have installed or will install zHPF (High Performance FICON for System z) should install FDRPAS Version 5.4L80 or above.

Recommended Maintenance for Syncsort MFX

PTF TY01623 for Syncsort MFX 2.1 should be applied to enable Syncsort to continue to run after a SWAP if Syncsort is using Cache Fast Write (CFW). Cache Fast Write is a feature of the DASD control unit that allows data to be held only in cache instead of being written to DASD unless necessary. It is commonly used for sort work areas. CFW is discussed in the FDRPAS manual in section 320.1 FDRPAS SPECIAL HARDWARE CONSIDERATIONS. If Syncsort MFX is writing to a sortwork using Cache Fast Write and FDRPAS does a SWAP of the sortwork volume, CFW fails, because CFW is dependent on the cache of the old control unit. However, FDRPAS has copied the data from the cache of the old control unit to DASD on the new control unit. The fix enables Syncsort MFX to recognize the loss of CFW and to run to successful completion using normal I/O on the new control unit.

Installations that disable Syncsort use of CFW by specifying the SCOS=(037) installation option in SYNCMAC are not affected by this issue.

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FDRPAS Incompatibility with RTD

INNOVATION has encountered a problem that can cause user data to be lost if the customer runs FDRPAS and RTD (RealTime Defrag), from Interchip AG of Munich, Germany, and marketed by Dino-Software in the USA, at the same time. FDRPAS customers who have RTD should install ZAP P-54.8172 for Version 5.4L80, or ZAP P-54.8368 for Version 5.4L83. These ZAPs are included in source in FDRPAS Version 5.4L85, available May 2016.

To obtain the zap, send an email to support@fdrinnovation.com indicating the level of FDRPAS you are running and the zap will be sent to you.

FDRPAS moves DASD volumes non-disruptively from one physical device to another, while the data sets and volumes are in use. FDRPAS copies allocated space (space that is represented by a format 1 or 3 or 8 DSCB). FDRPAS uses SYSDSN ENQs to find out which data sets are in use, and for those data sets it copies all of the data set's allocated tracks; for data sets that are not in use, it copies only the used tracks. FDRPAS also copies any tracks that are written to after it starts; this accounts for data sets that get allocated or opened while FDRPAS is running. FDRPAS did not expect that data would be written to unallocated space and then become part of a data set.

COMPAKTOR (CPK) from INNOVATION and DFSMSdss from IBM are other software products that combine data set extents and reduce free space fragmentation. These products use different techniques and do not have the same exposure.

To eliminate this exposure, when FDRPAS reads the VTOC, it will check whether the volume has the condition of space that is neither allocated nor free. If so, FDRPAS will copy all of the tracks on the volume, instead of only allocated tracks. In this case, FDRPAS will issue the message **FDR023 FREE SPACE ERROR- ENTIRE PACK WILL BE DUMPED** and will continue normally.

Recommended Maintenance for ACC, MONITOR, and DCC from DTS Software

The system may hang at the end of a SWAP of a non-SMS volume if the Dynamic Install Facility (DIF) version 5.1.25 through 6.1.12 from DTS Software is installed. DIF is used by all DTS products. ZAP DTS61051 is available from DTS to fix this problem. To obtain this fix, go to http://www.DTSsoftware.com/support_article.php?id=DTS61051. The fix is included in DIF version 6.1.13.

This problem involves inappropriate actions, such as WTO, that an exit may take when running under the Event Notification Facility (ENF), when FDRPAS calls ENF at the end of a SWAP. The current problem in DTF is not the first problem of this type (see IBM APAR OA35019 and FDRPAS ZAP P-54.7452, first discussed in the [December 21, 2010 FDRPAS ANNOUNCEMENTS](#)). FDRPAS ZAP P-54.8347 is now available for FDRPAS Version 5.4L83 to enable FDRPAS to recover from problems of this type. To request this ZAP, click here support@fdrinnovation.com to send a request. This fix is included in FDRPAS Version 5.4L85, available May, 2016.

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Recommendation Concerning GDPS/PPRC

The possible GDPS actions for PPRC primary disk problems are governed by the PRIMARYFAILURE policy option as specified in the GEOPLEX OPTIONS definitions. When an installation has HyperSwap, the PRIMARYFAILURE option is usually set to SWAP,xxxx. SWAP indicates that GDPS will perform a HyperSwap if a primary disk failure is detected and HyperSwap is enabled. The second part, xxxx, can be GO or STOP, and specifies the action to take if a primary disk failure is detected while HyperSwap is disabled. GO tells GDPS to freeze the secondary disks by suspending PPRC, and to allow the production systems to continue to run using the primary disks. STOP tells GDPS to freeze the secondary disks by suspending PPRC, and to stop all of the production systems.

The PRIMARYFAILURE policy option can be displayed and changed dynamically using the View/Alter Definitions panels of the GDPS 3270 or Web GUI without the need to change the System Automation policy database.

