Campus and User Support

1. Ongoing
   a. OSG Connect account and Project requests (Bala)
   b. Respond to user forum "how-do-I?" questions, feature requests, errors (full team)
   c. Software and packaging of user applications in the modules + OASIS service (Bala, Suchandra)
   d. XD Program
      - Support users with XRAC allocations (Mats)
      - Attend quarterly XRAC allocations meetings (Rob, Mats)
   e. Operation of user infrastructure
      - Maintenance of Cobbler build and Puppet configuration rules (Lincoln, Judith)
      - Maintenance of KVM-based virtual machine infrastructure (Lincoln, Judith)
      - login01.osgconnect.net (login service) (Lincoln)
        i. schedd, collector, Gratia probe
      - login02.osgconnect.net (remote campus connect clients server) (Lincoln)
        i. schedd, collector, Gratia probe
      - NSF file server for /home directories (Lincoln)
        i. 50 GB/user quota
        ii. Backup service
      - hosted campus factory services (Syracuse, Clemson, St. Louis resource targets) (Lincoln)
      - Ceph object store (750 TB usable capacity shared with ATLAS Connect users) (Lincoln)
        i. GaneshaFS for Posix access to the Stash RBD (RADOS Block Device, variable capacity)
        ii. 14 Xrootd doors at 20 Gbps to SciDMZ (100 Gbps to OmniPoP)
        iii. 14 Gridftp doors at 20 Gbps to SciDMZ (100 Gbps to OmniPoP)
      - stash.osgconnect.net services (Lincoln)
        i. http server
        ii. xrootd origin server
        iii. stash cache server
        iv. Globus gridftp server endpoint
        v. Management of user and project stash areas for quasi-transient job data
      - osg-xd login host & services (Mats)
        i. osg-xd schedd
        ii. osg-direct schedd
        iii. scratch area monitoring service
        iv. OSG VO front end
        v. Gratia batch probes
        vi. Condor history and schedd state exporter to analytics collector (Suchandra)
        vii. Infrastructure back admin (Lincoln)
      - osgconnect.net services (David)
        i. web server overlay (for OSG custom menu links) to portal.osgconnect.net (Globus hosted)
        ii. u-bolt services for automated account creation from Globus Nexus IDM, synchronization
        iii. Docker container-based iPython Notebooks
      - Jenkins-based automated testing of software tools, tutorials and systems (Lincoln)
      - Analytics infrastructure (Suchandra)

i. Flume & Logstash collectors
ii. Elasticsearch cluster (3 node → 6 node)
iii. Kibana portal
iv. Grafana monitors for OSG Connect, Campus Connect queues (Lincoln)

2. Lowering Barriers to Usabiliy
   a. Campus Connect Client [David, ongoing: bug support and progressive releases]
   b. Create GitHub-backed help desk service [Rob, David, July 2015]
   c. Create user community-focused website [Rob, Student, Aug 2015]
   d. Create publication database and upload service [Rob, Student, Aug 2015]
   e. Create domain specific HTC recipes [Bala, Mats, Emelie, on-going]
   f. Provide NX server interface to login.osgconnect.net [Judith, July 2015]
   g. Reducing friction between user data and resources [Rob, on-going]
      i. Campus to Stash; Stash to Campus [Suchandra, on-going]
      ii. Document and benchmar high priority data access use cases with StashCache (copy, "Posix", etc.) [Suchandra, Dec 2015]
      iii. Development of stash-cp [Student, Lincoln, on-going]
   h. Assessment of XSEDE user community application workflows, suitability for HTC (Mats, Bala)
      i. Demonstrated HTC conversion and reach of traditionally HPC applications in MD (Molecular Dynamics) such as NAMD, GROMACS
         • Perform HTC analog to XRAC MPI scaling demonstrator to determine performance equivalent → common currency for XRAC proposals
      ii. Same, bioinformatics (BLAST), docking (Auto Vina)
   i. Support for the NIH community (Rob, Mats, Emelie, Bala)
      i. Create Project and necessary software components to support users of FreeSurfer, an open source software suite for processing and analyzing human brain MRI images
      ii. Adapt basic FreeSurfer tutorial modules to Condor, support in the OSG Connect tutorial collection
      iii. Work with Don Krieger to identify a research group actively analyzing MRI data with FreeSurfer, potentially partnering with XSEDE ECSS, and explore issues of support on OSG
      iv. Support BLAST applications
      v. Support molecular docking applications (drug discovery)
   j. Expand use of multi-core [Mats, Suchandra, {Bo}] for parallel applications (e.g. NAMD)
      i. Advertising, selecting, scheduling
      ii. Benchmark, document example use cases
      iii. Support MD user community from XSEDE
   k. Expanding the Connect Client reach [David, Rob, June 2016]
      i. Campus allocations
      ii. XSEDE allocations
   l. Advanced campus connector service exploratory [Rob {Miron}, potential, off-project] {Client + Cloud hosted service to connect users, data and resources}
      i. Automated and intelligent selection
         1. Campus opportunistic
         2. OSG opportunistic
         3. Campus allocation

