



Oman Research & Education Network (OMREN)

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OMREN Definition

Oman Research & Education Network
is a national infrastructure with high
speed backbone connectivity,
connecting all research & education
organizations and entities.

OMREN Benefits

- creating an environment in which leading edge research can be done at the country.
- Establishing a platform for collaboration & research that fosters innovation & promotes an information society.
- Positioning researchers in Oman to collaborate with their peers in the region whose countries are building their own NRENs.
- Active participation in international projects that can attract further funding to the region.
- Development of new economies and export of knowledge capital.

OMREN Approach

1. **Setting up OMREN vision and Objective:** defining the framework of OMREN (Stakeholders, coverage, Management ...etc).
2. **Current State Analysis:** identify the capabilities of the existing private and public telecommunications network infrastructure (technical, financial and commercial aspects)
3. **Comparative Analysis of NREN Deployments:** ascertain industry trends and assess which approach will be most suited to meet key objectives set out for OMREN. This stage covers four key dimensions:
 - a) Organization (*Ownership options; Funding models; Governance; Operating models*)
 - b) Regulation (*NREN usage; Local loop access; Public or private network accessibility*)
 - c) Market (*Currently available services; Future services/roadmaps*)
 - d) Technology (*Optical/packet transport; Network Security; Network Management*)

OMREN Approach

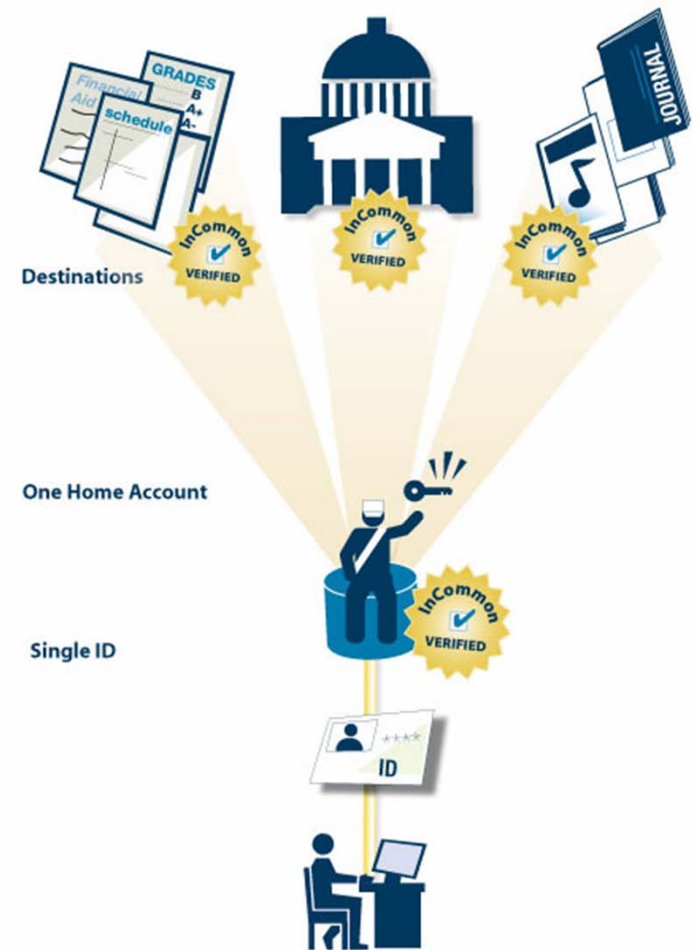
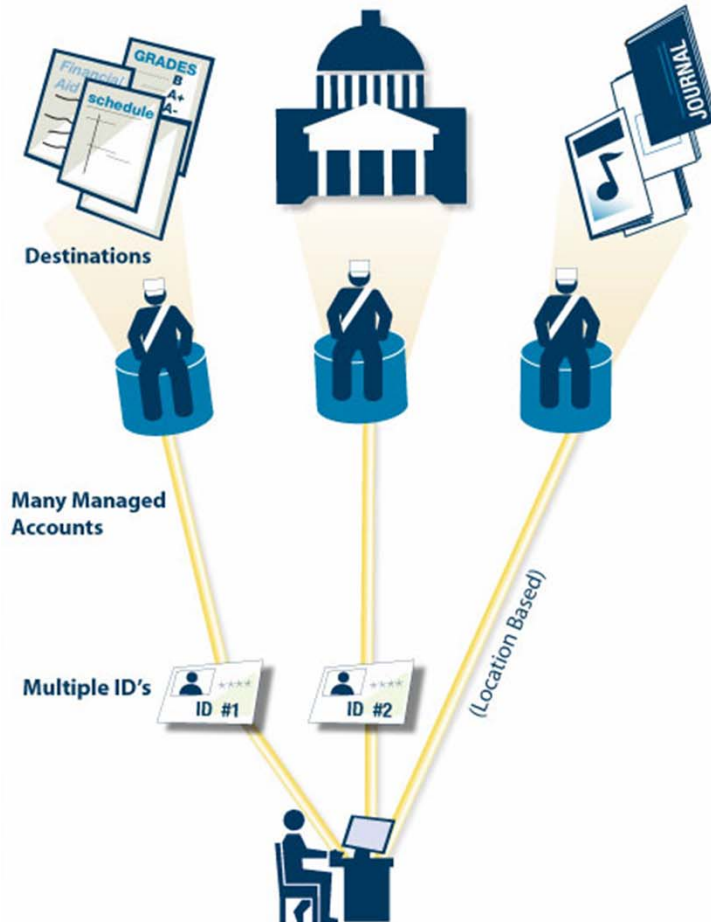
4. **OMREN Implementation Master Plan:** Based on the outputs from “Current State Assessment” and “Comparative Analysis of NREN Deployments”, will determine potential NREN implementation approaches . And create master plan which include:
 - 1) Services Strategy/Roadmap
 - 2) Operating/Commercial Model
 - 3) High Level Technical and Operational Requirements
 - 4) Financial Model to Estimate Budgetary Requirements
 - 5) Timelines/Resource Requirements for individual work streams

