



WOPSSS'17 Trip Report

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CERN

SFT Meeting
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- International Supercomputing resembles the U.S. Supercomputing
- Four days of Conference, Exhibition, Tutorials, and Workshops
- One day of ~ 20 workshops
- Notes from two workshops:
 - VHPC: Virtualization in High-Performance Computing
program committee
 - WOPSSS: Performance and Scalability of Storage Systems
presenter



- VMs cease to be a theme on HPC
- Containers still raise some interest, in particular Singularity
- VMware presentation on NVIDIA GRID:
fast, virtual GPUs for VMs (*not* pass-through)
potential to foster GPU availability on clouds



- Half day workshop
- Two presentations from CERN:
EOS distributed namespace and CernVM-FS
- General theme: “Burst Buffers”
i.e. fast storage layer between memory and shared file system
(GPFS, Lustre)
- Many approaches to burst buffers: node-local SSD, MPI I/O,
key-value store
- It appears HPC enters a phase of storage experimentation
not yet signs of standardization à la MPI or POSIX file system



Our contribution: CernVM-FS on the TOP500

#	HPC System	Loc.	CernVM-FS Deployment
3	Piz Daint	CH	Fuse client with loopback cache
4	Titan	US	Rsync of /cvmfs into GPFS
9	Mira	US	Custom binaries
20	Stampede	US	Rsync of /cvmfs
33	HPC2	RU	Standard fuse client
40	SuperMUC	DE	Parrot client with preloaded cache
72	Edison	US	Shifter, parrot client with preloaded cache (tested)
73	Archer	UK	Rsync of /cvmfs
389	NEMO	DE	OpenStack virtual machines (tested)