



Migrating an Identity Provider from one Federation to another: The NIH-Uganda Collaboration Moving from InCommon Federation to **RENU Identity Federation, RIF**

10 -12 November 2021 - Livingstone, Zambia

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What is a Federation?

Community agreed upon standards, policies, and procedures that provide single sign-on, trusted gateway to local and global services

InCommon Federation – USA Federation

RENU Identity Federation (RIF) – Ugandan Federation

Background

Rakai Health Sciences Program (RHSP) is a collaborative biomedical research and service delivery organization in Uganda. RHSP was selected by the National Institutes of Health/NIAID as the site for the Uganda International Center for Excellence in Research (ICER) in 2002.

A native Shibboleth Identity provider, (IdP) was deployed and configured at the NIH ICER in Uganda. The NIH sponsored the IdP into the InCommon Federation.

RESEARCH DATA & COMMUNICATION TECHNOLOGIES

- Benefit Corporation founded in 2004 to support NIH research around the world
- Currently designing, building, and operating research infrastructure at academic and government research sites around the world
- RDCT donates resources for the development and optimization of identity and collaboration software tools

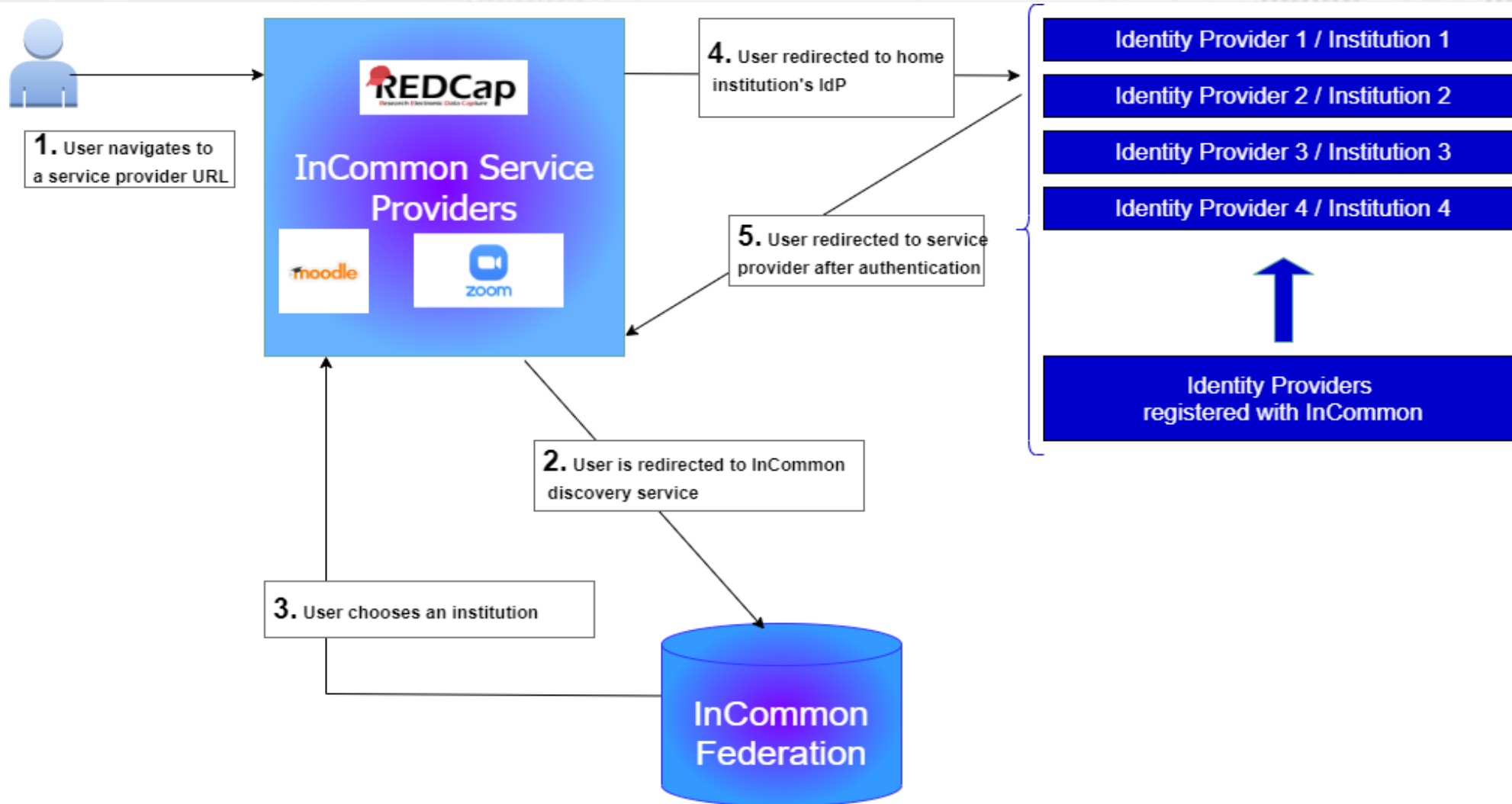
Why we had to go to InCommon Federation?

