Global File System 2

GFS2 is a cluster file system. It allows a cluster of computers to simultaneously use a block device that is shared between them (with FC, iSCSI, NBD, etc). GFS2 reads and writes to the block device like a local file system, but also uses a lock module to allow the computers coordinate their I/O so file system consistency is maintained. One of the nifty features of GFS2 is perfect consistency -- changes made to the file system on one machine show up immediately on all other machines in the cluster.

GFS2 uses interchangeable inter-node locking mechanisms, the currently supported mechanisms are:

lock_nolock
- allows GFS2 to be used as a local file system

lock_dlm
- uses the distributed lock manager (dlm) for inter-node locking. The dlm is found at linux/fs/dlm/

lock_dlm depends on user space cluster management systems found at the URL above.

To use GFS2 as a local file system, no external clustering systems are needed, simply:

```
$ mkfs -t gfs2 -p lock_nolock -j 1 /dev/block_device
$ mount -t gfs2 /dev/block_device /dir
```

The gfs2-utils package is required on all cluster nodes and, for lock_dlm, you will also need the dlm and corosync user space utilities configured as per the documentation.

gfs2-utils can be found at https://pagure.io/gfs2-utils

GFS2 is not on-disk compatible with previous versions of GFS, but it is pretty close.

The following man pages are available from gfs2-utils:

fsck.gfs2	to repair a filesystem
gfs2_grow	to expand a filesystem online
gfs2_jadd	to add journals to a filesystem online
tunegfs2	to manipulate, examine and tune a filesystem
gfs2_convert	to convert a gfs filesystem to GFS2 in-place
mkfs.gfs2	to make a filesystem