

GENI Architect Team – GEC13 Meeting Notes

Date: 3-13-2012, 1330-1550 PT

Participants: Marshall Brinn, Rob Ricci, Nick Bastin, Max Ott, Jeff Chase, Larry Peterson, Chip Elliott, Tom Mitchell, Aaron Helsing, Bryan Lyles (NSF Observer)

Agenda: The goal of the meeting was the discussion and ratification of the most recent draft (v1.6) of the GENI Federation Software Architecture document and the architectural concepts described in that document. The intent was to prepare a joint statement from the architect team at the 3-14 public architecture session regarding the team's acceptance of the document as a first version of the architecture.

Summary: The GENI Architect Team has been working for much of the last month reviewing and revising versions of the GENI Federation Software Architecture document. Over the course of that month, many technical, stylistic and organizational issues were identified and improved. The most recent version of the document was revised and distributed to the architects 3-9-2012 with the request that the team be ready to discuss ratification or concrete changes that would need to be made to achieve ratification. The main concerns raised at the meeting were that the document, as it stood, was too ambiguous as to what features of the GENI architecture were specific to "the NSF GENI Federation" and which held generally for any federation built on the GENI architecture. After much discussion, the team agreed to say that they "agreed in principal" to the document given a set of changes to clarify the document in terms of the generic and specific nature of architectural features.

Details: The most recent draft of the document was distributed to the architects 3-9-2012 with the goal that we be able to raise final concerns and ratify the document relative to the addressing of those concerns. The goal was to present the architecture at the 3-14-2012 architecture public session as conditionally ratified by the group.

Max raised a concern that there were too many "must" and not enough "may" language. He argued we were mixing policy statements ("must") with architecture statements ("may", "enable" not "require").

Jeff argued that we were focusing too much on the NSF GENI Federation and thus losing an opportunity to talk more broadly about the architectural principles. He suggested a factoring of the document into generic parts and NSF GENI Federation specific parts (either as two separate documents, or distinct sections of the same document).

Nick argued, along these lines, that the GMOC is a concept only for the specific NSF GENI Federation and not a general architectural requirement. Rather, the requirement is that there are the hooks for authorization and logging and the

potential for sharing accounting information and policies. We discussed, more generally, that the generic architecture should be described as building blocks and patterns for combining them, and a specific architecture instance (the NSF GENI Federation, e.g.) is a specific set of blocks in a specific configuration.

We talked more about the notions of policy and trust and what parts of the architecture are trust and policy decisions and not architectural decisions. Jeff wanted a more clear statement of what are the policies and Max suggested we explicitly point out policy decision points.

Bryan expressed a concern about conformance: how can we develop tests for the architecture that have assured coverage. We agreed this was a general problem: aggregates are unlikely to anticipate the full set of policies and won't care about what they don't plan to police. That said, we need to specify what are architectural requirements independent of specific policies and be able to test these capabilities, and then test a particular set of policies independently. Along those lines, we wanted to make sure the policies weren't "baked into the code" but were separable, mutable bodies of knowledge independent of the code.

In light of the morning's discussions on the AM API, Jeff requested that we remove language that assumed particular AM API features that hadn't been ratified. Specifically, he asked that the reference to "two phase commit" be removed.

There was some discussion of the wording surrounding Identity and what it meant for a person to be "known to GENI" in the document. We agreed on some wording to specify that this means trusted by a trusted Identity Provider. Max wanted to restore some deleted text about being able to authorize a trusted source of identities (Shibboleth, a campus class roster, e.g.) rather than requiring each individual to be credentialed separately.

In terms of the presentation for Wednesday, Chip suggested we add a slide with some context, indicating that the work of the architect team is built on work from previous working groups, requirements and policy documents.

In the end, we agreed that the document was "agreed to in principal" subject to the changes and re-writes suggested by the comments in the meeting. The slides would be changed to reflect this wording, and the revision would be started immediately with the goal of it being sent out to the team for revision early the following week (the week of 3/19).

Action Items:

- Revise architecture presentation for plenary session 3-14-2012 [Brinn, Ricci]
- Revise architecture document based on sense of 3-13-2012 team meeting [Brinn]
- Set up next architecture team meeting and suggested agenda topics [Brinn]

Next Steps:

- Revise architecture presentation for plenary session 3-14-2012 in light of meeting results.
- Revise architecture document for team-internal and then GENI-wide release in response to meeting feedback
- Setup next architecture team meetings for post-GEC13 including suggested topics