- No identity federation in Uganda
- Used InCommon as Federation backbone provider to publish and gain access various online journals worldwide while being authenticated using federated identity via the ICER-Uganda identity provider
- Ability to use single-sign-on on several applications

eduGAIN – Federation of Trust Federations



NIH ICER-Uganda Identity Provider



Join RIF as an IdP

- RIF was established in August 2016
- An institution must first become a member of RENU
- RHSP joined RIF in 2018
- Membership to RIF is free
- All RIF members are bound by the RENU Identity Federation Policy

Identity Providers in RIF

- **African Center of Excellence in Bioinformatics (ACE-Uganda)**
- Infectious Disease Institute (IDI)
- **International Center of Excellence in Research (ICER-Uganda)**
- Research and Education Network of Uganda (RENU)
- Uganda Christian University (UCU)
- **Rakai Health Sciences Program (RHSP)**
- Uganda Martyrs Hospital, Lubaga
- Uganda Virus Research Institute (UVRI)
- Mengo Hospital (MNS)
- Bishop Stuart university (BSU)

*Sites highlighted in blue are **RDCT** Managed

Service providers under RIF

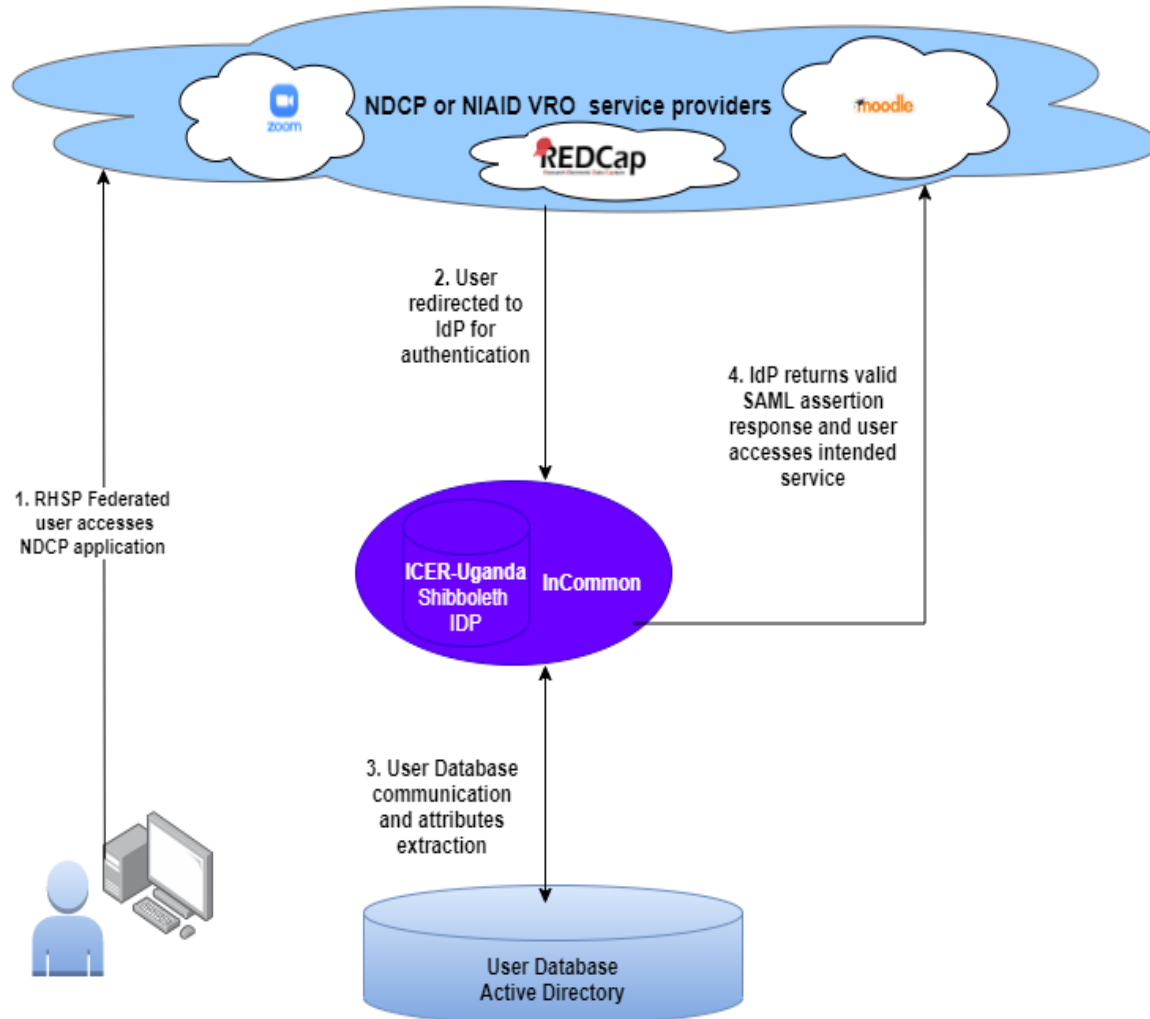
Institution



Services



Where we were....



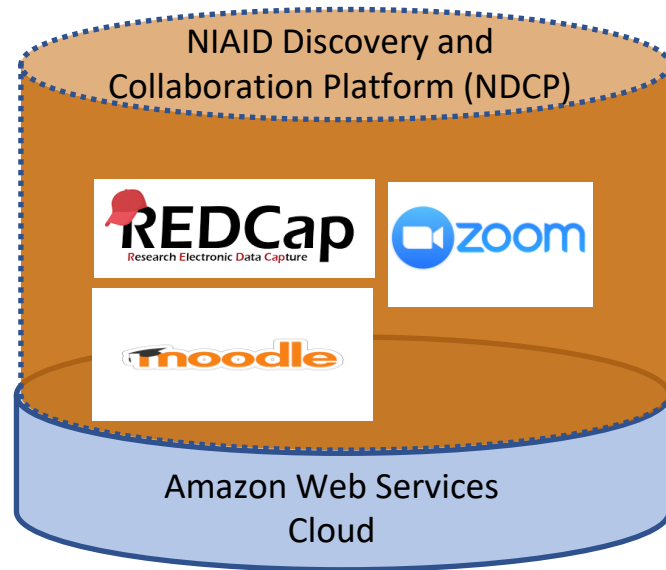
Active Directory Servers

RHSP deployed domain controllers running Microsoft Active Directory and configured it to manage user and computer objects.

