International Cooperation of ASNET-AM

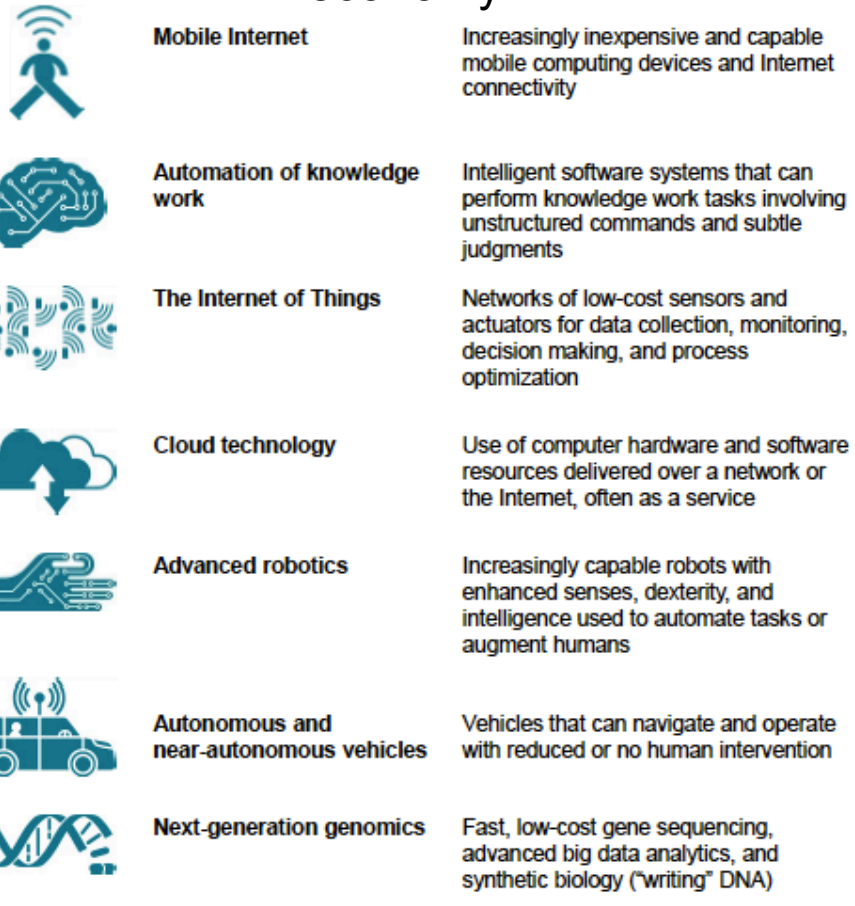
Hrachya Astsatryan,
Institute for Informatics and Automation Problem (IIAP),
National Academy of Sciences of Armenia

Pillars of Science

Presidential Information Technology Advisory Committee issued a report, "Computational Science: Ensuring America's Competitiveness," stating: "Together with theory and experimentation, computational science now constitutes the '**third pillar' of scientific inquiry**, enabling researchers to build and test models of complex phenomena."

