Community updates: Fermilab

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FIM4R - Federated Identity Management for Research

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Fermilab Federation Project

- Started the Federation Project, our goal is to incorporate federated access tokens into the Fermilab computing infrastructure.
- Already completed a demo project, where we built federation with CERN and allow users to access Fermilab web based resources.
  - The resource was `wiki.dunescience.org`
  - We showed that CERN users could read the website with just their CERN credentials.
- This was a small demonstration, but it propelled us forward and showed that
  - Our in house IdP and SP technology are working fine.
  - Basics of federation policies (such as which IdP we trust, how we exchange tokens, etc) are all working.
  - So we felt emboldened by our success and ready to move ahead.

Fermilab Federation Project

- Access to grid resources is still in its early stages.
- Many basic services are already token compatible, HTCondor, dCache mostly, but we still have a number of services to work on.
- We will first start with central services provided by Fermilab and focus on DUNE.

Federation Project: services planned to be transitioned

- wiki.dunescience.org
- Main DUNE web site (dunescience.org and friends)
- cdcvs.fnal.gov (Redmine) operated by SCD (Scientific Computing Division)
- GitHub
- SAM operated by SCD
- Jobsub operated by SCD (gateway to Fermilab GPGrid and OSG)
- POMS operated by SCD
- Rucio operated by SCD
- dCache/Enstore operated by SCD
- ECL operated by SCD
- EDMS operated by CERN
- E-log operated by CERN
- EOS operated by CERN
- Castor operated by CERN
- Fermi-FTS joint operated by DUNE and SCD
- CERN FTS3 operated by CERN

Fermilab Federation Project: challenges

We discovered a few challenges so far:

- DOE is now requiring all foreign users to go through an identity vetting process by the Fermilab Service Desk before gaining access to any Fermilab computing resources.
- Currently, grid users use the X.509 credentials, which has a detailed identity vetting process.
- The DOE processing times varies from country to country and can take anywhere from less than 1 week to 2-3 months.

Fermilab Federation Project: challenges

- Having to go through a lengthy identity vetting process for each foreign user is a challenge we must address.
- This requirement is at odds with the federated access since the very essence of federation is to prevent us from having to go through the identity vetting.
- One solution we found to move forward is to initially restrict the federated access to users who already have Fermilab accounts.

Fermilab Federation Project: challenges

- If only Fermilab account holders can benefit from Federation, what is the overall benefit of Federation ? :)
  - There are still benefits to the users: users can still access Fermilab without having to use their Fermilab credentials. In other words, a user will not have to remember their Fermilab password and can get access just by suing CERN or other credentials.
- In future, we will revisit the DOE regulations and hope that we will make some improvements.
- We understand that this is a big change and could make it harder for collaboration.

Fermilab Federation Project: challenges

- SciTokens do not express group membership and privileges associated with groups. Our infrastructure is very dependent on using the group membership information.
  - SciTokens generates capabilities based tokens
  - We can find different solutions to remedy this, but want to understand the reasons for this design decision
- Indigo IAM-SciToken interoperability
  - We are also hopeful that this should be a non-issue
  - But, want to understand what tests/process we should undergo to ensure there are no problems

Fermilab Federation Project: challenges

- Transitioning experiments
  - Experiment-specific services especially for big experiments like CMS
  - Unclear who will be responsible for transitioning those. Will need effort from both Federation project and the experiment members.
    - Experiments know how their specific services work
    - Federation Project members know how the federation works.
    - Still significant effort is expected from the experiments
    - Also, an experiment spans several organizations, each with different schedules for federation. Strong coordination is expected across all parties.
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