There is an IBM rule that a SWAP cannot be done while a volume is eligible for HyperSwap. Most installations want to maintain HyperSwap capability for as much of the time as possible. To support this requirement, section 320.6 FDRPAS AND IBM GDPS/PPRC HYPERSWAP in the FDRPAS manual supplies a procedure called the "special 4-step job". This procedure allows HyperSwap to remain enabled while the data is being copied to the target volumes, then disable HyperSwap during the actual UCB SWAPS, and then re-enable HyperSwap immediately afterwards.

It is possible that an I/O error could occur during the short time that HyperSwap is disabled. The I/O error would be a primary failure trigger. It's important to understand the implications of the PRIMARYFAILURE policy values in GDPS, and use one that will not produce undesirable results. For example, consider that the use of SWAP,STOP for PRIMARYFAILURE will result in a reset of all GDPS-managed systems (full sysplex outage) if a primary failure trigger occurs during the window where FDRPAS has temporarily disabled HyperSwap. Therefore, for installations that want to maximize HyperSwap protection while performing FDRPAS migrations, the use of SWAP,GO is recommended.

SWAP,GO is recommended over just GO, because SWAP,GO allows a HyperSwap if a primary failure trigger occurs during the copy phase, while HyperSwap is enabled. Although there is a possibility of a false trigger associated with FDRPAS processing, it is more likely that a trigger event would be a valid reason for a HyperSwap.

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Required Microcode Level for Hitachi VSP, HP P9500, and Hitachi RAID700

Customers swapping to an HDS (Hitachi Data Systems) VSP or Raid700 storage system, or HP (Hewlett-Packard) P9500 Disk Array, must ensure that the microcode level is 70-01-28-00/00 (released 12/09/2010) or higher. At lower levels, FDRPAS may not be able to identify the systems connected to the control unit. FDRPAS may give message **FDR234 REASON=M** indicating that a system has failed to respond, with a serial number for a system that does not exist, and then fail the swap. If you try to put in EXCLUDE commands for the nonexistent CPUIDs, FDRPAS may give message **FDR262 MODULE FDRXCPU NOT FOUND OR IN ERROR**, and a **U0502 ABEND**.

Recommended Maintenance for ADABAS from Software AG

The recommended fixes below should be installed if you are running ADABAS V825 through V832. They fix a problem in which, during FDRPAS SWAP, ADABAS flooded the console with the message: **ADAI40 00011 ZHPF UNAVAILABLE - RETRYING I/O IN ECKD MODE**

For ADABAS V825, fixes AI825045 and A0825042.

For ADABAS V826, fixes AI826029 and A0826019.

For ADABAS V831, fixes AI831014 and A0831012.

For ADABAS V832, fixes AI832001 and A0832002.

The recommended fixes below should be installed if you are running ADABAS V822 through V825. They fixed the problem described by SAG incident number 1051648, in which ADABAS built a channel program containing a Prefix command, but did not set the flag telling IOS not to add its own Prefix. The symptoms in FDRPAS are SWAP failures with messages **FDR234** SWAP ERROR REASON=C** and **REASON=E**.

A0822055 for ADA822

A0823030 for ADA823

A0824016 for ADA824

A0825015 for ADA825

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Critical & Recommended IBM Software Maintenance for z/OS Systems

You may need to apply IBM maintenance in order to successfully swap disks with FDRPAS. Please check this matrix against your operating system level to see which IBM APARs may need to be applied to all of your systems before you attempt to use FDRPAS.

At the end of this document is information on using IBM's EPSPT tool to automate checking your system for these APARs. INNOVATION strongly recommends that you use EPSPT rather than manually checking all the APARs.

Brief descriptions of the APARs follow the matrix. Please review the descriptions of the applicable APARs to see if they must be applied to your system. IBM can provide detailed APAR descriptions and assist you in determining if a given APAR must be applied. Please note that failure to apply some of these APARs may result in system failures, application failures, or data corruption.

- APARs that apply to OS/390 2.4-2.9 can be found in the May 2003 FDRPAS newsletter at: http://www.fdr.com/newsviaemail/nve_fdrpas_050103.cfm
- APARs that apply to OS/390 2.10 and z/OS 1.1-1.3 can be found in the October 2005 FDRPAS newsletter at: http://www.fdr.com/newsviaemail/fdrpas/ann_100705.cfm
- APARs that apply to z/OS 1.4-1.7 can be found in the December 2007 FDRPAS newsletter at: http://www.fdr.com/newsviaemail/nve_12112007.cfm
- APARs that apply to z/OS 1.8-1.10 can be found in the May 2011 FDRPAS newsletter at: http://www.fdr.com/newsviaemail/pdf/FDRPAS_Announcement_05-12-2011.pdf
- APARs that apply to z/OS 1.11 can be found in the May 2013 FDRPAS newsletter at: http://www.fdr.com/newsviaemail/FDRPAS_IBMThirdParty_Maintenance_053113.pdf
- The January 2015 edition of this newsletter can be found at: http://fdr.com/newsviaemail/FDRPAS_IBM_ThirdParty_Maintenance_012014.pdf
- The June 5, 2015 edition of this newsletter can be found at: [http://www.fdr.com/Manuals_CurrentVersion/FDRPASandFDRPASVM_Announcements\(06_2015\).pdf](http://www.fdr.com/Manuals_CurrentVersion/FDRPASandFDRPASVM_Announcements(06_2015).pdf)
- The June 24, 2015 edition of this newsletter can be found at: http://www.fdr.com/email_template_assets/15081_FDRPAS_FDRPASVM_NVE/FDRPAS_IBM_and_ThirdParty_Maintenance_06242015.pdf
- The November 2, 2015 of this newsletter can be found at: http://fdr.com/email_template_assets/15135_FDRPAS_FDRPASVM_NVE/FDRPAS_IBM_and_ThirdParty_Maintanance_11022015.pdf
- The February 12, 2016 edition of this newsletter can be found at: http://www.fdr.com/email_template_assets/16030_FDRPAS_FDRPASVM_NVE/FDRPAS_IBM_and_ThirdParty_Maintanance_02122016.pdf