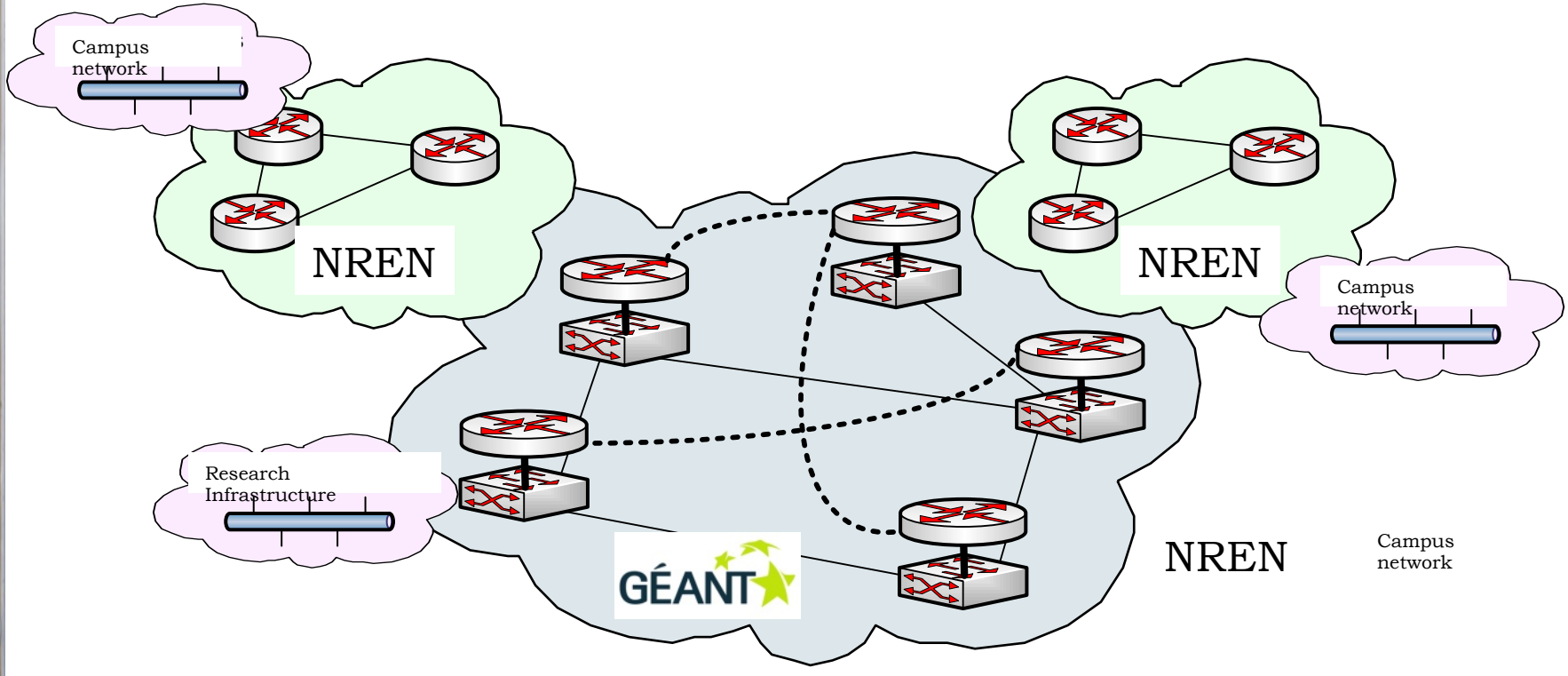
"Big Data" is now considered to be the fourth pillar of science (Microsoft Research, 2009)

Disruptive technologies: Advances that will transform life, business, and the global economy



Mobile Internet	Increasingly inexpensive and capable mobile computing devices and Internet connectivity
Automation of knowledge work	Intelligent software systems that can perform knowledge work tasks involving unstructured commands and subtle judgments
The Internet of Things	Networks of low-cost sensors and actuators for data collection, monitoring, decision making, and process optimization
Cloud technology	Use of computer hardware and software resources delivered over a network or the Internet, often as a service
Advanced robotics	Increasingly capable robots with enhanced senses, dexterity, and intelligence used to automate tasks or augment humans
Autonomous and near-autonomous vehicles	Vehicles that can navigate and operate with reduced or no human intervention
Next-generation genomics	Fast, low-cost gene sequencing, advanced big data analytics, and synthetic biology ("writing" DNA)

