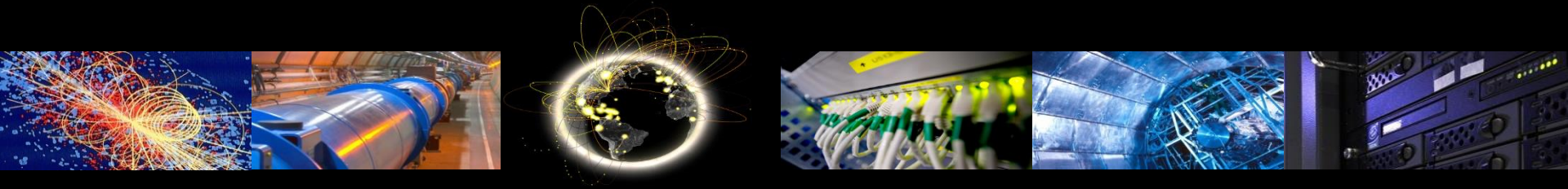
WLCG AuthZ WG

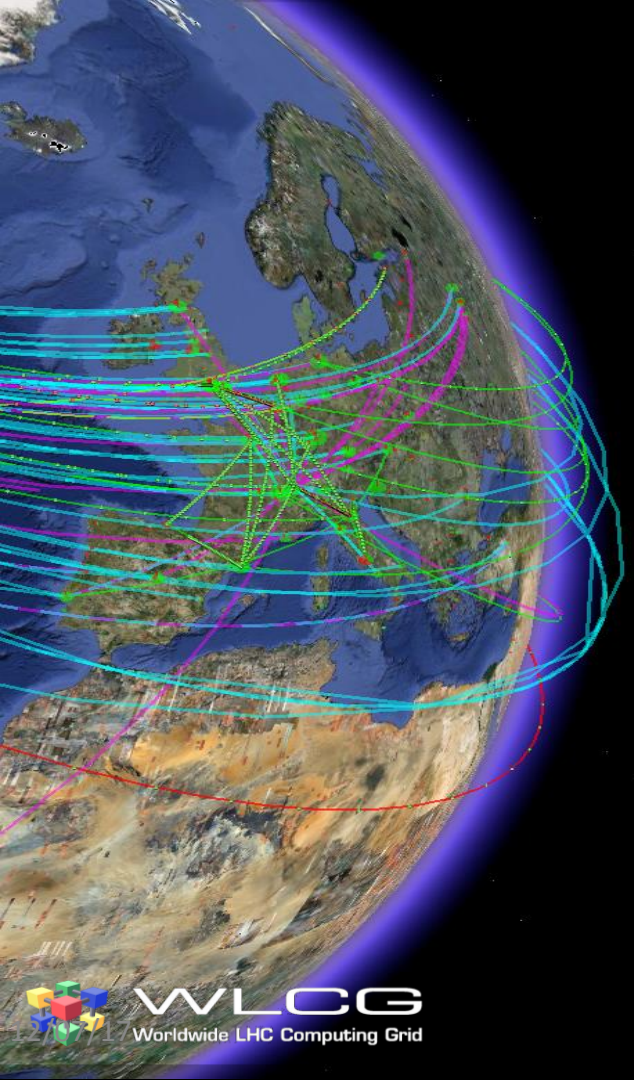
WLCG Workshop, Naples

March 28th, 2018



Agenda

- WG background
- Activities
  - JWT Schema
  - AAI Pilot Projects
- Next steps



WG Background

Motivation

- Evolving Identity Landscape
  - User-owned x.509 certificates -> federated identities
  - Current grid middleware does not support federated identities
  - How can we shield users from the complexities of X.509 certificate management ?
  - Token-based authorization widely adopted in commercial services and increasingly by R&E Infrastructures
- Data Protection
  - Tightening of data protection (GDPR) requires fine-grained user level access control, certain provisioning practices may need to be adjusted

Objective: Understand & meet the requirements of a future-looking AuthZ service for WLCG experiments