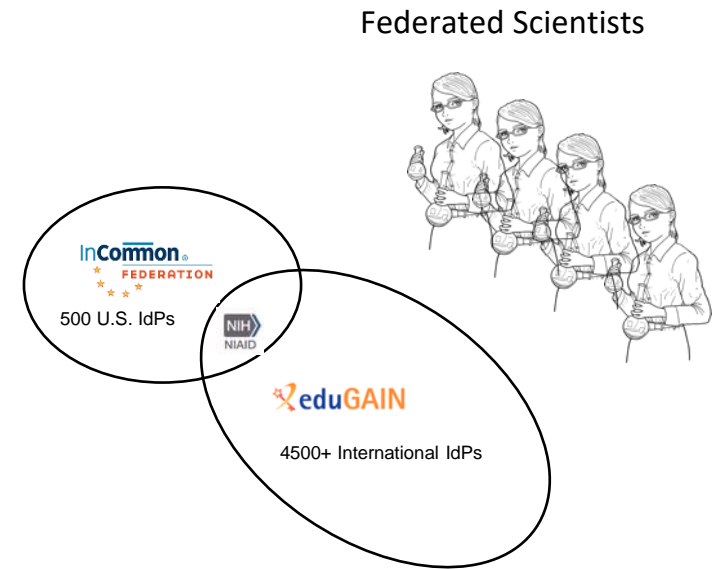
The Identity Provider

The ICER-Uganda Shibboleth IdP using Active Directory as the user database and for attribute resolver configuration requirement.

NIAID Virtual Research Organizations (VRO) Platform NIAID Discovery and Collaboration Platform (NDCP)