5. **Applications & Access Control:** Oman KID, TRESS, Fund Plus, National E-Libraries ...etc

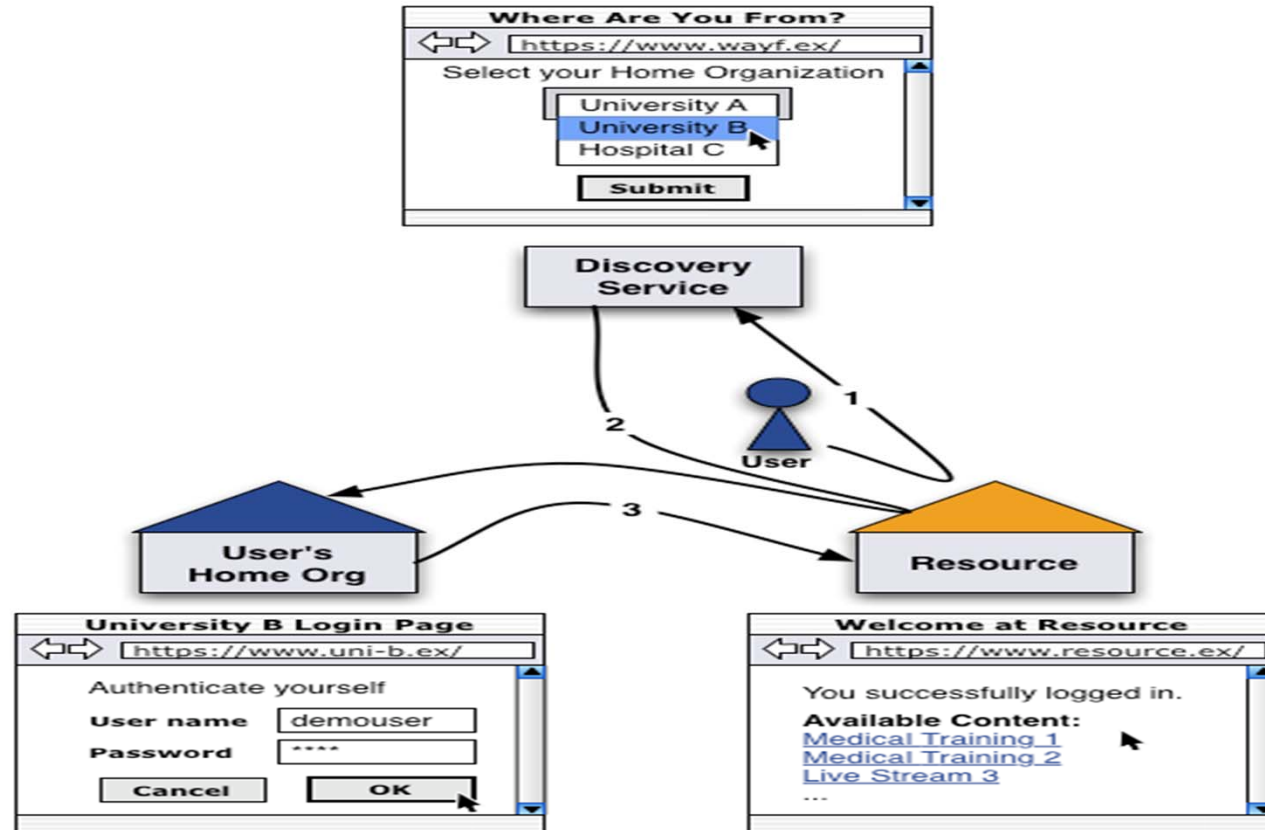
Overview of Oman KID Federation

Federation is a group of organizations that agrees to the Membership Rules For Oman KID Federation, for exchanging information about users in secured manner to enable access and use of restricted resources.

