Developing a Trust and Security Framework for IRIS

EGI Conference 2020
David Crooks UKRI-STFC
IRIS Background

- eInfrastructure for Research and Innovation for STFC
- Collaboration of **Science Activities** and **Provider Entities**
  - Driven by the physics communities supported by UKRI STFC
- Does not run infrastructure **directly**
  - Commissions deployment of resources available to all of its science activities
- IRIS 4x4 is a capital project coordinated by IRIS
  - £4 million per year for 4 years
  - No money for operations
  - Can issue grants for equipment and grants to make things
    - Such as the trust framework
IRIS Partners

### Science Activities
- ALMA
- ATLAS
- CCFE
- CLF
- CMS
- CTA
- DLS
- DUNE
- eMERLIN
- EUCLID
- GAIA
- ISIS
- LHCb
- LIGO
- LSST
- Lux-Zeplin
- SKA

### Provider Entities
- The Ada Lovelace Centre (ALC)
- DiRAC [HPC]
- GridPP [HTC]
- The Hartree Centre
- STFC Scientific Computing Department
- The DLS Computing Department
- CCFE computing
IRIS Background

• Need some common elements to support these communities working together:
  • Policy and Trust Framework
  • Identity Management
  • Resource Accounting
  • Monitoring
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Context and requirements

• IRIS contains a range of resource providers with existing policy frameworks
  • Need to develop a framework that sits alongside these and enables secure distributed operations

• Some providers are already connected within the wider federated world
  • Particularly GridPP/WLCG

• However: it does represent a new community in its own right
  • And exists within a distributed, federated infrastructure landscape

• Establish the necessary policies to allow interoperation between resource providers, services and user groups
  • And relationships to existing policy
Challenges

- IRIS is a relatively new collaboration but with well established participants
  - What implications does this have?

- Well established policies in place at individual institutions
  - New operational workflows being developed

- Bootstrap security policy set
  - Challenge of deciding best order of work while governance structures being established
  - Need to show end users AUP/Privacy Notice so these are a priority
IRIS Trust and Security Framework

• The IRIS Trust Framework is intended to build the security policy required by IRIS
  • Start with foundational and user-facing policies
  • Roadmap for the future

• Security Incident Response
  • Clear roles and basic policy framework
Process

• Build on extensive existing experience developing policy within existing communities
  • GridPP/WLCG, UK Access Management Federation, EGI, …
  • Extend to new resource providers and user communities

• Identify key stakeholders and develop trust relationships

• Parallel work in the operation of an IRIS-IAM Identity Proxy for IRIS
  • See talk tomorrow
Roadmap

- AARC Policy Development Kit
  - Authentication and Authorisation for Research Collaboration
  - Recently completed EU projects

- 9 documents aimed at best practice bootstrap for infrastructures & communities deploying the AARC Blueprint Architecture
  - Federated IDPs with services/resources ‘behind’ an AAI Proxy

- Policies intended to co-exist with local policies where applicable
WISE

- Wise Information Security for Collaborating e-Infrastructures
  - https://wise-community.org/about-wise/
- Global collaborative community of security experts
- IRIS policy work takes place under aegis of WISE
  - Benefit to IRIS of considerable experience
  - Benefit to WISE and wider community of new requirements and context
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## AARC Policy Development Kit

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Draft IRIS AUP

• Use of a common, baseline AUP
  • Based on the WISE Baseline AUP template
    • Promotes trust in users’ behaviour across infrastructures
    • Reduce need to agree to multiple different AUPs
  • Allows for consistent presentation of necessary Privacy Notices
  • Allows for augmentation with additional local / community requirements
    • 10 immutable clauses + scope to add specific additional ones
  • Easier bootstrapping – don’t reinvent the wheel
Draft IRIS Privacy Notice

• Presented to user at time of registration alongside AUP

• Assumes GDPR legal basis of “legitimate interest” for processing
  • i.e. not consent – due to imbalance of power (employer – employee)

• To be taken from (final) deployment context
  • Personal data gathered / processed
  • Data retention period
Draft IRIS Infrastructure Security Policy

• Provides high-level framework for other subordinate policies
  • Approved/adopted by infrastructure management body to give
  • “…authority for actions which may be carried out by designated individuals and organisations and places responsibilities on all participants.”
• Roles and Responsibilities of Management
• Roles and Responsibilities of Security Contact
• Physical and Network Security
  • Delegated to local/service policies, but scoped.
• Exceptions to Compliance and Sanctions
Policy lifecycle

• Process has lead to some interesting questions?

• What policies do we need to start with?
  • Defining policies when the infrastructure topology/governance is being established

• What does it mean to be an “IRIS User”?
  • Mixed authentication workflows
Status and future plans

• Use Infrastructure Policy as foundation
  • Proceeding through approval process now

• Obvious outcome: most progress made when you get feedback
  • Newly expressed concerns are good
  • When these can then be addressed and acted upon

• Senior infrastructure management backing is essential
  • In addition to user communities expressing a need for rules of engagement, supporting the policy development effort.

• Establishing policy can lead to introspection of the infrastructure organisation
Status and future plans

- Working AUP and Privacy Notice in place for IRIS-IAM Identity Proxy
  - See talk tomorrow

- IRIS work contributes directly back to development of the PDK

- Leading participant in ongoing development of PDK under WISE for
  - Infrastructure Policy
  - Service Operations Policy
  - Community Policy
Thank you