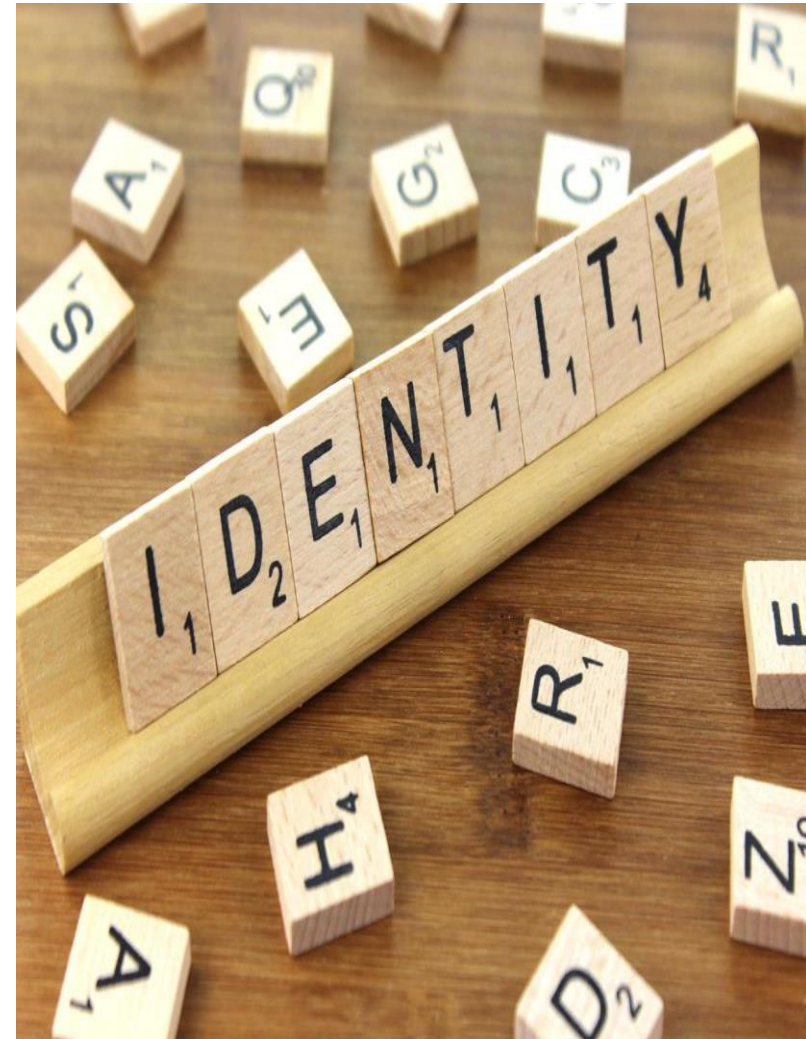
over 4000 users registered in the NDCP



Key NDCP Capabilities

- Hosts VRO Applications
- Provides VRO access to federated partner researchers, nationally and internationally
- Provides access to research applications to over 4000 registered users

Migrating Identities



Now that RHSP has an IdP registered with RIF (login.rhsp.org), NIH no longer needs a separate InCommon IdP for the NIAID ICER in Uganda (login.iceruganda.org).

Before decommissioning the IdP in the InCommon federation, we must migrate all users registered with the NIAID Discovery and Collaboration Platform (NDCP) using ICER-Uganda identities to their corresponding RHSP identities.

We can do this since RDCT manages both the IdPs and Service Providers.

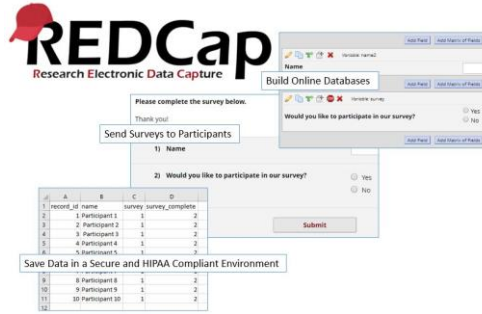
Performing this migration automatically would eliminate the administrative burden on RHSP users (e.g. account-linking enrollments), and it would reduce the administrative workload to the IAM and Service Desk teams.

Authentication – Authorization flow

user@iceruganda.org



1



REDCap SP

2



Discovery Service

3



Login to NIAID Science Forum Federation Gateway

Username

Password

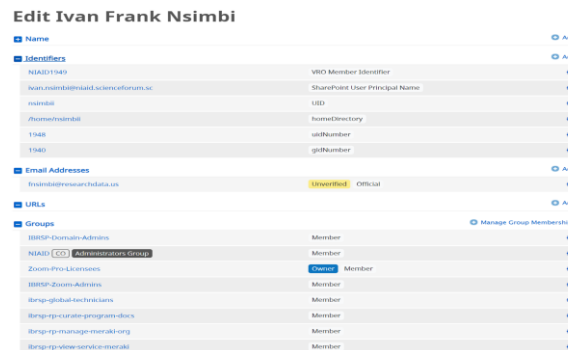
Forgot your password?
 Need Help?

Don't Remember Login

Clear prior granting of permission for release of your information to this service.