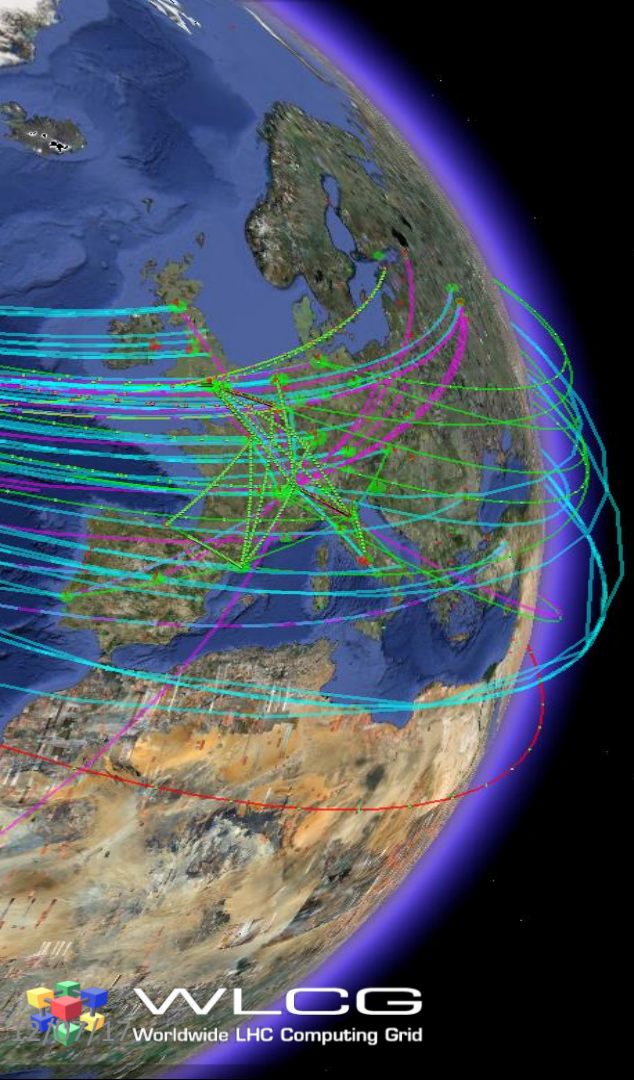
Timeline

- July 26 2017 https://indico.cern.ch/event/656027/
  - Kickoff meeting
- September https://indico.cern.ch/event/669715/
- October https://indico.cern.ch/event/670330/
- November https://indico.cern.ch/event/578976/
  - pre-GDB, **Requirements Gathering**
- December https://indico.cern.ch/event/680452/
  - INDIGO IAM and EGI Check-in demos
- January https://indico.cern.ch/event/696286/
  - Demo assessments
- February https://indico.cern.ch/event/706302/
  - CRIC Authorization Workflow
  - AARC Pilots plan
- March 28 2018
  - WLCG Workshop

WLCG AuthZ Requirements

- VO Membership Management
  - Attributes? VO ID, ID of credential, Name, Email, Authorization
  - Support multiple federated credentials & their linkage
  - Active role selection
  - Token management achievable by the standard user
- Service Requirements
  - Attributes? Authorization plus traceability || Groups/Roles
  - Ease of implementation
  - Use standard approaches
  - Token integrity and validity verifiable
    - Without connecting to the issuer
  - For non-web, users should not have to manage identities in addition to their login session
- General
  - Support for fine grained suspension
  - Smooth transition from current X509-based to token-based AAI

Splitting things more into “identity based” and “authorization based” approaches. Third-party services (e.g. storage) would primarily consume the latter.



WG Activities

WLCG AuthZ WG Activities

- Two separate activities were identified during the pre-GDB
  - Design and testing of WLCG Membership Management and Token Translation services (AAI Pilot Projects)
  - Definition of a JSON Web Token (JWT) profile for authentication and authorization for WLCG services and token issuers
    - See the SciTokens presentation for a pilot implementation