Overview of Oman KID Federation

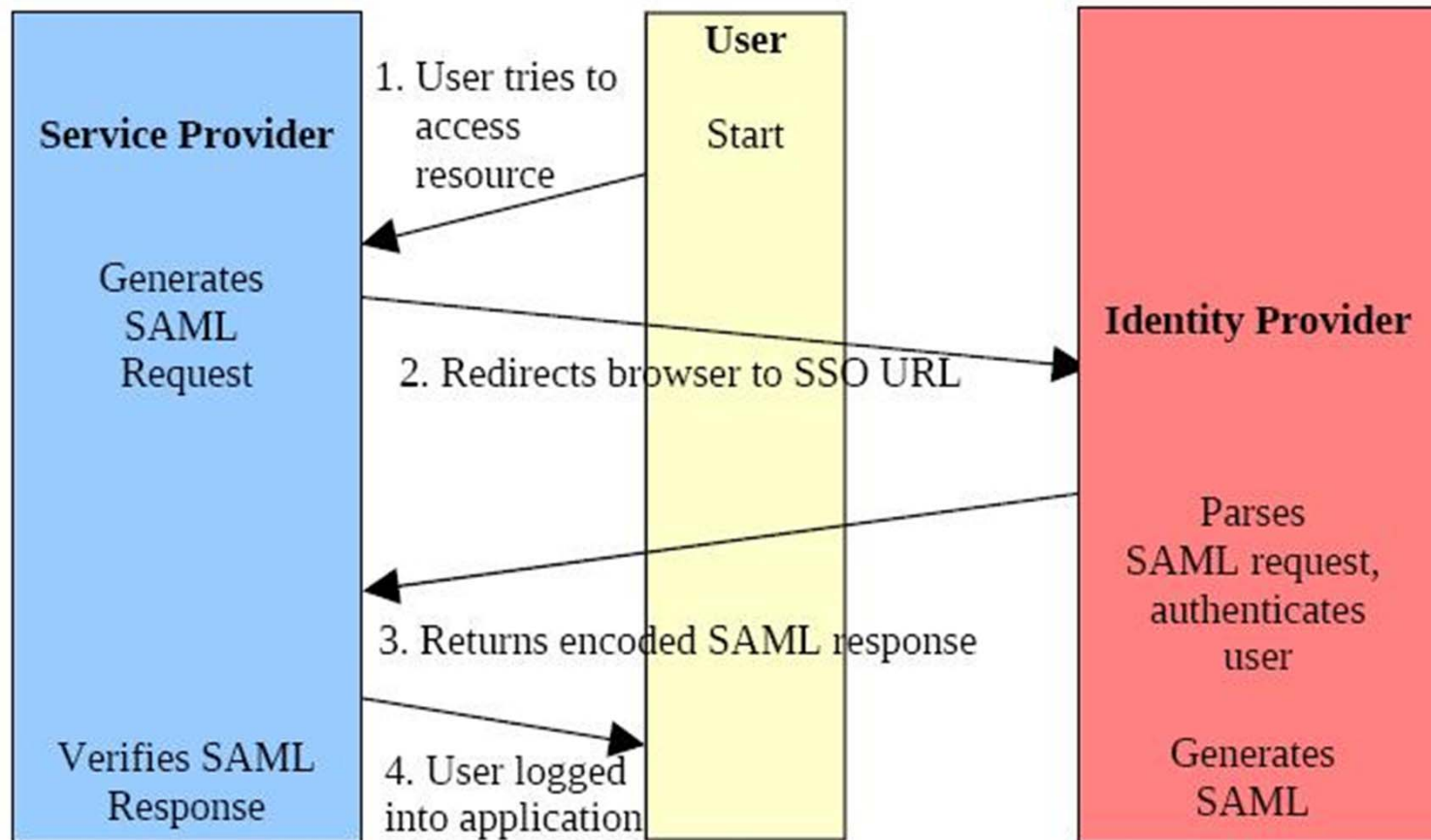


Functionality of Oman-KID



Functionality of Oman-KID

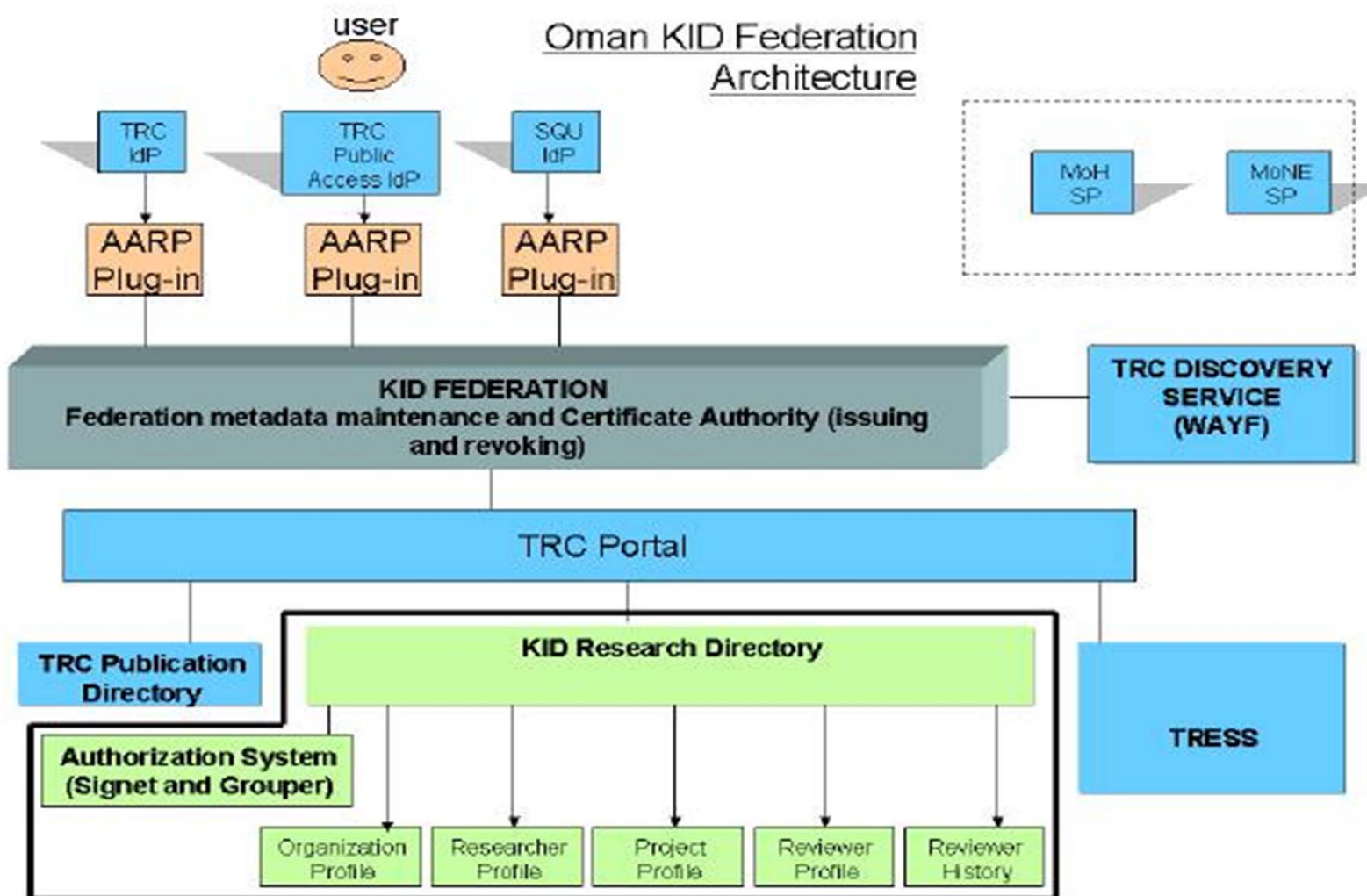
- 4) The Service Provider (SP) initiates the SAML (Authentication Request) process to the Identity Provider (IdP) to access the SAML (Authentication Request) Provider (SP)



Purpose of Oman-KID

- For Identity Provider (IdP):
Enables their users to access the restricted resources of federation organizations (Service Providers (SPs), without releasing their credentials
- For Service Provider (SP)
Ensures protection of their resource by giving accessibility to federation users

