Resource Trust Evolution Task Force Status

David Crooks *et al*

Introduction

- Current status of the Resource Trust Evolution task force

- Clarification of use-cases

- Plans for the next few months

Background

- WLCG has used user and host X.509 certificates for many years
  - Interoperable Global Trust Federation (IGTF) trust anchors

- User auth is transitioning to tokens (see talk after this one)
  - Still need host certificates
    - support encrypted transport
    - give assurance on the identity of host endpoints.

- Need to consider modern host certificate use-cases to make sure we are addressing these appropriately
  - Resource Trust Evolution Task Force

WLCG
Worldwide LHC Computing Grid

Status

- Infrequent meetings so far

- Last meeting in June allowed us to clarify our themes and use-cases

- Review these today, discuss next steps

- Work towards a workshop in the autumn

WLCG
Worldwide LHC Computing Grid

Themes

- Site and service needs

- Workflow needs

- Experiment and community needs

Site and service needs

- In the US, Digicert last year (temporarily) stopped issuing IGTF certificates
  - Raised the question of how to address this

- Having spoken recently with Jeny T, Digicert has now started issuing certs again
  - But unease remains that this could happen again

- Use case: How can we address cases like this?

Site and service needs

- Some sites/facilities are offering services that support multiple communities, not all of which may use the IGTF trust anchors.

- In addition, it could be advantageous for the WLCG to make use of some of these facility services that use public trust frameworks (eg S3)
  - See next slide

- Use case: How do we square this situation in a manner that works best for all parties?

WLCG
Worldwide LHC Computing Grid

Workflow needs

- Development of modern cloud-based workflows requires an understanding of the trust framework

- Mario described their work with a number of cloud providers, where at this stage the cloud infrastructure is fronted by load balancers with IGTF certs to provide a grid interface
  - This is not ideal from a trust perspective
  - And has technical drawbacks – traffic being routed via the load balancers

- Mario has agreed to discuss this further at the next meeting

WLCG
Worldwide LHC Computing Grid

Experiment and community needs

- From an experiment perspective, important to address the development requirements

  - Cloud workflows

- Looking beyond WLCG, want to align with other work

- DUNE is also working in this area so we should work to make sure we don't diverge

WLCG
Worldwide LHC Computing Grid

Theme and use case summary

- Track US certificate situation and examine options

- Consider services that support multiple communities with different trust frameworks

- Examine cloud workflows and how best to architect the trust frameworks for these

- Align with other communities such as DUNE to avoid divergence in approach where possible

WLCG
Worldwide LHC Computing Grid

Next steps

- Next meeting to be arranged this month
  - In any case plan to review cloud workflows with Mario

- Work towards pre-GDB in the autumn

- Aim is not to solve all of these use-cases at this time but to understand what is possible now and what requires further work
  - And document this

WLCG
Worldwide LHC Computing Grid

Task force details

- Task force wiki
  - https://twiki.cern.ch/twiki/bin/view/LCG/ResourceTrustEvolution

- Contact
  - David Crooks and Maarten Litmaath

Questions?