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- APARs that apply to z/OS 1.12-1.13 can be found in the April 12, 2016 FDRPAS newsletter at: http://fdr.com/newsviaemail/FDRPAS_IBM_and_ThirdParty_Maintanance_04122016.pdf
- The August 3, 2017 edition of this newsletter can be found at: http://fdr.com/newsviaemail/FDRPAS_IBM_and_ThirdParty_Maintenance_2017_08.pdf

IBM APAR	----z/OS---		
	2.1	2.2	2.3
OA48948	R	R	
OA47353	R		
OA42966*	R		
OA42277*	C		

C = Critical - will apply to most installations and may result in system outages or data loss if not applied. All FDRPAS users should apply.

R = Recommended - does not result in outage or data loss OR applies only to a limited number of installations with special circumstances. All FDRPAS users should review the descriptions and apply if they are critical for your environment.

* = an IPL is required to implement this fix.

Brief IBM APAR descriptions follow:

OA48948: this recommended APAR should be applied to avoid corrupting ECS catalogs when re-enabling them after a SWAP. As documented in section 320.2 FDRPAS SPECIAL SOFTWARE CONSIDERATIONS, "If a volume that contains an ICF catalog that is enabled for Enhanced Catalog Sharing (ECS) is swapped, ECS sharing is disabled on that catalog." In order for the catalog to be re-enabled for ECS usage, the installation must issue a MODIFY CATALOG command after the SWAP. The command to re-enable the catalog must NOT be issued until the disable has completed on all systems, or the catalog may be corrupted. APAR OA48948 avoids this corruption by failing the re-enable if the disable has not completed on all systems.

However, if it is not convenient to install the PTF, you can avoid the problem just by making sure that the disable has completed on all systems before requesting the re-enable. To do this, issue the command MODIFY CATALOG,ECSHR(STATUS) on all systems sharing the catalog, and check that all systems show a status of 'Inact(NonECSAcc)'.

OA47353: this recommended APAR should be applied to avoid missing VVRs and unusable data sets after FDRMOVE to a new volume under z/OS 2.1 only. The problem occurs when the system implicitly creates a VVDS on a volume that did not already have one. If it is not convenient to install the fix, you can circumvent the problem by doing an explicit DEFINE for the VVDS before using the volume for FDRMOVE. **THIS APAR ONLY AFFECTS FDRMOVE AND NOT FDRPAS.**

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OA42966: this recommended APAR should be applied if you specify ALLOWPAV=YES and use HyperPAV. The fix avoids a possible delay of more than 30 seconds at the time of the actual UCB SWAP, which could interfere with application I/O and cause the SWAP to fail. The fix also avoids an SOC4 ABEND in IOSVIRBD.

OA42277: See INNOVATION Technical Bulletin dated May 31, 2013.

Critical and Recommended IBM Software Maintenance for z/VM Systems Running FDRPASVM

You may need to apply IBM maintenance to successfully swap z/VM disks with FDRPASVM. Please check this matrix against your operating system level to see which IBM APARs may need to be applied to all your systems before you attempt to use FDRPAS and FDRPASVM.

IBM APAR	z/VM			
	5.4	6.2	6.3	6.4
			None	

IBM EPSPT Tool (for z/OS Systems)

Enhanced Preventive System Planning Tool (EPSPT) is an IBM program that automates checking your SMP/E CSI for required APARs and PTFs. You can download the EPSPT program at:

http://techsupport.services.ibm.com/390/psp_tool.html

Once installed, you can run this job to check for missing APARs on the FDRPAS critical and recommended list. This includes APARs from OS/390 2.10 through the current z/OS. The EPSPT tool automatically will check whether the PTFs that apply to your MVS level (FMID) are installed.

This jobstream is also available on the INNOVATION FTP site. Go to <http://www.fdr.com/ftp/ftp.cfm> and enter your FDRPAS access code. Click on "fdrpas", then "documentation", then "PLEASE_ReadMe_First", then select file "FDRPAS-EPSPT-JOB.txt".

