Cloud Federation in the Nordics

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CSC – Finnish research, education, culture and public administration ICT knowledge center

Who Am I, and Why am I Talking?

- Work for CSC – IT Center for Science Ltd.

- The Finnish NREN and supercomputing center

- CSC has worked on IaaS since 2010, OpenStack 2011, production service 2013

- 2 Clouds, in total ~250 nodes

- Yours truly working on OpenStack almost from the beginning, current product owner of the CSC IaaS clouds

- Federation aim leader in Glenna project

What I mean by Cloud and Federation

- Cloud services run by Universities/HPC Centers/NRENs
    - Mainly, but not exclusively IaaS (OpenStack)
    - Looking at k8s, others

- AAI federation integration for end users to sign in to services hosted in another country

NeIC and Glenna

- NeIC – Pan Nordic e-infrastructure collaboration

  - Born out of the CERN LHC/WLCG work

- Glenna (1, 2)

  - A Cloud project within NeIC

  - Focus on knowledge sharing, federated access to resources

The Nordic view

The Nordic Federation

- Authentication is trivial

- Authorization is not
  - "All" Nordic scientific allocation is project based
  - No service for Cross-border projects management?

- Current focus of Glenna
  - What service to use for this?
  - How to map it into local processes?
  - How to make sure it's accessible by users?

- Oh yeah, and who pays for the usage?

CSC's mid-term

- CSC has a stake in EOSC projects

- CSC in a large technical role in Elixir

- Looking at EGI FedCloud integration to support these
    - A lot of the same problems as in Glenna

Long term "don't quote me on this"

- Provide first grade scientific IaaS (and more)? cloud services to the Nordics and Europe

- End-user experience is key

- Make sure our company internal processes can support this

- Cross our fingers that there are funding instruments to support this

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