# OSG Year 6 Technology Work Plan

## Strategy

The OSG Technology group’s mission is to help guide the OSG in the process of understanding and selecting technologies for use in its grids. It maintains the OSG Blueprint document, which outlines the principles and general architecture of the grids the OSG maintains.

## Requirements

This area is driven by both internal and external requirements. The OSG Stakeholders and the architecture subgroup will drive the requirements for this area. Prioritization will be done in conjunction with the OSG-ET.

One of this year’s projects is to formalize the requirements acceptance and tracking procedures. The monthly Area Coordinator’s meeting will be used to communicate and synchronize the current set of requirements with the OSG-ET.

## Tactics

* **Weekly meetings**: There will be a weekly phone call for this area to report and discuss progress. Written reports will be expected of all team members; we hope to utilize the OSG JIRA instance for effort tracking. Note: depending on effort levels, we may change this to bi-weekly meetings.
* **Monthly OSG Blueprint document updates**: one team phone meeting a month will be dedicated to updating the blueprint document. The document will be reviewed for accuracy (while the principles may stay relatively static, the architecture is expected to evolve) and updated to fix errors or ambiguities.
* **Quarterly blueprint meetings**: Once a quarter, the architecture subgroup will meet to evaluate the OSG’s current architecture against the blueprint document, and set the directions for the investigation sub-group. These meetings are expected to be high-level discussions of the direction of the OSG architecture, with technical execution done through technology investigations.
* **Technology Investigations**: For new technologies or groups of technologies, we will use an “investigation” format to focus our effort. Once an investigation has been defined by the architecture subgroup, an investigation may start. Each investigation will be guided by a (one-page) planning document stating requirements(?), goals, milestones, execution plan, and timeline. After each investigation, a technical report will be published to the OSG DocDB and summary posted on the blog. Note that the techniques for investigation might vary widely – it may include evaluating new software stacks, or new capabilities of existing OSG-owned software. The technology group will not “own” any software.
  + It is “OK” to end earlier, but “not OK” to end later.
  + Goal is to have “investigations” no longer than 3 months. Allows us to make timely decisions.
  + It is expected the reports generated by these activities will be one of the most visible “outputs” of this area besides the Blueprint document.
* **Technology blog**: The OSG Technology blog is an informal means to communicate our activities with the OSG Community and externally. We expect each team member to write one posting a month about their activities.

## High-level Goals

### Projects

Current projects for the technology team include (priority order):

1. Formalize process for accepting and tracking blueprint items. Sept 15.
2. Technology investigation on virtualization. This is a continuation of the Year 5 effort that was put on hold due to effort concerns. October 15.
3. Accounting for pilot-based systems. Feb 15.
4. Use of Gratia transport for the GIP. May 15.
5. Facilitate use of HTTP cache-based systems on OSG for data transport. (???)

### Ongoing Tasks

|  |  |  |
| --- | --- | --- |
|  | **Activity** | **Measure** |
| 1 | Quarterly Blueprint meetings and tactical plan updated. | Post-meeting summary and plan is approved at next OSG-ET meeting. |
| 2 | Monthly Blueprint document updates. | Summary of changes posted to the Technology blog. |
| 3 | Weekly meetings | Participation in the effort tracking and attendance of the meetings. |
| 4 | Blog updates | One blog posting per member per month. |

### Other

The following projects have been considered by the blueprint team, but are not currently scheduled (not prioritized):

* Investigation of Globus Online for OSG.
* Adding caching to the GUMS architecture to improve scalability.
* Authentication of RSV probes.
* Develop metrics for calculating storage costs of jobs.
* Worker-node environment testing.
* Improved integration of Internet2 network tools into the OSG Production Grid.
* Data Management
* Storage Allocation
* CVMFS

The OSG Security team is planning a significant upgrade of the authentication and authorization architecture on the OSG Production Grid. While the OSG Technology team will be available on an advisory level, no investigation effort will be contributed from this area.

## Staffing Plan

* At University of Nebraska-Lincoln
  + Brian Bockelman (50%; management, architecture, and technology investigations).
  + Ashu Guru (50%; technology investigation).
* At Brookhaven National Lab
  + John Hover (25%; architect).
  + John DeStefano (25%; technology investigation).
  + Jose Caballero (25%; technology investigation).
  + Tomasz Wlodek (25%; technology investigation).
* At University of Wisconsin-Madison
  + Miron Livny (30%; architect).

## Risks and Concerns

1. **Staffing and Team-building**: The on-paper amount of effort for the technology area is 2.3FTE. However, much of this is in small increments (25% or less) or management. The team is new compared to the more experienced Software, Operations, and Security teams, and must work to establish our procedures and working environment. These issues will reduce overall effectiveness during Year 6.
   1. **Mitigation plan**: There will be face-to-face meetings throughout the year. Our weekly meetings will help .
2. **Requirements process**: The requirements process is currently vaguely defined. We expect new external requirements to be added throughout the year, but we have no means to estimate the amount of effort to accomplish them a-priori. We cannot plan for future unknown requirements at the beginning of the year. As a new area, we don’t have historical statistics to form an educated guess. We have a better vantage for internal requirements, meaning their importance might be over-stated. We believe we will have to keep effort assignments flexible and re-prioritize throughout the year.
   1. **Mitigation plan**: One of our first Year 6 projects is to formalize the requirement process. We will use OSG JIRA to track effort and work toward requirements that are defined. Part of the Technology Investigations pre-report will include a requirements section.
3. **Relationship with Software Evaluation effort**: It is unclear whether the evaluation effort “fits” better with the Software area or the Technology area. The activities are tangential to the rest of the software team, and the methodology will overlap with the Technology area. Would it be a better fit to move this in the WBS?
   1. **Mitigation plan**: Bring concerns to the OSG-ET. Perhaps ask to re-evaluate any decision during the middle of Year 6.