This EPSPT job contains a cumulative list of all IBM APARs, not just those for the currently supported MVS levels.

```

//*****
//* SMP/E: RUN PSP COMPARE AND REPORT TOOL
//*****
//PASAPARS EXEC PGM=EPSPT,
// PARM='MVST' <== Specify SMP/E Target Zone Name
//SMPCSI DD DISP=SHR,
// DSN=SMPE.GZOSR22.CSI <== Specify SMP/E CSI Name
//OUTPUT DD SYSOUT=*
//OUTPUTL DD SYSOUT=*
//SYSIN DD DATA,DLM=$$

```

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```

/* PREVENTIVE SERVICE PLANNING */
/* CHECK FOR RECOMMENDED AND CRITICAL IBM APARS FOR FDRPAS */
/* */
/* BCP AND DFSMS APARS FOR Z/OS 1.11 AND ABOVE */
/* */
APAR(AA48948) FMID(HDZ2220) FIX(UA80287) UPG(FDRPAS) SUB(RECOMMENDED) .
APAR(AA48948) FMID(HDZ2210) FIX(UA80286) UPG(FDRPAS) SUB(RECOMMENDED) .
APAR(AA48948) FMID(HDZ1D10) FIX(UA80285) UPG(FDRPAS) SUB(RECOMMENDED) .
APAR(AA47353) FMID(HDZ2210) FIX(UA79076) UPG(FDRPAS) SUB(RECOMMENDED) .
APAR(AA42966) FMID(HBB7790) FIX(UA71118) UPG(FDRPAS) SUB(RECOMMENDED) .
APAR(AA42966) FMID(HBB7780) FIX(UA71117) UPG(FDRPAS) SUB(RECOMMENDED) .
APAR(AA42966) FMID(HBB7770) FIX(UA71116) UPG(FDRPAS) SUB(RECOMMENDED) .
APAR(AA42277) FMID(HDZ2210) FIX(UA69276) UPG(FDRPAS) SUB(CRITICAL) .
APAR(AA42277) FMID(HDZ1D10) FIX(UA69275) UPG(FDRPAS) SUB(CRITICAL) .
APAR(AA42277) FMID(HDZ1C10) FIX(UA69274) UPG(FDRPAS) SUB(CRITICAL) .
APAR(AA41309) FMID(HDZ1C10) FIX(UA68363) UPG(FDRPAS) SUB(RECOMMENDED) .
APAR(AA41309) FMID(HDZ1D10) FIX(UA68364) UPG(FDRPAS) SUB(RECOMMENDED) .
APAR(AA41057) FMID(HBB7780) FIX(UA67938) UPG(FDRPAS) SUB(RECOMMENDED) .
APAR(AA40119) FMID(HBB7780) FIX(UA66389) UPG(FDRPAS) SUB(CRITICAL) .
APAR(AA40091) FMID(HBB7780) FIX(UA66395) UPG(FDRPAS) SUB(RECOMMENDED) .
APAR(AA40091) FMID(HBB7770) FIX(UA66394) UPG(FDRPAS) SUB(RECOMMENDED) .
APAR(AA40091) FMID(HBB7760) FIX(UA66393) UPG(FDRPAS) SUB(RECOMMENDED) .
APAR(AA39822) FMID(HBB7780) FIX(UA64010) UPG(FDRPAS) SUB(CRITICAL) .
APAR(AA39822) FMID(HBB7770) FIX(UA64009) UPG(FDRPAS) SUB(CRITICAL) .
APAR(AA39804) FMID(HDZ1D10) FIX(UA66043) UPG(FDRPAS) SUB(RECOMMENDED) .
APAR(AA39804) FMID(HDZ1C10) FIX(UA66042) UPG(FDRPAS) SUB(RECOMMENDED) .
APAR(AA39804) FMID(HDZ1B10) FIX(UA66041) UPG(FDRPAS) SUB(RECOMMENDED) .
APAR(AA36129) FMID(HDZ1C10) FIX(UA60230) UPG(FDRPAS) SUB(RECOMMENDED) .
APAR(AA35902) FMID(HDZ1B10) FIX(UA59486) UPG(FDRPAS) SUB(CRITICAL) .
APAR(AA35902) FMID(HDZ1C10) FIX(UA59487) UPG(FDRPAS) SUB(CRITICAL) .
APAR(AA34008) FMID(HBB7760) FIX(UA56908) UPG(FDRPAS) SUB(RECOMMENDED) .
APAR(AA34008) FMID(HBB7770) FIX(UA56909) UPG(FDRPAS) SUB(RECOMMENDED) .
APAR(AA27065) FMID(HBB7760) FIX(UA47256) UPG(FDRPAS) SUB(RECOMMENDED) .
/* */
/* ICKDSF APARS RELATED TO OS/390 2.10 THRU Z/OS 1.7 */
/* */
APAR(AQ92344) FMID(EDU1H01) FIX(UQ91568) UPG(FDRPAS) SUB(RECOMMENDED) .
/* */