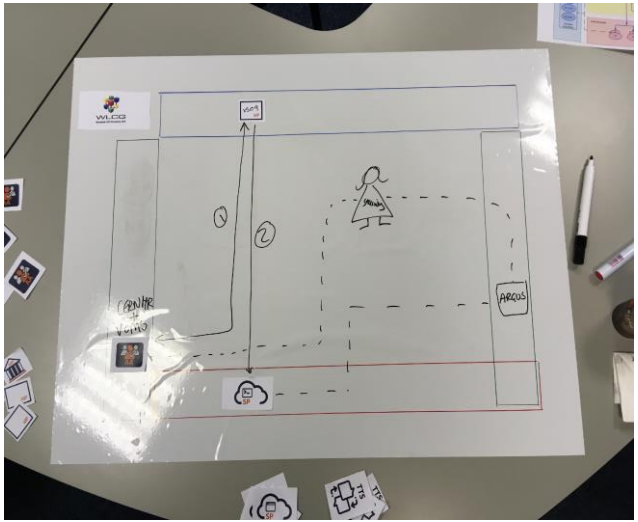
JSON Web Tokens

- Computing services are increasingly turning to token based authentication & authorization (OIDC, OAuth2…)
- Multiple infrastructure projects already using/supporting token based authorization but with diverging schemas or technologies
  - INDIGO IAM
  - EGI Check-in
  - SciTokens
  - dCache
  - ALICE tokens
- Is WLCG able to define a shared schema for participating infrastructures and services to agree?

JWT

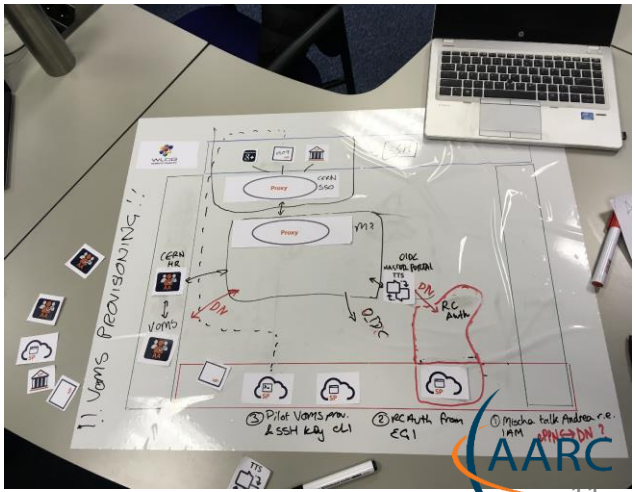
- Initial analysis has concluded that two separate schemas are required
  - Identity Schema (who is this person?)
    - EGI Check-in, INDIGO IAM, dCache, …
  - Capability Schema (what is the bearer of this token authorized to do?)
    - EGI Check-in, INDIGO IAM, dCache, SciTokens, ALICE…
  - Work is ongoing to draft schema definitions

AAI Pilot Projects

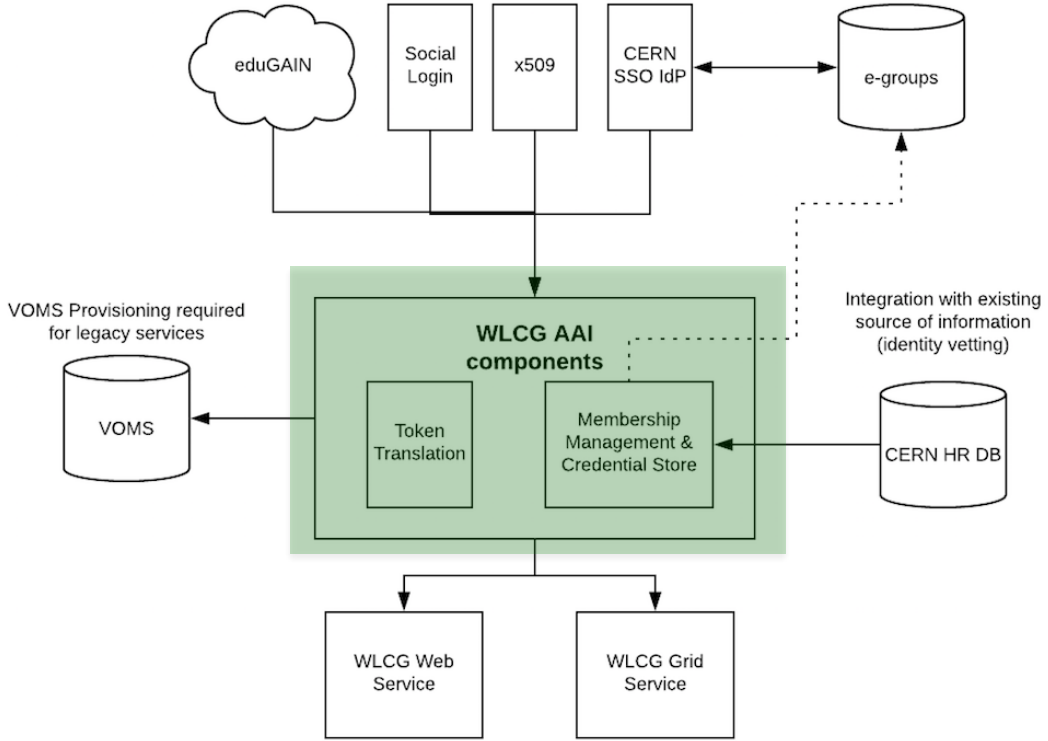


Current infrastructure allows access based on X509, including VOMS, CERN HR DB and Argus

