

## Migrating Oracle Data from OCFS to OCFS2

OCFS2 and OCFS (Release 1) are not on-disk compatible. OCFS2 cannot mount existing OCFS volumes. The on-disk layout was changed so as to add many new features into OCFS2, including POSIX compatibility. At the same time, care was taken to make the new layout flexible enough to not warrant such a change in the future.

The disk layout is sufficiently different between the two that an in-place convert of the volume is not possible without the use of a second disk.

Also, as OCFS works only on the 2.4 kernels (SuSE Linux Enterprise Server 8 and Red Hat Enterprise Linux 2.1 & 3) and OCFS2 only on 2.6 kernels (SuSE Linux Enterprise Server 9 and Red Hat Enterprise Linux 4), it is not possible to mount both OCFS and OCFS2 volumes on the same system concurrently.

So, how can one migrate data from OCFS to OCFS2?

### **1. Backup/Restore**

If one has a full backup of the data, one can simply restore the files onto OCFS2 volume (s). As OCFS2 does not require the use of the direct I/O enabled coreutils, one could restore using the standard cp.

### **2. Copying directly from OCFS to OCFS2**

Even though one cannot mount OCFS and OCFS2 concurrently, one can copy directly from an existing OCFS volume to an OCFS2 volume. For this, one needs to download and install the *FSCat* package on the target machine. The packages are available at <http://oss.oracle.com/projects/fscat/>. Also, the setup should allow for the target machine to be able to access the shared devices storing the OCFS volume(s).

*FSCat* allows one to list and copy files from the block device (for example, /dev/sda1) rather than the mounted file system.

To list all the files recursively in an OCFS block device /dev/sda1, do,

```
# fsls -t ocfs -l -R /dev/sda1 /
```

To copy all the files recursively from an OCFS block device /dev/sda1 to a mounted file system at /u01/, do,

```
# fscp -t ocfs -R -v /dev/sda1 / /u01
```

To copy a specific file `/data/system.dbf` from an OCFS block device `/dev/sda1` to a mounted file system at `/u01/data`, do,

```
# fscp -t ocfs -v /dev/sda1 /data/system.dbf /u01/data
```

For more information on the *FSCat* tools, please refer either to the man pages or online at <http://oss.oracle.com/projects/fscat/documentation/manpages/>.

## Verification

Irrespective of the method one uses to migrate the Oracle data between the two file systems, it is highly recommended to run the Oracle tool *dbv*, to verify the sanity of the Oracle data files on the new volumes before destroying the copies of the Oracle data.

To verify an Oracle data file, do,

```
# dbv FILE=/u01/data/system/dbf USERID=user/pass
```