CLUSTERFS TEST

Benchmarks:

- BM1:
  # sync && /root/src/benchmark/make-many-files
  creates 40540 1kB files.
- BM2 (self healing)
  sync && time find -type f -exec touch '{}' \;
- BM3
  # sync && time dd if=/dev/zero bs=8 count=128000 of=file1MB.bin
- BM4
  # sync && time dd if=/dev/zero bs=4096 count=25000 of=file100MB.bin
- BM5
  sync && time rm file1MB.bin file100MB.bin
- BM6
  time `echo “TEST” >>  file100MB.bin`
- BM7
  time cp -a 0 1 2 /tmp
  /tmp is ramfs
- BM8
  sync && time mkdir TEST && mv 0 1 2 TEST
- BM9
  # sync && time rm TEST -fr
  Deletes files created with BM1

GLUSTERFS

SERVER:

```
### Export volume "brick" with the contents of "/srv/gluster" directory.

volume posix-brick
  type storage/posix                   # POSIX FS translator
  option directory /srv/gluster        # Export this directory
end-volume

volume lock-brick
  type features/posix-locks
  subvolumes posix-brick
  option mandatory-locks on
end-volume

########## server ############################
volume server
        type protocol/server
        option transport-type tcp/server
        subvolumes lock-brick
        option auth.addr.lock-brick.allow *
end-volume
```

CLIENT:

```
volume brick1
 type protocol/client
 option transport-type tcp
 option remote-host iscsi1                 # IP address of the remote brick
 option remote-subvolume lock-brick            # name of the remote volume
end-volume

volume brick2
 type protocol/client
 option transport-type tcp
 option remote-host iscsi2                 # IP address of the remote brick
 option remote-subvolume lock-brick            # name of the remote volume
end-volume
```

TEST1:

```
volume AFR
 type cluster/afr
 subvolumes brick1 brick2
end-volume
```

TEST2:

```
volume AFR
 type cluster/replicate
 subvolumes brick1 brick2
end-volume
```

TEST3:

```
volume AFR
 type cluster/replicate
 subvolumes brick1 brick2
end-volume

#volume wb
volume MYGLFS
  type performance/write-behind
  subvolumes AFR
  option flush-behind on               # default value is 'off'
  option window-size 1MB
  option aggregate-size 512KB          # default value is 0
end-volume
```

TEST4:

```
volume wb1
  type performance/write-behind
  subvolumes brick1
  option flush-behind on               # default value is 'off'
  option window-size 1MB
  option aggregate-size 512KB          # default value is 0
end-volume


volume wb2
  type performance/write-behind
  subvolumes brick2
  option flush-behind on               # default value is 'off'
  option window-size 1MB
  option aggregate-size 512KB          # default value is 0
end-volume


volume MYGLFS
 type cluster/replicate
 subvolumes wb1 wb2
end-volume
```

TEST5:

```
volume AFR
 type cluster/replicate
 subvolumes brick1 brick2
end-volume

volume iot
 type performance/io-threads
 subvolumes AFR
 option thread-count 8
end-volume

volume wb
  type performance/write-behind
  subvolumes AFR
  option flush-behind on               # default value is 'off'
  option window-size 512KB
  option aggregate-size 512KB          # default value is 0
end-volume

volume ra
```

```
 type performance/read-ahead
 subvolumes wb
end-volume

#volume ioc
volume MYGLFS
 type performance/io-cache
 subvolumes ra
end-volume
```

TEST6:

```
volume replicate
 type cluster/replicate
 subvolumes brick1 brick2
end-volume


volume MYGLFS
 type performance/io-threads
 subvolumes replicate
 option thread-count 8
end-volume
```

TEST7:

Server:

```
#volume io-thread
volume brick
 type performance/io-threads
 subvolumes lock-brick
 option thread-count 4
end-volume
```

Client:

```
volume replicate
 type cluster/replicate
 subvolumes brick1 brick2
end-volume


volume MYGLFS
 type performance/io-threads
 subvolumes replicate
 option thread-count 8
end-volume
```

TEST8

Server:

```
volume writebehind
  type performance/write-behind
  option aggregate-size 1MB # default is 0bytes
  option window-size 1MB    # default is equal to aggregate-size
  option flush-behind on    # default is 'off'
  subvolumes lock-brick
end-volume

#volume io-thread
volume brick
 type performance/io-threads
 subvolumes writebehind
 option thread-count 4
end-volume
```

Client:

```
volume replicate
 type cluster/replicate
 subvolumes brick1 brick2
end-volume


volume MYGLFS
 type performance/io-threads
 subvolumes replicate
 option thread-count 8
end-volume
```

TEST9

Server:

Same as TEST8

Client:

```
volume replicate
 type cluster/replicate
 subvolumes brick1 brick2
end-volume

volume c-ioc
   type performance/io-cache
   subvolumes replicate
   option page-size 128KB      # 128KB is default
   option cache-size 256MB    # 32MB is default
   option force-revalidate-timeout 5
 #  option priority *:0
end-volume

volume MYGLFS
 type performance/io-threads
 subvolumes c-ioc
 option thread-count 8
end-volume
```

TEST10

Server:

Same as TEST8

Client:

```
volume replicate
 type cluster/replicate
 subvolumes brick1 brick2
end-volume

volume c-ioc
   type performance/io-cache
   subvolumes replicate
   option page-size 128KB      # 128KB is default
   option cache-size 256MB    # 32MB is default
   option force-revalidate-timeout 5
 #  option priority *:0
end-volume

volume c-ra
  type performance/read-ahead
  subvolumes c-ioc            # In this example it is 'client' you may have to change it according to
your spec file.
  option page-size 1MB         # default is 256KB
  option page-count 4          # default is 2
  option force-atime-update no # defalut is 'no'
end-volume


volume MYGLFS
 type performance/io-threads
 subvolumes c-ra
 option thread-count 8
end-volume
```

DHT2:

Server:

Same as TEST8

Client:

```
######## Client  ############################
volume brick1
 type protocol/client
 option transport-type tcp
 option remote-host iscsi1                  # IP address of the remote brick
 option remote-subvolume brick             # name of the remote volume
end-volume

volume brick2
 type protocol/client
 option transport-type tcp
 option remote-host iscsi2                  # IP address of the remote brick
 option remote-subvolume brick             # name of the remote volume
end-volume

volume distribute
 type cluster/distribute
 subvolumes brick1 brick2
```

```
end-volume

volume c-ioc
   type performance/io-cache
#   subvolumes replicate
   subvolumes distribute
   option page-size 128KB      # 128KB is default
   option cache-size 256MB    # 32MB is default
   option cache-timeout 15
 #  option priority *:0
end-volume

volume MYGLFS
 type performance/io-threads
 subvolumes c-ioc
 option thread-count 8
end-volume
```

DHT4:

Server:

Same as TEST8

Client:

```
######## Client  ############################
volume brick1
 type protocol/client
 option transport-type tcp
 option remote-host iscsi1                  # IP address of the remote brick
 option remote-subvolume brick             # name of the remote volume
end-volume

volume brick2
 type protocol/client
 option transport-type tcp
 option remote-host iscsi2                  # IP address of the remote brick
 option remote-subvolume brick             # name of the remote volume
end-volume

volume brick3
 type protocol/client
 option transport-type tcp
 option remote-host iscsi3                  # IP address of the remote brick
 option remote-subvolume brick             # name of the remote volume
end-volume

volume brick4
 type protocol/client
 option transport-type tcp
 option remote-host iscsi4                  # IP address of the remote brick
 option remote-subvolume brick             # name of the remote volume
end-volume

volume distribute
 type cluster/distribute
 subvolumes brick1 brick2 brick3 brick4
end-volume

volume c-ioc
   type performance/io-cache
#   subvolumes replicate
   subvolumes distribute
   option page-size 128KB      # 128KB is default
   option cache-size 256MB    # 32MB is default
   option cache-timeout 15
```

```
 #  option priority *:0
end-volume

volume MYGLFS
 type performance/io-threads
 subvolumes c-ioc
 option thread-count 8
end-volume
```

TEST/ BM	BM1	BM2	BM3	BM4	BM5	BM6	BM7	BM8	BM9	SUM
REF(local disk)	1,87	100,11	0,47	0,36	0,53	0,01	9,8	0,01	0,54	113,7
NFS	61,89	116,73	0,45	1,3	0,66	0,01	41,65	0,04	10,12	232,85
TEST1	99,42	293,73	55,47	14,4	0,41	0,03	127,97	0,16	170,11	761,7
TEST2	96,46	242,75	55,67	14,03	0,34	0,00	120,56	0,18	127,42	657,41
TEST3	748,08	2842,18	68,12	2,66	0,13	0,01	193,29	0,19	212,99	4067,65
TEST4	97,08	240,35	4423,59	1184,74	0,11	0,01	156,2	0,16	103,36	6205,6
TEST5	622,29	2920,41	78,66	6,42	0,09	0,01	259,99	0,15	257,73	4145,75
TEST2	515,33	3068,84	112,04	8,15	0,33	0,02	362,38	0,18	353,16	4420,43
NUFA	194	272,15	15,31	7,68	0,11	0,05	148,35	0,09	47,23	684,97
TEST1	84,2	235,26	47,8	12,97	0,35	0	179,62	0,09	136,76	697,05
TEST3	775,65	2696,9	152,01	6,57	0,09	0	328,78	0,13	146,18	4106,31
TEST6	89,59	261,42	48,89	13,07	0,36	0	158,92	0,17	123,93	696,35
TEST7	92,24	256,87	49,53	12,15	0,32	0,02	213,06	0,12	131,79	756,1
TEST8	97,72	259,73	50,64	12,4	0,32	0,01	153,26	0,17	119,16	693,41
TEST9	83,42	261,84	51,75	12,26	0,26	0	227,53	0,16	139,58	776,8
TEST10	103,32	167,95	48,94	11,83	0,26	0,01	1639	0,13	69,61	2041,05
DHT2	21,24	118,7	19,27	4,89	0,1	0	32,24	0,1	10,74	207,28
DHT4	28,9	132,26	23,61	5,48	0,1	0	41,72	0,1	15,52	247,69