INTERNET2

2022 TECHNOLOGY exchange

# Migrating to Token-Based Authentication and Authorization

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# Panel: Migrating to Token-Based Authentication and Authorization

- ***Introduction*** – Derek Simmel dsimmel@psc.edu
- ***Moving to Tokens: IRIS and WLCG*** – Tom Dack thomas.dack@stfc.ac.uk
- ***CILogon and SciTokens*** – Jim Basney jbasney@illinois.edu
- ***Token-based AAI at Fermilab*** – Jeny Teheran jteheran@fnal.gov
- ***Questions for the Panel from our Audience***

# INTRODUCTION

- Research computing infrastructures worldwide are working to migrate their legacy and X.509-based user authentication and authorization infrastructures to use OpenID Connect (OIDC, https://openid.net/connect/)
- OIDC is a protocol built on OAuth2 specifications that delivers identity and authentication information using JSON Web Tokens, (JWT, RFC 7519)
- OIDC is in widespread use in commercial web applications and services
- However, many research computing infrastructures have a significant investment in IAM protocols and services that are not (yet?) web-centric
- Where do these migration efforts stand today, and what are their successes and challenges?

# Workshops on Token-Based Authentication and Authorization

- WoTBAn&Az 2020: https://indico.rnp.br/event/33/
  - Token-based authorisation in WLCG, Globus Auth, LIGO's use of SciTokens, XSEDE's perspective on Token Assurance, Fermilab's transition to Token-based AAI
- WoTBAn&Az 2021: https://sciauth.org/workshop/2021/
  - Tokens in WLCG, Tokens in the TAPIS API Platform, Using CILogon OIDC Service for user authentication in Kubernetes, SciTokens at LIGO, HTCondor and OSG Token transition
- WoTBAn&Az 2022: https://sciauth.org/workshop/2022/
  - SSH with Federated Identities using OIDC, Token-based access to HPC resources in IRIS, Globus integration with NIH's Research Authentication Service and Common Fund Data Ecosystem, Adoption of SciTokens and WLCG Tokens by LIGO and Fermilab using CILogon

# Panelists

- **Derek Simmel** is a Senior Information Security Officer at the Pittsburgh Supercomputing Center, a joint computational research center with Carnegie Mellon University and the University of Pittsburgh. Derek co-leads Cybersecurity Operations for the U.S. National Science Foundation (NSF)'s ACCESS cyberinfrastructure, chairs The Americas Grid Policy Management Authority (https://tagpma.org), and co-chairs the annual Workshops on Token-Based Authentication and Authorization (WoTBAn&Az).

- **Tom Dack** is a Senior Systems Administrator within the Scientific Computing Department at the Science and Technology Facilities Council, part of UK Research and Innovation (UKRI). Tom manages the development and operations of the IRIS (https://www.iris.ac.uk/) Identity and Access Manager (IAM) service, and is the current chair of the Worldwide Large Hadron Collider Computing Grid (WLCG) Authorization working group.

- **Jim Basney** is the Principal Research Scientist in the Cybersecurity Division of the National Center for Supercomputing Applications (NCSA) at the University of Illinois at Urbana-Champaign. Jim leads several NSF-sponsored projects including CILogon (https://cilogon.org), SciTokens (https://scitokens.org), SciAuth (https://sciauth.org) and Trusted CI (https://www.trustedci.org), the NSF Cybersecurity Center of Excellence. Jim also leads Identity and Authentication Managment (IAM) for NSF ACCESS Cybersecurity Operations.

- **Jeny Teheran** is the Principal Cyber Security Architect and Group Leader for Computer Security Operations at the U.S. Fermi National Accelerator Laboratory. Jeny is a member of the Worldwide Large Hadron Collider Computing Grid (WLCG) Authorization and Resource Trust Evolution Working Groups, and is one of the co-authors of the WLCG Common JSON Web Token (JWT) Profiles document.

# THANKS!

# QUESTIONS?