/* APARS FOR TIVOLI OMEGAMON II FOR SMS V520 THRU V550 */
/* (ALSO OMEGAMON XE FOR STORAGE V100 THRU V310) */
/* */
APAR(AA52945) FMID(HKS3540) FIX(UA92083) UPG(FDRPAS) SUB(RECOMMENDED) .
APAR(AA49210) FMID(HKS3510) FIX(UA77871) UPG(FDRPAS) SUB(RECOMMENDED) .
APAR(AA49210) FMID(HKS3520) FIX(UA80214) UPG(FDRPAS) SUB(RECOMMENDED) .
APAR(AA49210) FMID(HKS3530) FIX(UA80217) UPG(FDRPAS) SUB(RECOMMENDED) .
APAR(AA16333) FMID(AKDF520) FIX(UA26018) UPG(FDRPAS) SUB(RECOMMENDED) .
APAR(AA16333) FMID(AKDF540) FIX(UA26019) UPG(FDRPAS) SUB(RECOMMENDED) .
APAR(AA16333) FMID(HKDF550) FIX(UA26017) UPG(FDRPAS) SUB(RECOMMENDED) .
APAR(AA13206) FMID(AKDF520) FIX(UA20888) UPG(FDRPAS) SUB(CRITICAL) .
APAR(AA11384) FMID(AKDF540) FIX(UA17690) UPG(FDRPAS) SUB(CRITICAL) .

```

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```

APAR(AA09836) FMID(AKDF540) FIX(UA15315) UPG(FDRPAS) SUB(RECOMMENDED) .
/* */
/* BCP AND DFSMS APARS FOR OS/390 2.10 THRU Z/OS 1.11 */
/* */
APAR(AA35902) FMID(HDZ1A10) FIX(UA59485) UPG(FDRPAS) SUB(CRITICAL) .
APAR(AA34008) FMID(HBB7750) FIX(UA56907) UPG(FDRPAS) SUB(RECOMMENDED) .
APAR(AA31956) FMID(HDZ1B10) FIX(UA52637) UPG(FDRPAS) SUB(RECOMMENDED) .
APAR(AA31956) FMID(HDZ1A10) FIX(UA52636) UPG(FDRPAS) SUB(RECOMMENDED) .
APAR(AA31956) FMID(HDZ1190) FIX(UA52638) UPG(FDRPAS) SUB(RECOMMENDED) .
APAR(AA34008) FMID(HBB7750) FIX(UA56907) UPG(FDRPAS) SUB(RECOMMENDED) .
APAR(AA29579) FMID(HDZ1A10) FIX(UA48402) UPG(FDRPAS) SUB(CRITICAL) .
APAR(AA29579) FMID(HDZ1190) FIX(UA48405) UPG(FDRPAS) SUB(CRITICAL) .
APAR(AA29579) FMID(HDZ1180) FIX(UA48404) UPG(FDRPAS) SUB(CRITICAL) .
APAR(AA28844) FMID(HDZ1B10) FIX(UA50362) UPG(FDRPAS) SUB(RECOMMENDED) .
APAR(AA28844) FMID(HDZ1A10) FIX(UA50361) UPG(FDRPAS) SUB(RECOMMENDED) .
APAR(AA28844) FMID(HDZ1190) FIX(UA50363) UPG(FDRPAS) SUB(RECOMMENDED) .
APAR(AA27065) FMID(HBB7760) FIX(UA47256) UPG(FDRPAS) SUB(RECOMMENDED) .
APAR(AA26237) FMID(HDZ1180) FIX(UA45327) UPG(FDRPAS) SUB(CRITICAL) .
APAR(AA26237) FMID(HDZ1190) FIX(UA45328) UPG(FDRPAS) SUB(CRITICAL) .
APAR(AA26237) FMID(HDZ1A10) FIX(UA45326) UPG(FDRPAS) SUB(CRITICAL) .
APAR(AA23211) FMID(HDZ11J0) FIX(UA38323) UPG(FDRPAS) SUB(CRITICAL) .
APAR(AA23211) FMID(HDZ11K0) FIX(UA38319) UPG(FDRPAS) SUB(CRITICAL) .
APAR(AA23211) FMID(HDZ1180) FIX(UA38320) UPG(FDRPAS) SUB(CRITICAL) .
APAR(AA23211) FMID(HDZ1190) FIX(UA38321) UPG(FDRPAS) SUB(CRITICAL) .
APAR(AA20597) FMID(HBB7709) FIX(UA34276) UPG(FDRPAS) SUB(RECOMMENDED) .
APAR(AA20597) FMID(HBB7720) FIX(UA34277) UPG(FDRPAS) SUB(RECOMMENDED) .
APAR(AA20597) FMID(HBB7730) FIX(UA34278) UPG(FDRPAS) SUB(RECOMMENDED) .
APAR(AA20597) FMID(HBB7740) FIX(UA34279) UPG(FDRPAS) SUB(RECOMMENDED) .
APAR(AA19965) FMID(HDZ11J0) FIX(UA37520) UPG(FDRPAS) SUB(CRITICAL) .