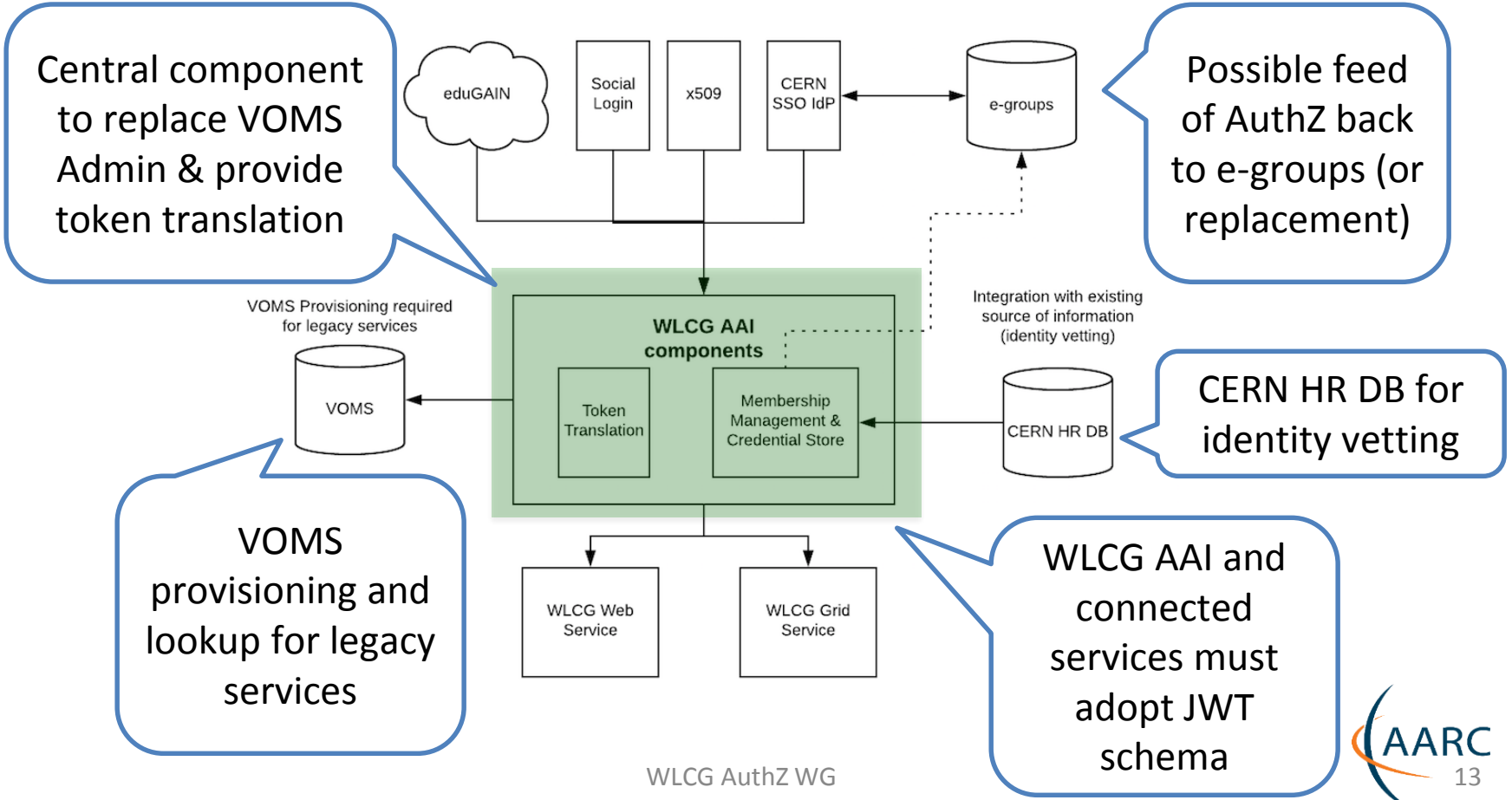
Future infrastructure should support a range of credential types for users and services and provide a user friendly experience



