S4 expansion update

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Quarterly Project Progress Report
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Ongoing Work

STAR POC and SSEC - Identify and draft any new policies required

SSEC has worked with UW Office of Information Security to create a UW IT Security Baseline for Research and Academic Computing. The S4 security plan uses this as a foundational document. The S4 security plan is substantially complete in draft mode, and will be applied to the expanded S4 system when general users are added to the system.

Physical Installation

Compute, storage, and network equipment has been physically installed.

The installation of the S4 expansion requires electrical work to install, test and properly wire the large 100KVA UPS supporting the system. This work was scheduled to be performed the last week of February. However, our assumption was that this was at risk for delay due to the outside (of SSEC) labor requirements and scheduling issues.

The electrical work began March 20, and ***we assume will be completed in May*.**

We have enough capacity in general SSEC datacenter areas (not on the S4 UPS) to set up and run 2 of the 5 computer racks of equipment. We have assembled this subset of the system.

This allows for the majority of the SSEC system administration and software setup work to be done immediately, and science codes can be ported and initial testing begin. When the final power is ready we will then simply absorb the additional systems into the cluster.

This initial testing system will provide 640 processing cores and all of the scratch filesystem space.

Science Software Testing

Science Integrators and advanced users are on the system and actively testing GSI/GFS and WRF applications.

User Documentation

SSEC and Integrators – develop user documentation.

Some basic documentation on the slurm scheduler and running jobs on the system is complete. More extensive documentation for running specific applications will be developed as application testing continues by science integrators and beta users.

Completed Work

System software installation

System software installation is complete for the testing system and applications are running for testing.

System software has been installed on the complete system's **storage** units (via powering up units individually and installing proper software images). Extending system software to the additional **compute** units when available will simply involve imaging additional compute nodes as they come online.

System Benchmark and Verification

The testing system has been passed basic benchmarking tests.

Future Work

Full System Benchmark and Verification

When the full system is available benchmarks will be repeated for the entire system. This should take 1 week.

Open for all users

For the system to open for all users we will need all electrical work completed, policy documents (especially S4 security plan) complete and accepted, and user documentation complete