APAR(AA19965) FMID(HDZ11K0) FIX(UA37521) UPG(FDRPAS) SUB(CRITICAL) .
APAR(AA19965) FMID(HDZ1180) FIX(UA37522) UPG(FDRPAS) SUB(CRITICAL) .
APAR(AA19965) FMID(HDZ1190) FIX(UA37523) UPG(FDRPAS) SUB(CRITICAL) .
APAR(AA16358) FMID(HDZ11K0) FIX(UA28375) UPG(FDRPAS) SUB(CRITICAL) .
APAR(AA16358) FMID(HDZ1180) FIX(UA28376) UPG(FDRPAS) SUB(CRITICAL) .
APAR(AA14861) FMID(HBB7707) FIX(UA24300) UPG(FDRPAS) SUB(RECOMMENDED) .
APAR(AA14861) FMID(HBB7708) FIX(UA24301) UPG(FDRPAS) SUB(RECOMMENDED) .
APAR(AA14861) FMID(HBB7709) FIX(UA24302) UPG(FDRPAS) SUB(RECOMMENDED) .
APAR(AA14861) FMID(JBB7717) FIX(UA24304) UPG(FDRPAS) SUB(RECOMMENDED) .
APAR(AA14861) FMID(HBB7720) FIX(UA24303) UPG(FDRPAS) SUB(RECOMMENDED) .
APAR(AA14558) FMID(HDZ11G0) FIX(UA24364) UPG(FDRPAS) SUB(RECOMMENDED) .
APAR(AA14558) FMID(HDZ11H0) FIX(UA24365) UPG(FDRPAS) SUB(RECOMMENDED) .
APAR(AA14558) FMID(HDZ11J0) FIX(UA24366) UPG(FDRPAS) SUB(RECOMMENDED) .
APAR(AA14558) FMID(HDZ11K0) FIX(UA24367) UPG(FDRPAS) SUB(RECOMMENDED) .
APAR(AA14248) FMID(HBB7707) FIX(UA24291) UPG(FDRPAS) SUB(CRITICAL) .
APAR(AA14248) FMID(HBB7708) FIX(UA24292) UPG(FDRPAS) SUB(CRITICAL) .
APAR(AA14248) FMID(HBB7709) FIX(UA24293) UPG(FDRPAS) SUB(CRITICAL) .
APAR(AA14248) FMID(JBB7717) FIX(UA24295) UPG(FDRPAS) SUB(CRITICAL) .
APAR(AA14248) FMID(HBB7720) FIX(UA24294) UPG(FDRPAS) SUB(CRITICAL) .
APAR(AA13807) FMID(HDZ11H0) FIX(UA22327) UPG(FDRPAS) SUB(CRITICAL) .
APAR(AA13807) FMID(HDZ11J0) FIX(UA22328) UPG(FDRPAS) SUB(CRITICAL) .
  
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APAR(AA13458) FMID(HDZ11H0) FIX(UA22310) UPG(FDRPAS) SUB(RECOMMENDED).
 APAR(AA13458) FMID(HDZ11J0) FIX(UA22311) UPG(FDRPAS) SUB(RECOMMENDED).
 APAR(AA13458) FMID(HDZ11K0) FIX(UA22312) UPG(FDRPAS) SUB(RECOMMENDED).
 APAR(AA10139) FMID(HDZ11G0) FIX(UA15990) UPG(FDRPAS) SUB(CRITICAL).
 APAR(AA10139) FMID(HDZ11H0) FIX(UA15991) UPG(FDRPAS) SUB(CRITICAL).
 APAR(AA10139) FMID(HDZ11J0) FIX(UA15992) UPG(FDRPAS) SUB(CRITICAL).
 APAR(AA09675) FMID(HBB7720) FIX(UA24486) UPG(FDRPAS) SUB(CRITICAL).
 APAR(AA09675) FMID(HBB7707) FIX(UA24483) UPG(FDRPAS) SUB(CRITICAL).
 APAR(AA09675) FMID(HBB7708) FIX(UA24484) UPG(FDRPAS) SUB(CRITICAL).
 APAR(AA09675) FMID(HBB7709) FIX(UA24485) UPG(FDRPAS) SUB(CRITICAL).
 APAR(AA09675) FMID(JBB7717) FIX(UA24487) UPG(FDRPAS) SUB(CRITICAL).
 APAR(AA07355) FMID(HDZ11G0) FIX(UA11009) UPG(FDRPAS) SUB(RECOMMENDED).
 APAR(AA07355) FMID(HDZ11H0) FIX(UA11010) UPG(FDRPAS) SUB(RECOMMENDED).
 APAR(AA07355) FMID(HDZ11J0) FIX(UA11011) UPG(FDRPAS) SUB(RECOMMENDED).
 APAR(AA07006) FMID(HBB7705) FIX(UA12519) UPG(FDRPAS) SUB(RECOMMENDED).
 APAR(AA07006) FMID(HBB7706) FIX(UA12520) UPG(FDRPAS) SUB(RECOMMENDED).
 APAR(AA07006) FMID(HBB7707) FIX(UA12521) UPG(FDRPAS) SUB(RECOMMENDED).
 APAR(AA07006) FMID(HBB7708) FIX(UA12522) UPG(FDRPAS) SUB(RECOMMENDED).