AAI Pilot Projects

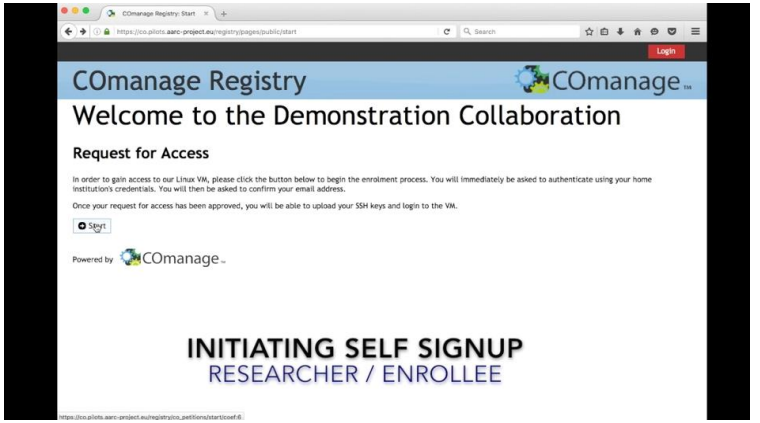


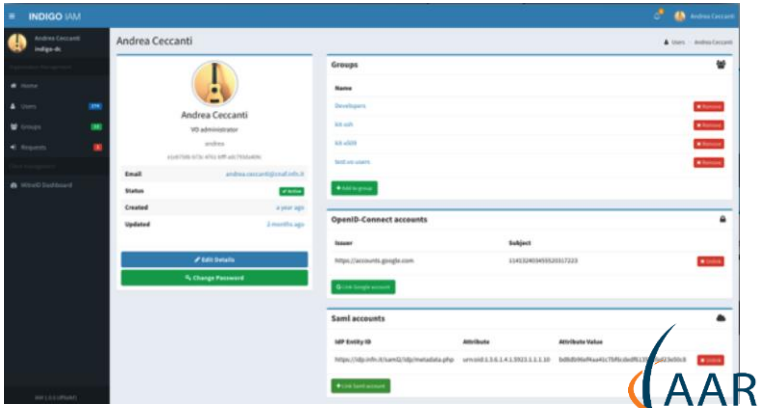
AAI Pilot Projects



AAI Pilot Projects

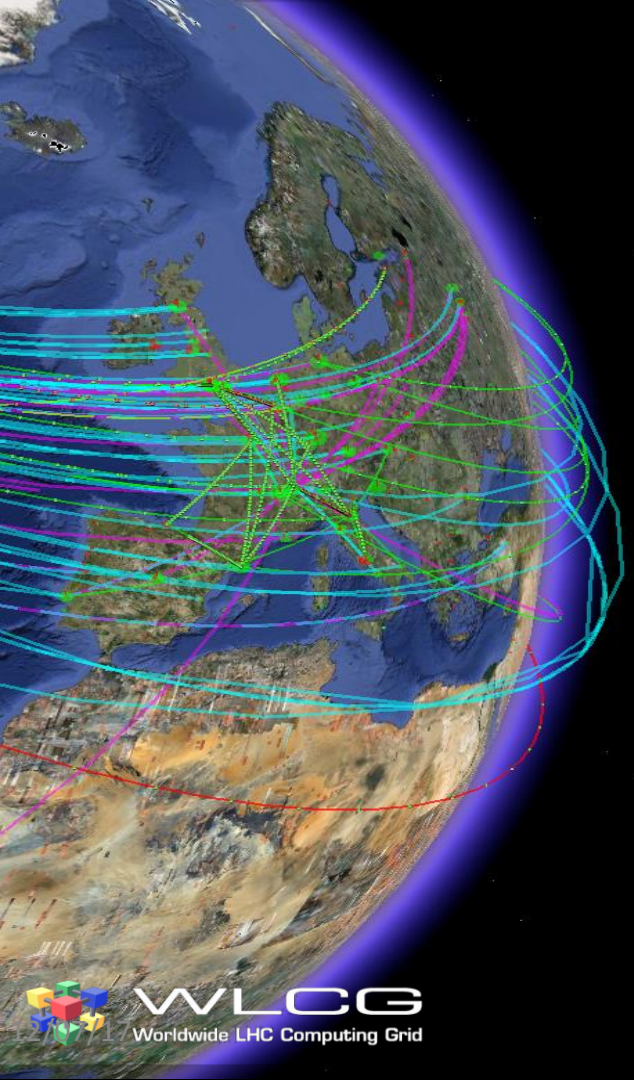
- Two solutions appear to meet the majority of requirements
  - EGI Check-in & COmanage
  - INDIGO IAM
- Additional integration required for
  - VOMS provisioning & lookup
  - CERN HR DB integration
  - AUP re-signing





