SIMPLIFYING THE RESEARCHER EXPERIENCE AT PEAK HPC FACILITIES WITH FEDERATION

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OUTLINE

• What's the problem?
• Identifying use cases
• Developing an evaluation criteria
• Solution identification
• Next steps & implementation
WHAT’S THE PROBLEM?
DEMOnGRAPHICS

• 20 researchers interviewed
• PhD candidates to senior researchers
• Disciplines:
  • Astronomy
  • Bioinformatics
  • Biomolecular Physics
  • Chemistry
  • Computational Biology
  • Geosciences
  • Geochemistry
INSIGHTS

- **Consistent users**
  - Regular (usually daily) use
  - Tended to be early career researchers

- **Sporadic users**
  - More established
  - Usage patterns influenced by other responsibilities

- **Research project lifecycle influences usage**

- **HPC experience influenced authentication method**

- **Typically access from one workstation**
USE CASES

1. **Shell access with user credentials**
2. **Shell access with key pairs**
3. **Web portals with centralised LDAP authentication**
4. **Web portal with local authentication**
5. **Remote Visualisation Services using SSH**
6. **Remote Visualisation Services using a Remote Desktop Client**
7. **Merit Application Portal (MAP) with local authentication**
8. **Accessing Pshell and Pmount**
EVALUATION CRITERIA

- Addresses use cases?
- Novelty
- Support and sustainability
- Security
- Change impacts
- IdM integration
- Usability
Possible solutions

1. Use Pawsey LDAP - common auth
2. Use AAF as part of IdM life-cycle
3. Integrate apps with LDAP
4. Add AAF to MAP & Origin
5. Prioritise other apps for AAF auth
6. Implement Rapid IdP
7. Pilot shortlisted tools
8. Develop national merit process & software

SOLUTION IDENTIFICATION
SHORTLISTED TOOLS

Apache Guacamole
COmanage SSH
JupyterLab Terminals
• Exploring suggestions
  • i.e. GUACAMOLE - COULD PROVIDE SSO LOGIN, AAF LOGIN, LDAP OR INTEGRATION INTO A NATIONAL INFRASTRUCTURE.

• Possible implementation without disrupting existing access methods
WHERE TO FROM HERE

• **Trial implementation with Merit Application Web Portal**

• **Further work with AAF regarding future options**
Happy researchers!
THANKS FOR YOUR ATTENTION

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