Login

4



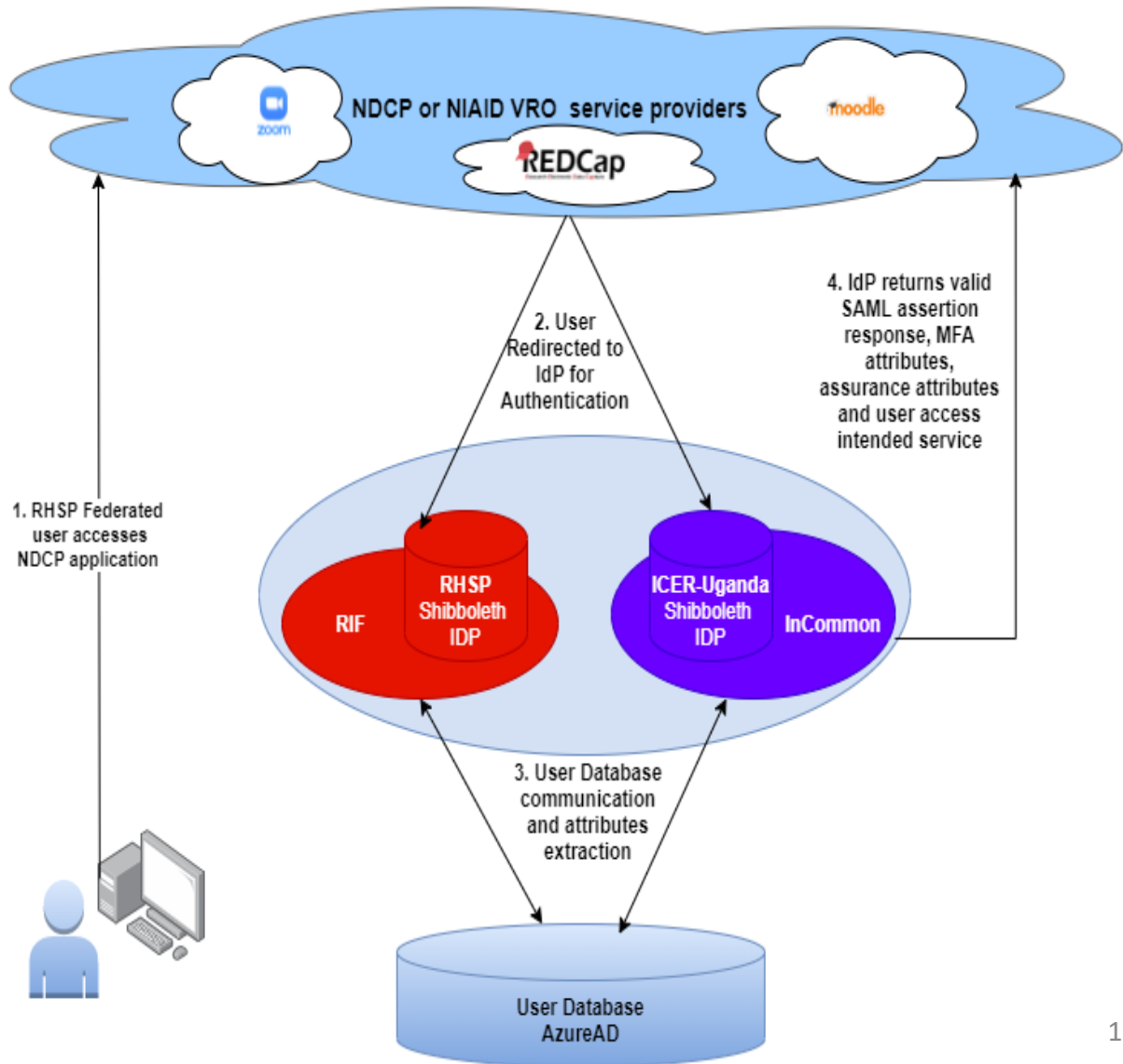
Take the user's identity to determine access permissions