NREN Global Topology



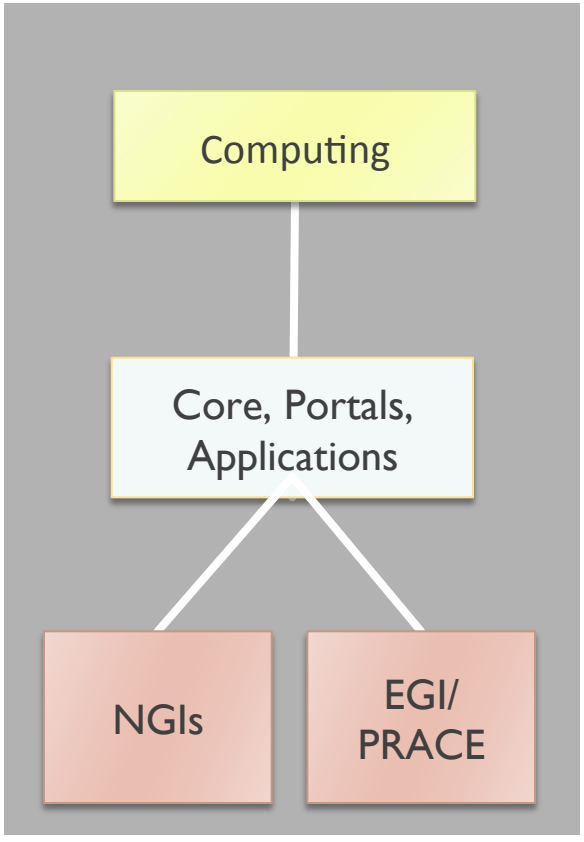
- offers world-class global connectivity and services reaching 40,000,000 end users from more than 8,000 universities, higher education institutes, research institutes, libraries, museums, national archives, hospitals, etc. and a further 22,000 primary and secondary schools.

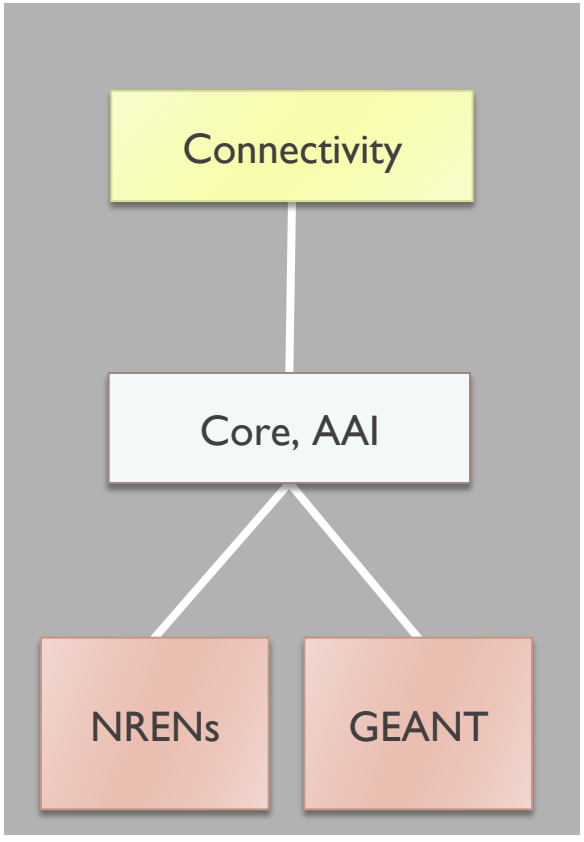
Future Topology

Services

Types

Facilities





ASNET Key Activities

- Provide high-quality international and national networking services to the Armenian academic & research institutions and to the public and private sector to support their research and educational activities.

- Promote and disseminate the use of ICT in the public and private sector towards an eGovernment, eLearning and eBusiness environment.