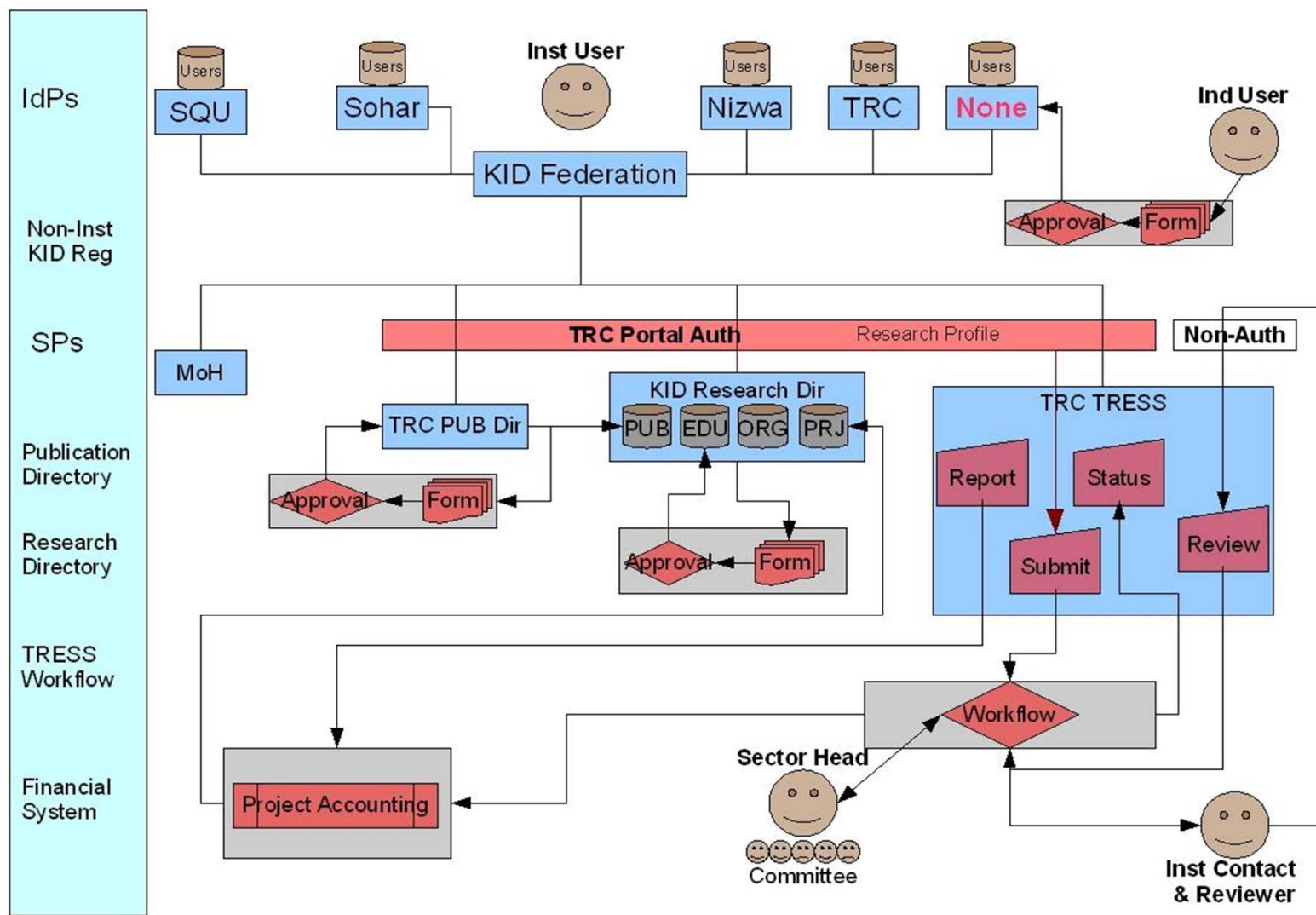
Oman-KID Architecture



Oman-KID Architecture

- The core of Oman KID federation is implemented with Shibboleth software using Security Assertion Markup Language SAML standards for communication of authentication and attribute information.
- A set of core attributes has been defined for identity providers (IdPs) and service providers (SPs), for authorization. This is the basic attributes which is normally send to SP, along with authentication assertion.
- TRC is using the exchange of the attributed to build the national Databases for Researchers, Publications, Organizations and Equipments.
- The Research Electronic Submission System (TRESS) is one of the services provided to all KID holders to access and utilize the functionality of the system.

Oman-KID Architecture



Eligibility of Oman-KID Federation

- Oman Knowledge ID Federation system allows KID users to access all services available in the federation using their institution credential.
- All schools, colleges, universities and research organizations, as well as anyone providing resources to these sectors, are eligible to join the federation.

Thank you