User successfully logged in

5



NOW! Single User Database – Multiple IdPs



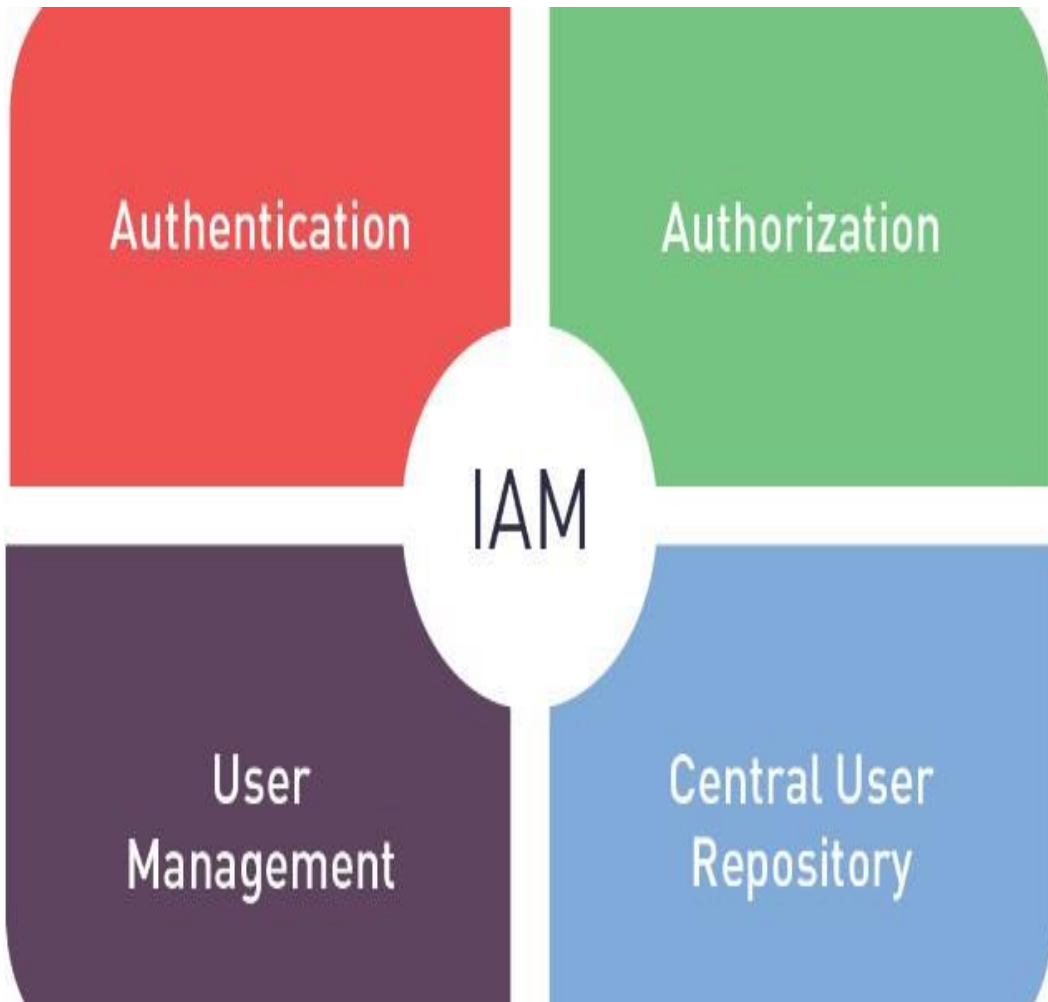
Azure AD

RHSP migrated from on-premise **Active Directory Domain Services (AD DS)** to **Azure AD Domain Services (AAD DS)** for user and computer objects management.

The Identity Providers

Both the ICER-Uganda and RHSP Shibboleth IdPs use the same attribute resolver configuration files.

Identity and Access Management Challenges



Identity and Access Management

IAM refers to a framework of policies and technologies for ensuring that the proper people in an enterprise or virtual organization have the appropriate access to the right technology resources.

Challenges in IAM

- IAM is failure prone in case of manual provisioning and deprovisioning processes.
- Lack of compliance visibility on who has access to which services / resources.
- User password fatigue and isolated / siloed user directories for each application.
- Keeping SSO-enabled application integrations up-to-date.
- Keeping up with the different administration models for various applications.

Acknowledgements

Michael Tartakovsky, NIAID CIO

Christopher J. Whalen, RDCT President

Matthew X. Economou, RDCT

Benn Oshrin, Spherical Cow Group

Scott Koranda, Spherical Cow Group

Alex Mwotil, UbuntuNet Alliance

Nicholas Mbonimpa, RENU CEO

Special thanks to Eng. Isaac J. M. Kasaana,
Former CEO RENU