National Initiatives

- ArmNGI

International Initiatives

GÉANT

BSI Black Sea Interconnection

NCET

TERENA

EGI

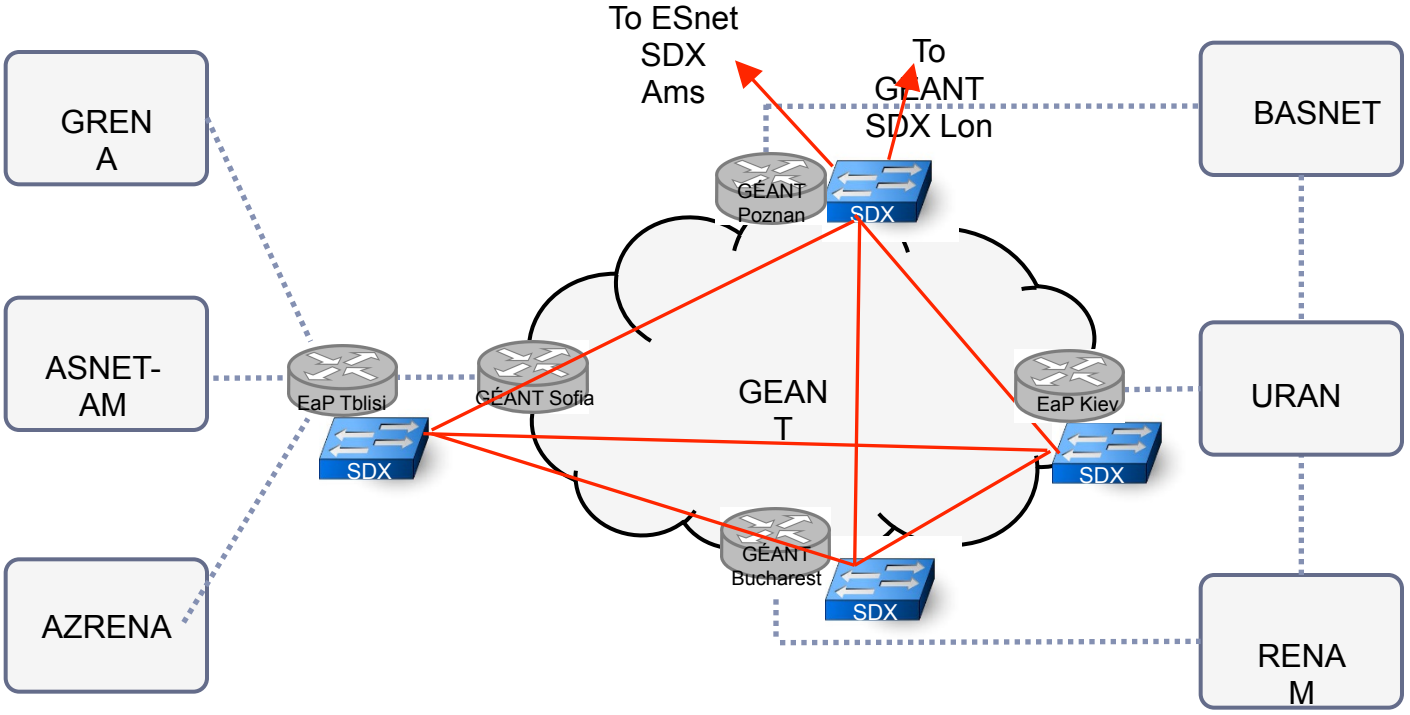
HP-SEE
High-Performance Computing Infrastructure for South East Europe's Research Communities

SEE-GRID-SCI
SEE-GRID eInfrastructure for regional eScience

BSEC

Connection with GEANT

Expected to be Funded by the **Directorate-General for for Neighbourhood and Enlargement Negotiations**, which is a Directorate-General of EC. The body is responsible for the enlargement process of EC and neigborhood policy, such as the EaP initiative of EC governing its relationship with the 6 post-Soviet states



- NorduNet (all Scandinavian countries), EUMEDCONECT (Mediterranean Countries), TEIN2 (Trans - Asia Information Network), ALICE (Latin-American NRENs)

