Berkeley Storage Manager (BeStMan)

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What it does?

- Manages underlying storage for files.
- Supports multiple storage partitions.
- Works on existing storages with posix-compatible file systems, and adaptable to special file systems and storages with customized plug-in.
- Supports multiple transfer protocols and load balancing for multiple transfer servers
- Optional Data Movement Broker mode.
- Implements Storage Resource Management (SRM) interface v2.2, and compatible and interoperable with other 4 SRM implementations in WLCG.
- More details: http://sdm.lbl.gov/bestman/
  - http://sdm.lbl.gov/bestman/docs/bestman-asim-091006.pdf

Accomplishments

- RPM distribution through OSG software stack as well as a packaged download.
- Highly customizable and pluggable for the storage needs.
- Open source under BSD license.
- Scalable performance with some file systems and storages, such as Xrootd and Hadoop.
- Organized an international standard through OFG - GFD.129, 2008.
- US Patent 8,705,342 B2, 2014. Co-scheduling of network resource provisioning and host-to-host bandwidth reservation on high-performance network and storage systems.

Impacts

- Enable scientific collaborations with uniform interface to the distributed storage resources.
  - Enable storage accessibility and improve science productivity.
- 43 BeStMan deployments worldwide and 5 backend deployments for CERN EOS system, as of 4/16/2015.
- Being used in scientific collaborations such as ESGF, OSG, and WLCG.