OSG PKI Planning Phase Report

Von Welch <vwelch@indiana.edu>

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**Abstract**

This report summarizes the activities of the OSG PKI Planning Phase that officially completed on May 18th, 2012. The Planning Phase included participants from ESnet, DigiCert, the ESGF, US CMS, US ATLAS, the OSG Software Team, the OSG Security Team, the OSG RA, the OSG ET and the OSG GOC. Participants convened weekly by teleconference and used the OSG Twiki to share progress.

# OSG PKI Planning Phase Goals and Accomplishments

This section lists the planning phase goals from the Implementation Plan [1], and the progress achieved on each goal. More details can be found on the OSG Twiki [2].

* Develop a technical plan, timeline with milestones, and acceptance test plan for development, deployment and transition to stable operations of the OSG CA front-end web service and supported clients (e.g. certificate require scripts). This plan must be written and approved by the OSG Software Team (Alain Roy and team). This plan needs to take into account:
  + OSG’s audit, accounting, and access control requirements.
  + Acceptance testing should consider Integration TestBed (ITB) of certificate from the new OSG CA.
  + What client software needs to be modified, who will do it, and what support they need.

Completed:

* + - OSG PKI System Design
      * https://docs.google.com/document/pub?id=1-noGy\_\_JKaXP218k3jxtlbl--iuOUCNarL5vBDbxbSk
    - OSG PKI key generation changes: Discussion of change from in-browser to in-server private key generation.
      * https://docs.google.com/document/pub?id=1j3EAe4J32SI5VGSCePi3WYzp6PUEFQjc1lJYo3DQt08
    - OSG-PKI-Acceptance-Criteria: Acceptance criteria for new OSG PKI, with contributions from the OSG Software Team
      * https://twiki.grid.iu.edu/twiki/pub/Operations/DigiCertPlanningDevAndImplementation/OSG-PKI-Acceptance-Criteria-2.docx
* Develop a training plan for OSG Registration Authorities and Grid Administrators. This includes an initial one-hour presentation at the OSG All Hands Meeting in March 2012 and the development of a short YouTube video on how to use the front end.

Completed: Presentation at AHM meeting was given and training plan is available at https://opensciencegrid.org/bin/view/Security/DigiCertTrainingPlan

* Develop a communications plan for OSG users.

Completed:

https://twiki.grid.iu.edu/twiki/pub/Operations/DigiCertPlanningDevAndImplementation/DOE\_Grids\_-\_OSG\_PKI\_Transition\_Communications\_Plan\_v4.doc

* Develop a plan for how OSG and DigiCert will interact, in terms of technical issues (REST API changes), user support issue resolution, security incidents/alerts and business processes (e.g. change management, reporting and planning).

Completed: https://twiki.grid.iu.edu/twiki/pub/Operations/DigiCertPlanningDevAndImplementation/OSG-DigiCert-Interactions-3.docx

* Develop a plan for handling the change in user’s distinguished names that results from a change in CA.

Completed: https://twiki.grid.iu.edu/bin/view/Security/DOEGrids2DigiCertDNTransition

* Understand the impact of the change in CRL lifetime from the DOE Grids PKI (1 month) to DigiCert CA (1 week) will have on the OSG and develop a plan to cope with that change.

Removed as a task: DigiCert changed their CRL lifetime from one week to 30 days, making it equivalent to the DOE Grids CRL lifetime and removing the need for this task. Significant work was done with regards to this task, and is archived at: https://twiki.grid.iu.edu/bin/view/Operations/CRLChangeImpact

* Define the administrative operational services (monitoring, alarming) to be developed and deployed for operation of the OSG CA.

Not completed: Due to restrictions on personnel time this task has not been initiated and is scheduled for the first week of June.

* Document what operational changes will come about from the CA transition and plan for addressing those changes.

Completed: https://twiki.grid.iu.edu/bin/view/Operations/OSGPKIOperationalChanges

* Document what policy and contingency plan changes need to be made and develop a plan for addressing those changes.

Underway, not completed: This task has been initiated and is underway. A separate weekly call has been established to provide increased management oversight of this task. The current version can be found at:  
https://osg-docdb.opensciencegrid.org:440/cgi-bin/ShowDocument?docid=1109

* Develop a transition plan with a list of users (current OSG users and any agreed upon identified DOE Grids user communities) who should be invited to try out the new OSG CA and a timeline for their invitation.

Completed: https://twiki.grid.iu.edu/twiki/pub/Operations/DigiCertPlanningDevAndImplementation/OSG-PKI-Transition-Plan-5.docx

* Document any users of OSG that are currently using the DOE Grids CA whom should be transitioned to another CA, and develop a plan for transitioning those users.

Completed: https://twiki.grid.iu.edu/twiki/pub/Operations/DigiCertPlanningDevAndImplementation/OSG-certificate-usage-analysis-3.docx

* Develop a project plan for the all these activities. This should include a detailed timeline for the Development, Deployment and Transition phases and the transition to Operations.

Completed: https://twiki.grid.iu.edu/bin/view/Operations/OSGPKIProjectWBS

* Complete the execution of legal and policy agreements with DigiCert started during the Pilot phase.

Not completed, nearing completion: A version of a contract has been agreed to by OSG project personnel, DigiCert and IU procurement. It is pending input from the OSG Executive Director and then those changes will be reviewed by IU Procurement and DigiCert, and assuming their acceptance, executed. Other agreements can be found at: https://twiki.grid.iu.edu/bin/view/Operations/OSGPKIAgreements

* Develop a plan for vetting all the current OSG RAs and Grid Admins as RAs for DigiCert.

Completed: This can be found as part of the previously mentioned Transition Plan.

* Monitor progress on the XSEDE CA and look for opportunities to leverage.

Ongoing activity: Discussions between XSEDE and OSG CA project staff are ongoing as XSEDE continues to refine their requirements. A meeting at NCSA is scheduled for June 7-8th to formally discuss collaboration.

# References

1. Von Welch. OSG Certificate Authority Implementation Plan. March 6th, 2012. https://twiki.grid.iu.edu/twiki/pub/Operations/DigiCertPlanningDevAndImplementation/OSG\_CA\_Implementation\_Plan-4.pdf
2. OSG PKI Planning, Development, and Implementation. https://twiki.grid.iu.edu/bin/view/Operations/DigiCertPlanningDevAndImplementation