BeeGFS Omni-Path Certification: 12GB/s per server

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ThinkParQ GmbH, the Fraunhofer HPC spin-off behind the parallel file system BeeGFS, today announces collaboration with the Intel Omni-Path Architecture (OPA) team and certification of BeeGFS over OPA.

During the certification process, outstanding performance of BeeGFS in combination with Intel's new OPA interconnect technology on dual-socket Broadwell Xeon E5-2680v4 systems was observed: In an IOR single-stream throughput benchmark between a single client node and a single BeeGFS storage server, more than 8GB/s write throughput were achieved at only 2.8% CPU utilization. For an IOR benchmark with 4 file streams on the same setup, BeeGFS was able to deliver a throughput of more than 12GB/s at only 6.2% CPU utilization on the server. With typical 4U storage servers, this enables file I/O rates of up to 120GB/s in a single rack.

Even though file system performance is not measured by the Linpack benchmark, which is the basis for the TOP500 list of the world's fastest supercomputers, the efficiency of the parallel cluster file system nowadays is known to be one of the key aspects of cluster computing to avoid long application stalls on I/O wait. This factor is becoming even more relevant when considering the ever increasing size of data sets that need to be analyzed at higher levels of detail and the increasing size of application checkpoints due to the growing size of RAM on the compute nodes.

"Without a doubt, Intel has made a big leap in performance with the new 100Gbps OPA technology compared to previous interconnect generations. The fact that we didn't need to modify even a single line of the BeeGFS source code to deliver this new level of throughput, confirms that the BeeGFS internal design is really future-proof." comments Sven Breuner, CEO of ThinkParQ.

Marco Merkel, Global Sales Director of ThinkParQ, adds "We are already seeing a number of customer projects being implemented with BeeGFS over Omni-Path, where our solution partners were able to significantly scale-up the per-server throughput and thus needed fewer servers to exceed the customer expectations. Especially for all-flash systems with BeeGFS, which are getting very famous in the finance industry, this new technology will help to unleash the full potential of BeeGFS."

For people interested in trying out BeeGFS, ready-to-use binary packages for all major Linux distributions and also the BeeGFS source code are available free for download from the website

http://www.beegfs.com. The available downloads already come with full support for Omni-Path. For those who would like to meet the team, the ISC High Performance Computing Conference in Frankfurt, Germany, starting on June 19, will be a good chance to get in touch.

About BeeGFS
The BeeGFS parallel file system was developed specifically for performance-critical environments and with a strong focus on easy installation and high flexibility, including converged setups where storage servers are also used for compute jobs. By increasing the number of servers and disks in the system, performance and capacity of the file system can simply be scaled out to the desired level, seamlessly from small clusters up to enterprise-class systems with thousands of nodes. BeeGFS is available free for download from www.beegfs.com, professional support is available from ThinkParQ.