EduRoam Concept

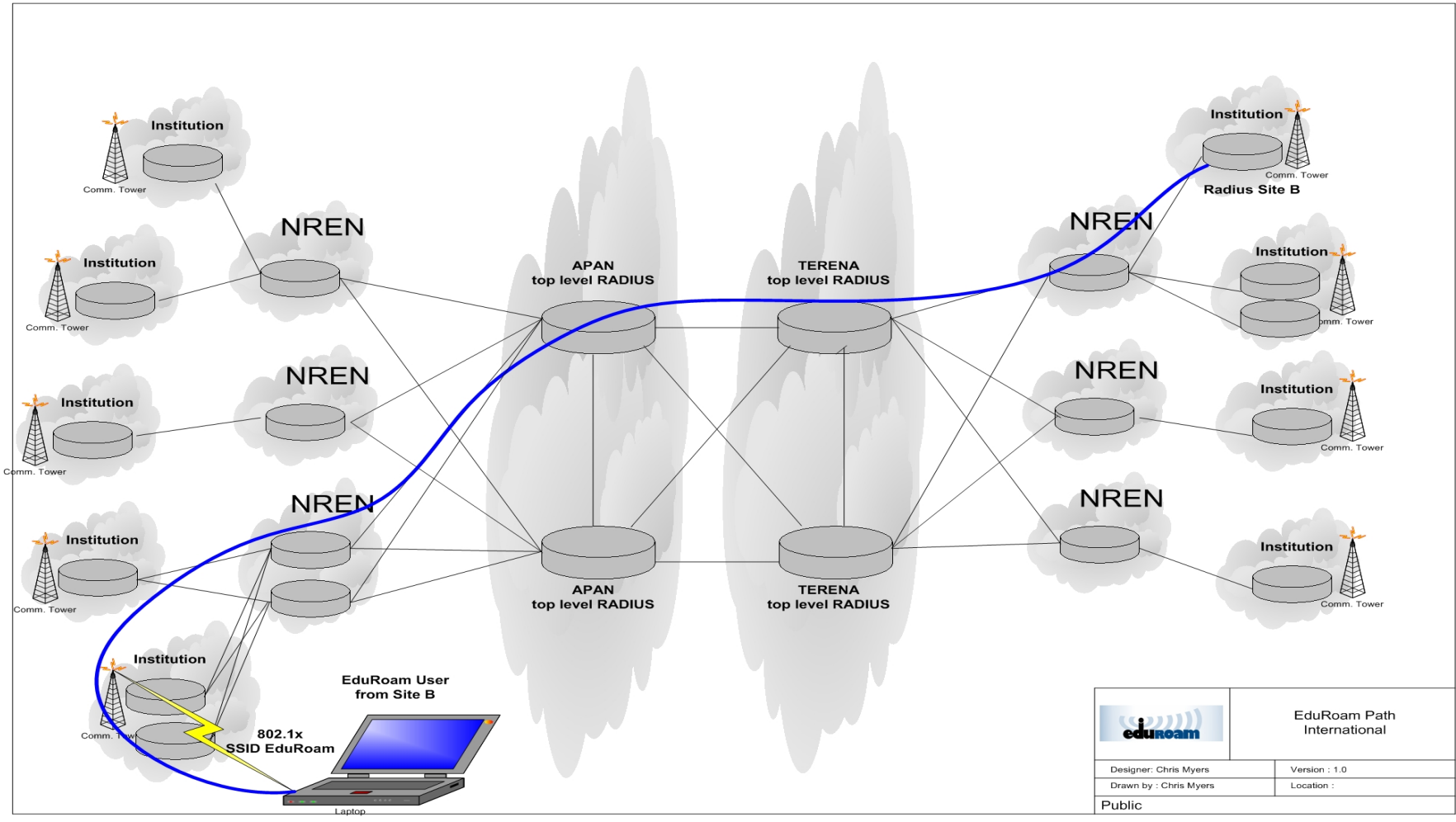
- EduRoam is a federated authentication trust framework for wireless networks, which allows roving researchers to login with their standard user name and password

