

New feature release of BeeGFS adds quota enforcement support

Kaiserslautern, Germany, Dec. 12th – ThinkParQ is proud to announce a new feature release of the parallel filesystem BeeGFS. While it was already possible to track used disk space for users and groups in previous releases, the new 2014.01-r10 release now allows administrators to set and enforce quota limits. The implementation of this new quota enforcement was done with a special focus on keeping the performance of the parallel filesystem at a maximum level. To achieve this, BeeGFS uses a different approach than most other parallel filesystems: It allows the system administrator to balance between accuracy of the enforcement and update interval of the quota information. By exploiting the quota tracking technology of the underlying local filesystems on the individual storage targets (e.g. xfs or ext4), the quota usage can be queried with minimal overhead. Limits can be set for used space as well as for number of stored file-chunks per user and per group.

Improvements were also made on the popular BeeGFS on-demand tool, which allows easy creation of temporary parallel file system instances e.g. as a burst buffer on the local disks or SSDs of compute nodes or on a special set of servers, with only a single command. The new release supports parallel startup and shutdown of the BeeGFS components on all participating nodes, which makes this approach even more attractive to benefit from the high throughput that can be achieved by combining the disks in each compute node.

For daily operation, the command line control tool of BeeGFS does now support bash-completion, so that commands don't have to be fully typed anymore and instead can be auto-completed with the push of a button. The command line tool also provides new options for benchmarking of the available storage targets to make sure everything works within specifications.

Additionally, the r10 update does introduce a new C-API to create files with user-defined chunksizes and number of stripe targets. This enables applications and users to have more control over BeeGFS when storing data on it. Overriding the default striping settings can be very useful e.g. if an application creates a large shared file and wants to stripe it accross all available storage targets for maximum throughput. The API can be easily used by including the appropriate header-file/library and calling the pre-defined functions.

The filesystem client kernel module is still compatible with a wide range of linux kernel versions, starting with 2.6.16 and the new release adds support for the latest 3.18 vanilla kernels from www.kernel.org.

This new release is a big step for the development of BeeGFS. Especially the quota enforcement has been requested by many users and enables BeeGFS now to be a solution for a number of additional use cases. It is already available for download for customers with commercial support in the customer area at www.beegfs.com and will be made publicly available on the 19th of December - just in time for Christmas.

As usual, upgrading from previous releases can be done by simply applying the new packages via the normal update mechanism of the common Linux distributions.

About BeeGFS

BeeGFS is the new name for the well known parallel filesystem FhGFS. BeeGFS is developed by the Fraunhofer Institute in Kaiserslautern, Germany. It provides excellent performance and scalability – but combines it with ease of use, which is unique for a filesystem targeted at High Performance Computing. Additionally, it is extremely flexible and doesn't lock users in with specific Linux distributions or kernel versions. With these key differentiators, BeeGFS is adopted in a large number of scientific and commercial sites as the default choice for a work-filesystem for HPC.

About ThinkParQ

ThinkParQ was founded as a spin-off from the Fraunhofer Competence Center for HPC in Kaiserslautern to bring BeeGFS to the market. ThinkParQ is responsible for support, provides individual presentations on demand, organizes events, attends exhibitions and works very closely with system integrators in creating turn-key solutions.