

# INNOVATION DATA PROCESSING

## Technical Bulletin

Effect of IBM APAR OA42277 on Innovation Products

On 5/29/2013, IBM issued a Red Alert for APAR OA42277:

**Abstract:**

Potential loss of data for DB2 v10 users on z/OS 1.12 and 1.13 releases.

**Users Affected:**

DB2 V10 and PDSE users potentially affected by error in z/OS Media Manager IO recovery. Users of zDMF running zHPF may be particularly exposed because all I/O requests are intercepted by zDMF and returned to Media Manager in error for IO redrive using FICON, however any I/O errors, including interface control check and unit checks, that are retried by the media manager are also subject to the problem.

**Description:**

There are certain situations where the Media Manager will redrive the failed channel program with a different type of channel program. In some highly timing dependant cases, such as with I/Os that cross extents, the redrive may not occur correctly, and no error is presented to the caller, potentially leading to data being down level on disk. The problem may occur for DB2 V10 or PDSE data sets. Please see APAR OA42277 for more details.

**Recommended Actions:**

Apply ++APAR or PTFs for OA42277. Activation requires re-IPL of the system.

Also please do not use zDMF until the fix for OA42277 is applied.

Customers have asked whether any Innovation products increase the exposure to this problem in the way that zDMF does.

No Innovation products, except FDRPAS, increase the exposure to this problem in any way whatsoever.

In FDRPAS, there is an extremely remote chance that a SWAP or SWAPDUMP could provoke this problem. Unlike zDMF, which according to the Red Alert creates an error to force a redrive on *all* zHPF I/O operations during a migration, FDRPAS creates an error to force an error on *only one* zHPF I/O operation per volume in a SWAP or SWAPDUMP. After that,

FDRPAS disables zHPF for that volume until the end of the SWAP or SWAPDUMP, and then re-enables it. We have never encountered this problem since zHPF was introduced.

If a customer wants to avoid even this extremely remote chance that FDRPAS will provoke the problem in the Red Alert, then before running a migration, issue the command:

```
SETIOS ZHPF=NO
```

to disable zHPF. After the migration, re-enable zHPF by issuing the command:

```
SETIOS ZHPF=YES
```

Although disabling zHPF may slightly reduce I/O performance, this should not be a significant concern if FDRPAS is running when the system is not at peak activity.

Note, though, that the problem of the Red Alert is not limited to particular software products. The problem can occur after "any I/O errors, including interface control check and unit checks, that are retried by the media manager". Every installation should install the fixes for this problem. Preliminary versions of the fixes are available from IBM now, and the official PTFs should be available soon.

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