EduRoam Benefits

Users

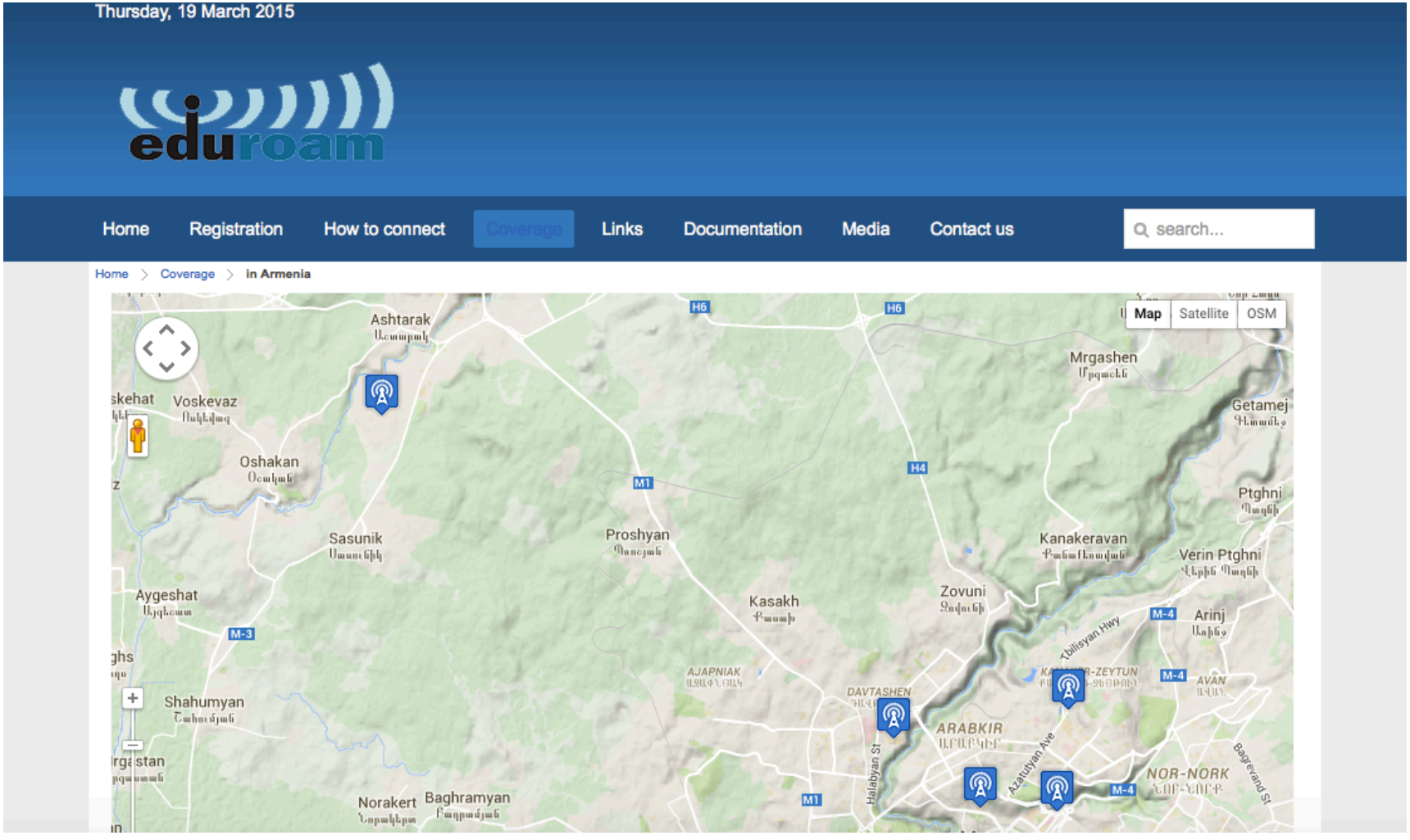
- On demand network access.
  - Mobility
  - Coverage
  - Security
  - Performance
  - user-friendly environment
- The ability to work on collaborative e-science projects.
- Reduced costs due to VoIP calls using SIP or H323 over wireless.
- The ability to use your own laptop computer and PDA's
- A reduction in productivity loss in visiting other institutions.