 APAR(AA07006) FMID(HBB7709) FIX(UA12523) UPG(FDRPAS) SUB(RECOMMENDED).
 APAR(AA07006) FMID(JBB7717) FIX(UA12524) UPG(FDRPAS) SUB(RECOMMENDED).
 APAR(AA06935) FMID(HJS7705) FIX(UA11274) UPG(FDRPAS) SUB(RECOMMENDED).
 APAR(AA06935) FMID(HJS7707) FIX(UA11275) UPG(FDRPAS) SUB(RECOMMENDED).
 APAR(AA06935) FMID(HJS7708) FIX(UA11276) UPG(FDRPAS) SUB(RECOMMENDED).
 APAR(AA05722) FMID(HDZ11F0) FIX(UA07576) UPG(FDRPAS) SUB(RECOMMENDED).
 APAR(AA05722) FMID(HDZ11G0) FIX(UA07577) UPG(FDRPAS) SUB(RECOMMENDED).
 APAR(AA05722) FMID(HDZ11H0) FIX(UA07578) UPG(FDRPAS) SUB(RECOMMENDED).
 APAR(AA05403) FMID(HBB7703) FIX(UA12186) UPG(FDRPAS) SUB(RECOMMENDED).
 APAR(AA05403) FMID(HBB7705) FIX(UA12187) UPG(FDRPAS) SUB(RECOMMENDED).
 APAR(AA05403) FMID(HBB7706) FIX(UA12188) UPG(FDRPAS) SUB(RECOMMENDED).
 APAR(AA05403) FMID(HBB7707) FIX(UA12189) UPG(FDRPAS) SUB(RECOMMENDED).
 APAR(AA05403) FMID(HBB7708) FIX(UA12190) UPG(FDRPAS) SUB(RECOMMENDED).
 APAR(AA05403) FMID(HBB7709) FIX(UA12191) UPG(FDRPAS) SUB(RECOMMENDED).
 APAR(AA05403) FMID(JBB7713) FIX(UA12192) UPG(FDRPAS) SUB(RECOMMENDED).
 APAR(AA05403) FMID(JBB7717) FIX(UA12193) UPG(FDRPAS) SUB(RECOMMENDED).
 APAR(AW57711) FMID(HDZ11E0) FIX(UA02104) UPG(FDRPAS) SUB(RECOMMENDED).
 APAR(AW57711) FMID(HDZ11F0) FIX(UA02105) UPG(FDRPAS) SUB(RECOMMENDED).
 APAR(AW57711) FMID(HDZ11G0) FIX(UA02106) UPG(FDRPAS) SUB(RECOMMENDED).
 APAR(AW57552) FMID(HDZ11E0) FIX(UA00818) UPG(FDRPAS) SUB(CRITICAL).
 APAR(AW57552) FMID(HDZ11F0) FIX(UA00819) UPG(FDRPAS) SUB(CRITICAL).
 APAR(AW57552) FMID(HDZ11G0) FIX(UA00820) UPG(FDRPAS) SUB(CRITICAL).
 APAR(AW56156) FMID(HBB7703) FIX(UA00263) UPG(FDRPAS) SUB(RECOMMENDED).
 APAR(AW56156) FMID(HBB7705) FIX(UA00264) UPG(FDRPAS) SUB(RECOMMENDED).
 APAR(AW56156) FMID(HBB7706) FIX(UA00265) UPG(FDRPAS) SUB(RECOMMENDED).
 APAR(AW56156) FMID(HBB7707) FIX(UA00266) UPG(FDRPAS) SUB(RECOMMENDED).
 APAR(AW55469) FMID(HDZ11E0) FIX(UW93754) UPG(FDRPAS) SUB(CRITICAL).
 APAR(AW55469) FMID(HDZ11F0) FIX(UW93755) UPG(FDRPAS) SUB(CRITICAL).
 APAR(AW55469) FMID(HDZ11G0) FIX(UW93756) UPG(FDRPAS) SUB(CRITICAL).
 APAR(AW54976) FMID(HBB6608) FIX(UW94401) UPG(FDRPAS) SUB(CRITICAL).
 APAR(AW54976) FMID(HBB7703) FIX(UW94402) UPG(FDRPAS) SUB(CRITICAL).
 APAR(AW54976) FMID(HBB7705) FIX(UW94403) UPG(FDRPAS) SUB(CRITICAL).

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APAR(AW54976) FMID(HBB7706) FIX(UW94404) UPG(FDRPAS) SUB(CRITICAL) .
APAR(AW54976) FMID(HBB7707) FIX(UW94405) UPG(FDRPAS) SUB(CRITICAL) .
APAR(AW54976) FMID(JBB7713) FIX(UW94406) UPG(FDRPAS) SUB(CRITICAL) .
APAR(AW54200) FMID(HDZ11G0) FIX(UW88036) UPG(FDRPAS) SUB(CRITICAL) .
APAR(AW53761) FMID(HDZ11E0) FIX(UW92136) UPG(FDRPAS) SUB(RECOMMENDED) .
APAR(AW53761) FMID(HDZ11F0) FIX(UW92137) UPG(FDRPAS) SUB(RECOMMENDED) .