AAI Pilot Projects

- Aim: provide the WLCG MB with hands-on feedback on two possible solutions capable of taking the first step towards X509-free WLCG
  - Both approaches require additional developments
  - Both strategies will have to ensure sustainability of these developments in the forthcoming years
- Proposed timeline
  - Finalization of new required developments for EGI Check-in, COmanage and INDIGO IAM: March-July 2018
  - Deployment and pilot testing August-September 2018
  - Reporting / Benchmarking: October-December 2018
  - Final dissemination on pilot: January-March 2019



Next Steps

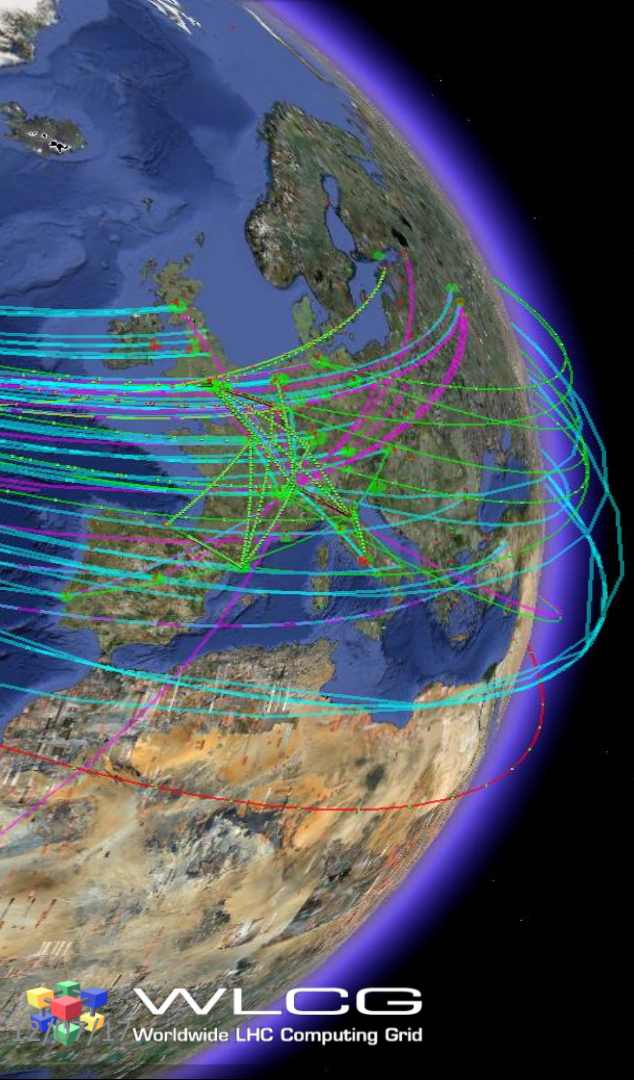
AuthZ WG Objectives

- Objectives have become clear over past 6 months:
  - Gather requirements for a WLCG AAI to provide Membership Management & Token Translation services
    - To facilitate transition to token-based credentials
  - Guide the development of AAI Pilot Projects
    - INDIGO IAM (pilot supported e.g. by EOSC-Pilot & AARC)
    - EGI Check-in & COmanage (pilot supported e.g. by AARC)
  - Define a JSON Web Token (JWT) Schema for Authorization and agree to its use among WLCG Participants
  - Assess the AAI Pilot Projects against our requirements and move towards production deployment on a per-VO basis

Ongoing Tasks

- Continue JWT Schema Definition
- Guide development and testing of AAI Pilots
- Assess overlap of WLCG AAI and CERN SSO Infrastructure

Participation in the WG is welcome!
E-group: project-lcg-authz@cern.ch
Twiki:
https://twiki.cern.ch/twiki/bin/view/LCG/WLCGAuthorizationWG



Questions?