7 Milestones and Deliverables

Goals and deliverables are separated into sustaining and extending efforts. We initially plan for the first three years. Detailed planning for the out-years will be complete by the end of the third year taking into account lessons learned and the evolving needs of the OSG stakeholders.

Annual Goals in Sustaining the OSG:

a) Increase in CPU usage that is more than Moore's Law,[85] showing growth to meet the scaling needs of the users.
b) Full compliance with the operations service SLAs.
c) Doubling of accounted data movement to meet growth in data intensive science.
d) >=2 additional communities using DHTC services in production; >2 tutorials and documentation for new capabilities.

Transform computing on campuses through new DHTC technologies:

Year 1: a) Deploy technology to account usage of users, jobs and data movement to campuses.
b) Release campus infrastructure software distribution Production Version 1.
Year 2: a) Assess metrics that encapsulate a measure of adoption and increase in usage.
b) 20% increase in each of new, and usage by existing, users of campus technologies.
c) 2 production versions of campus software to extend the capabilities and scalability.
Year 3: a) 20% increase in new, and usage by existing, users of campus technologies.
b) Transition of appropriate campus support services to sustained OSG operations.

Transformation of our core communities computing capabilities to exascale science:

Year 1: a) 10% of resources support end-to-end capability to be schedulable as HTPC and simultaneously usable and available by HTC/single processor job.
Year 2: a) 20% of resources support end-to-end capability to be schedulable as HTPC and simultaneously usable and available by HTC/single processor job.
b) 90% of LHC workload and 10% of non-LHC workload supports remote I/O capabilities.
c) Data movement across the DHTC fabric of >750 Petabytes/year.
Year 3: a) >50% of resources support end-to-end capability to be schedulable as HTPC and simultaneously usable and available by HTC/single processor job.
b) 50% of non-LHC workload supports remote I/O capabilities.
c) Data movement across the DHTC fabric of >750 Petabytes/year

Access to an expanded set of job and data services accessible via a single identity:

Year 1: a) 10% of non-LHC Users accessing OSG services using campus identities.
b) Complete the architecture and design of the new set of ID management services.
Year 2: a) 20% of non-LHC Users accessing OSG services using campus identities.
b) Deliver initial release of new set of ID management services.
Year 3: a) >30% of non-LHC Users accessing OSG services using campus identities.
c) Transition new set of ID management services to production and operations.

Improve the usability, expand the usage, lower barriers of adoption:

Year 1: a) Deliver report on integration of virtualized resources into the OSG fabric of services.
b) Prototype integration of one cloud resource into the production DHTC environment.
c) 100% VDT packages available as RPMs.
d) Production release of configuration management of RPM-packaged VDT software.

e) Deliver report on extending the job-level monitoring.

Year 2: a) Improve reliability of software distribution via duplication of software repositories. Provide hosting of non-VDT software on behalf of OSG communities.

c) Deliver report on integration of advanced (100G, Terabit) networks.

d) Extend existing Dynamic Resource Allocation Services to include centralized policies that regulate allocation.

e) Collaborate with U.S. LHC for initial deployment of simplified data services for non-LHC.

f) Integration of one cloud resource into the production DHTC environment.

g) Provide enhanced OSG-wide job monitoring in prototype.

Year 3: a) Develop a trust flow diagram of VDT stack. Identify the effect of configuration parameters on the security of the software.

b) Provide OSE services to extend the dynamic resource allocation capability.

c) All software available as source RPMs. Drop support for Pacman.

d) 20% of resources support simplified data management services for non-LHC VOs.

e) Full integration of multiple cloud resources into the production DHTC environment.

f) Transition enhanced OSG-wide job monitoring into operations.