EduRoam Topology

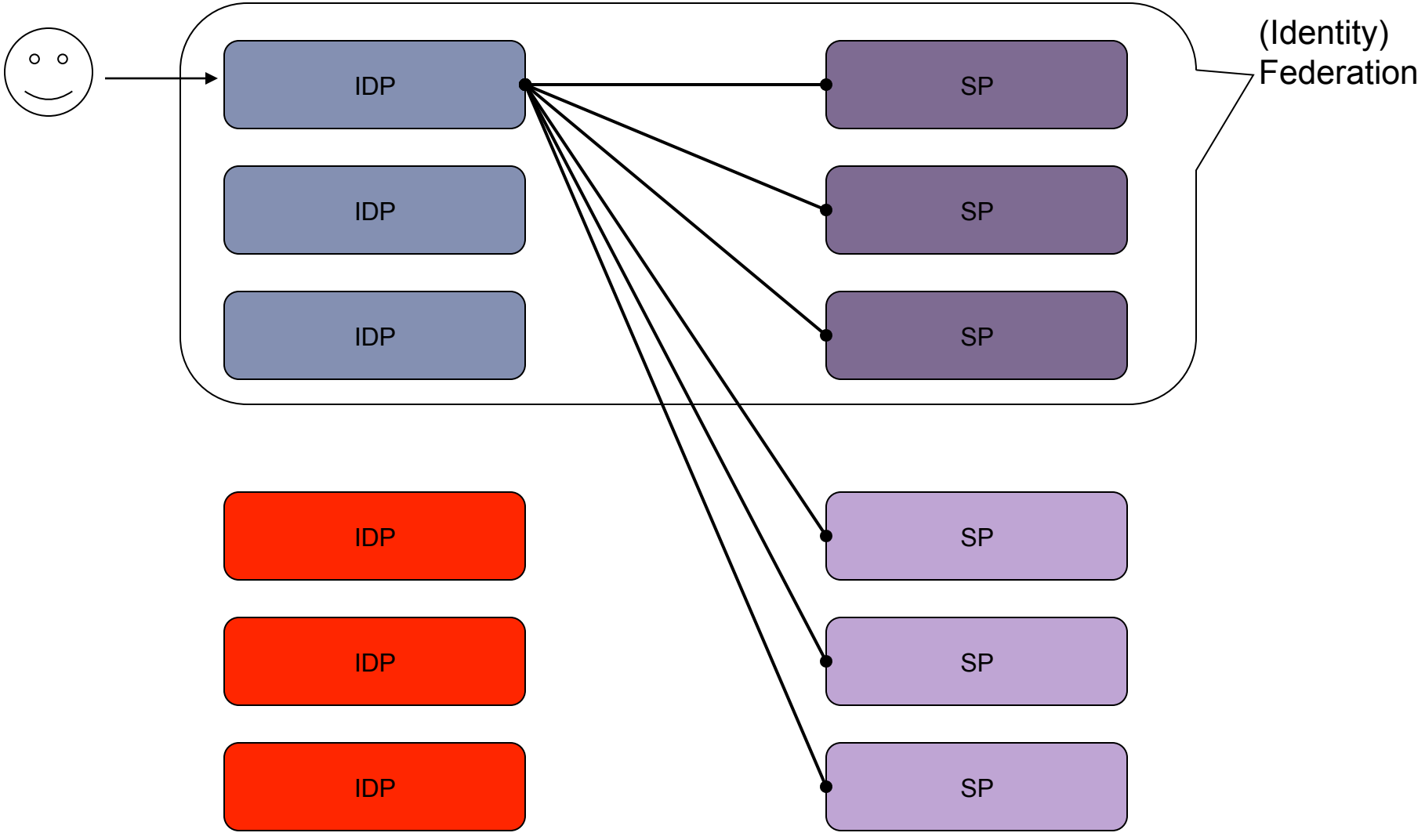


EduRoam Portal

www.eduroam.am

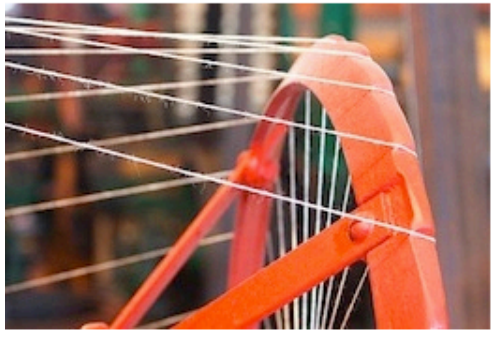


Edugain Topology



Edugain Refeds Membership

REFEDS

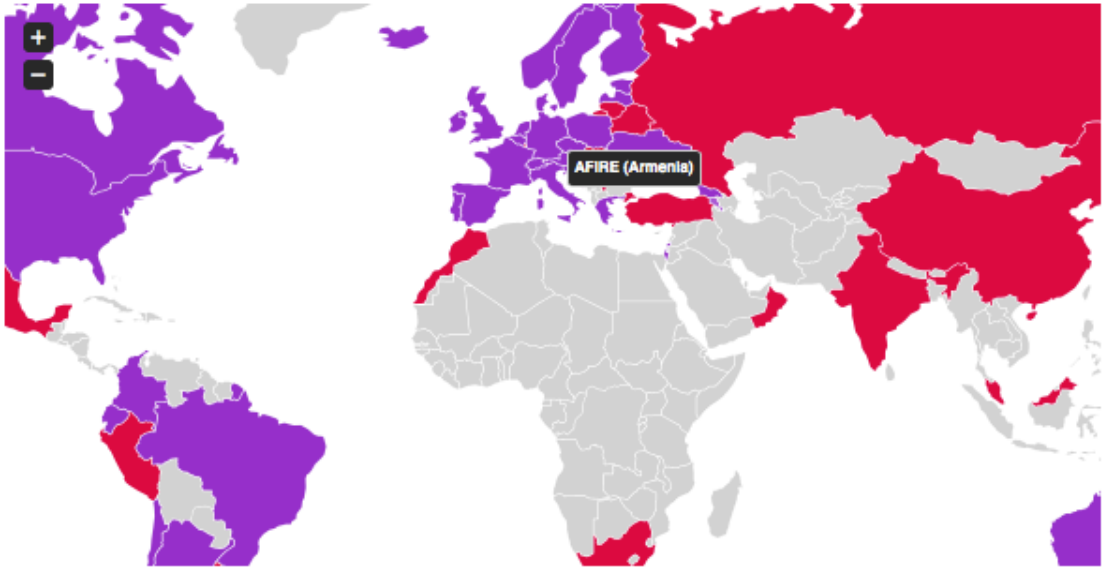


Home
About Us
Our Work
News
Resources
FAQ
Contact Us
Blog

Federations
Resources
Service Providers
Identity Providers
Support

Federations

The map below shows the **identity federations** around the world that work with REFEDS.
Note that the federations shown on the map may not offer full national coverage even if the whole country is coloured. Most of these federations focus on higher education and research communities.
For information on which federation participates in the existing inter-federations initiatives, please visit eduGAIN web site and Kalmar2 website.



Edugain Services

1) eduroam (education roaming) is the secure, world-wide roaming access service developed for the international research and education community. eduroam allows students, researchers and staff from participating institutions to obtain Internet connectivity across campus and when visiting other participating institutions by simply opening their laptop.