4. XSEDE allocation
5. Amazon EC2
6. Other cloud providers

ii. Accounting and performance
iii. Alerting service
iv. User-facing monitoring, accounting and management

3. Lowering Barriers to Sharing Resources (small campus integration) [Suchandra, Lincoln]
   a. Hosted Bosco services [on-going]
   b. Hosted HTCondor CE – ssh [when available]
   c. Hosted data caching services [TBD]
   d. Document, productize 'portable CVMFS' [Lincoln, Dave Lesny]

4. Campus Researcher and Provider Enagement
   a. Develop an OSG champions program (Rob, Mats, Emelie, (Bo, Shawn))
      (Late in the game for this, so this is speculation. Would perhaps brand differently so as to avoid direct XSEDE comparison – e.g. "OSG Connectors" Program)
      a. Purpose: to develop points of contact for OSG on campuses to facilitate the following:
         i. User consultation and HTC application integration (analog to XSEDE ECSS program); c.f. 2.g. above. Primary services OSG Connect and Campus Connect Client.
         ii. Consultation on integration of campus resources with the OSG
            1. Full capability OSG site (HTCondor CE, etc.)
            2. Hosted CE-ssh
         iii. Consultation on connecting advanced services **from** the national cyberinfrastructure with campus
            1. PerfSONAR mesh participation and analysis
            2. Data transfers, access, and caching over the WAN with Globus, Condor and Xrootd
            3. Campus bridging with hosted CI Connect or CE-ssh services
         iv. Consultation on describing OSG in grant proposals, identifying collaborative opportunities, ACI funded satellites, etc
      b. Develop scope, description, organization, function and brand of the program (Aug 2015)
      c. Develop OSG Connector role and expectations (Aug 2015)
      d. Pre-launch seed with OSG "friendlies", e.g. existing campuses (Sep 2015)
      e. Monthly newsletters
      f. Quarterly telecons
      g. Annual meeting (co-located OSG16, XSEDE16?)
   b. Represent OSG in various forums (Rob)
      a. RMCC-HPC Symposium [Aug 2015]
      b. XSEDE15 [July 2015]
      c. IEEE Cluster15 [Sep 2015]
      d. Internet2 Tech Exchange [Oct 2015]
      e. ACI-REF meetings [TBD]
      f. Supercomputing [DOE booth presentation? Nov 2015]
   c. Joint Software Carpentry & OSG Workshops (Emelie, Bala, Mats, David)
      a. Fall (Duke University, Oct)

    b. Winter (TBD)
    c. Spring (TBD)
    d. Summer (TBD)
d. Roundtable seminars – campus visits (Rob, Mats)
    a. Fall (Northwestern, TBD)
    b. Winter (TBD)
    c. Spring (TBD)
    d. Summer (TBD)
e. User webinars ACI-REF, others (Emelie) (all year)

5. StashCache (Lincoln)
    a. Production Operation of Stash origin server [Nov 2015]
    b. User documentation [Oct 2015]

Campus and User Support Metrics			
OSG Connect	2015	2016	2017
Active users	50	100	150
Active projects	25	50	75
Avg (active users / week)	5	10	20
Avg (active projects / week)	3	6	12
Campus connect client users	2015	2016	2017
Downloads	10	50	100
Active users	5	10	50
Campuses	2	5	10
Avg (active users / week)	5	10	20
Avg (active projects / week)	3	6	12
OSG Quick Connect Campuses	2015	2016	2017
Campus as resource targets	3	5	10