APAR(AW53761) FMID(HDZ11G0) FIX(UW92138) UPG(FDRPAS) SUB(RECOMMENDED) .
APAR(AW53222) FMID(HDZ11F0) FIX(UW87452) UPG(FDRPAS) SUB(RECOMMENDED) .
APAR(AW53222) FMID(HDZ11G0) FIX(UW87453) UPG(FDRPAS) SUB(RECOMMENDED) .
APAR(AW52631) FMID(HBB6608) FIX(UW83918) UPG(FDRPAS) SUB(CRITICAL) .
APAR(AW52631) FMID(HBB7703) FIX(UW83919) UPG(FDRPAS) SUB(CRITICAL) .
APAR(AW52631) FMID(HBB7705) FIX(UW83920) UPG(FDRPAS) SUB(CRITICAL) .
APAR(AW52631) FMID(HBB7706) FIX(UW83921) UPG(FDRPAS) SUB(CRITICAL) .
APAR(AW52631) FMID(JBB7713) FIX(UW83922) UPG(FDRPAS) SUB(CRITICAL) .
APAR(AW52614) FMID(HDZ11E0) FIX(UW85966) UPG(FDRPAS) SUB(RECOMMENDED) .
APAR(AW52614) FMID(HDZ11F0) FIX(UW85967) UPG(FDRPAS) SUB(RECOMMENDED) .
APAR(AW52614) FMID(HDZ11G0) FIX(UW85968) UPG(FDRPAS) SUB(RECOMMENDED) .
APAR(AW52422) FMID(HDZ11E0) FIX(UW85956) UPG(FDRPAS) SUB(CRITICAL) .
APAR(AW52422) FMID(HDZ11F0) FIX(UW85957) UPG(FDRPAS) SUB(CRITICAL) .
APAR(AW52422) FMID(HDZ11G0) FIX(UW85958) UPG(FDRPAS) SUB(CRITICAL) .
APAR(AW52127) FMID(HBB7703) FIX(UA04094) UPG(FDRPAS) SUB(RECOMMENDED) .
APAR(AW52127) FMID(HBB7705) FIX(UA04091) UPG(FDRPAS) SUB(RECOMMENDED) .
APAR(AW52127) FMID(HBB7706) FIX(UA04092) UPG(FDRPAS) SUB(RECOMMENDED) .
APAR(AW52127) FMID(HBB7707) FIX(UA04093) UPG(FDRPAS) SUB(RECOMMENDED) .
APAR(AW51840) FMID(HDZ11E0) FIX(UW85077) UPG(FDRPAS) SUB(CRITICAL) .
APAR(AW51840) FMID(HDZ11F0) FIX(UW85078) UPG(FDRPAS) SUB(CRITICAL) .
APAR(AW51840) FMID(HDZ11G0) FIX(UW85079) UPG(FDRPAS) SUB(CRITICAL) .
APAR(AW51461) FMID(HDZ11E0) FIX(UW83782) UPG(FDRPAS) SUB(CRITICAL) .
APAR(AW51461) FMID(HDZ11F0) FIX(UW83783) UPG(FDRPAS) SUB(CRITICAL) .
APAR(AW49783) FMID(HBB7703) FIX(UW82457) UPG(FDRPAS) SUB(RECOMMENDED) .
APAR(AW49783) FMID(HBB7705) FIX(UW82458) UPG(FDRPAS) SUB(RECOMMENDED) .
APAR(AW49672) FMID(HDZ11F0) FIX(UW80062) UPG(FDRPAS) SUB(CRITICAL) .
APAR(AW46936) FMID(HDZ11E0) FIX(UW75954) UPG(FDRPAS) SUB(RECOMMENDED) .
APAR(AW46936) FMID(HDZ11F0) FIX(UW75955) UPG(FDRPAS) SUB(RECOMMENDED) .
APAR(AW46459) FMID(HBB6608) FIX(UW77968) UPG(FDRPAS) SUB(CRITICAL) .
APAR(AW46459) FMID(HBB7703) FIX(UW77969) UPG(FDRPAS) SUB(CRITICAL) .
APAR(AW46459) FMID(JBB7713) FIX(UW77971) UPG(FDRPAS) SUB(CRITICAL) .
APAR(AW46101) FMID(HBB6608) FIX(UW79015) UPG(FDRPAS) SUB(RECOMMENDED) .
APAR(AW46101) FMID(JBB6609) FIX(UW79021) UPG(FDRPAS) SUB(RECOMMENDED) .
APAR(AW46101) FMID(HBB7703) FIX(UW79016) UPG(FDRPAS) SUB(RECOMMENDED) .
APAR(AW45683) FMID(HBB6608) FIX(UW77247) UPG(FDRPAS) SUB(RECOMMENDED) .
APAR(AW45683) FMID(HBB7703) FIX(UW77248) UPG(FDRPAS) SUB(RECOMMENDED) .
APAR(AW44548) FMID(HDZ11E0) FIX(UW71066) UPG(FDRPAS) SUB(RECOMMENDED) .
APAR(AW44548) FMID(HDZ11F0) FIX(UW71067) UPG(FDRPAS) SUB(RECOMMENDED) .
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