2) Arm Cloud Storage is an Internet service to store data in Armenian's cloud storage and retreive or work with these data at any time. It provides a simple web interface and a syncing and sharing capabilities for files, as well as native syncing clients for Mac OS X, iPhone, iPad and Windows. All this will be performed in a secure and rebust environment and free of charge.

3) Access to Web of Knowledge and Springer

ESFRI Collaboration

Identifies 44 new (or major upgrade of) Research Infrastructures of pan-European interest

The EC funds 3 additional projects from the CERN Council strategic roadmap for particle physics*

Social Sc. & Hum. (5)	Life Sciences (10)		Environmental Sciences (10)		Material and Analytical Facilities (6)	Physics and Astronomy (11)		Energy (4)	e-Infra-structures (1)
SHARE	BBMRI	ELIXIR	ICOS	EURO-ARGO	EUROFEL	ELI	TIARA *	ECCSEL	PRACE
European Social Survey	ECRIN	INFRA FRONTIER	LIFEWATCH	IAGOS	EMFL	PRINS	CTA	JHR	
CESSDA	INSTRUCT	EATRIS	EMSO	EPOS	European XFEL	SPIRAL2	SKA	IFMIF	
CLARIN	EU-OPENSCREEN	EMBRC	SIAEOS	EISCAT_3D	ESRF Upgrade	E-ELT	FAIR	HiPER	
DARIAH	Euro BioImaging	ERINHA BSL4 Lab	COPAL	AURORA BOREALIS	NEUTRON ESS	KM3NeT	ILC-HIGRADE *		
					ILL20/20 Upgrade	SLHC-PP *			

Distributed research infrastructures

Single sited research infrastructures