Research and Education Networks in the Arab World

INDICATE Workshop on "Virtual Exhibitions"

Amman, Jordan

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INDICATE
International Network for Digital Cultural Heritage e-Infrastructure

ASREN
Arab States Research and Education Network

JUNet

What are Research & Education Networks?

- Research and education networks are **dedicated** networks connecting the Universities, Schools, Research Centers, Hospitals, Museums and any other institution that may have research and education activities.
- National Research and Education Networks **(NRENs)** are established to provide connectivity and communications services for the research and education communities at the national level
- Regional Research and Education Networks **(RRENs)** are connecting the NRENs to provide connectivity and services to researchers and educators across the boarders.

Main Drivers for Research Networks

- **Technological:** Satisfy high demand *eScience* initiatives, **Multimedia Collaboration**, Distributed High Performance Computing (**HPC, GRIDs**) for **Earth Sciences, High Energy Physics** (CERN, LHC…), **Bioinformatics**, **Computational Chemistry**, **Radio-astronomy**, **Engineering Planning** (computations, emulations & simulations), ***Cultural*** (archiving, collaborative digital access & processing) …
- **Social:** Common culture of R&E community, Virtual Organizations VOs, collaborative research, tele-education, Smoothing the Digital Divides, affordable high bandwidth linkage to the Global R&E community
- **Economic:** Demand aggregators: University & school staff, students, researchers. Consolidation & control of diverse public expenditures. Promotion of Information Society (e-Government, e-Business, e-Health). Stimulation of technological & telecom markets → Competitiveness

Major Objectives for R & E Networks

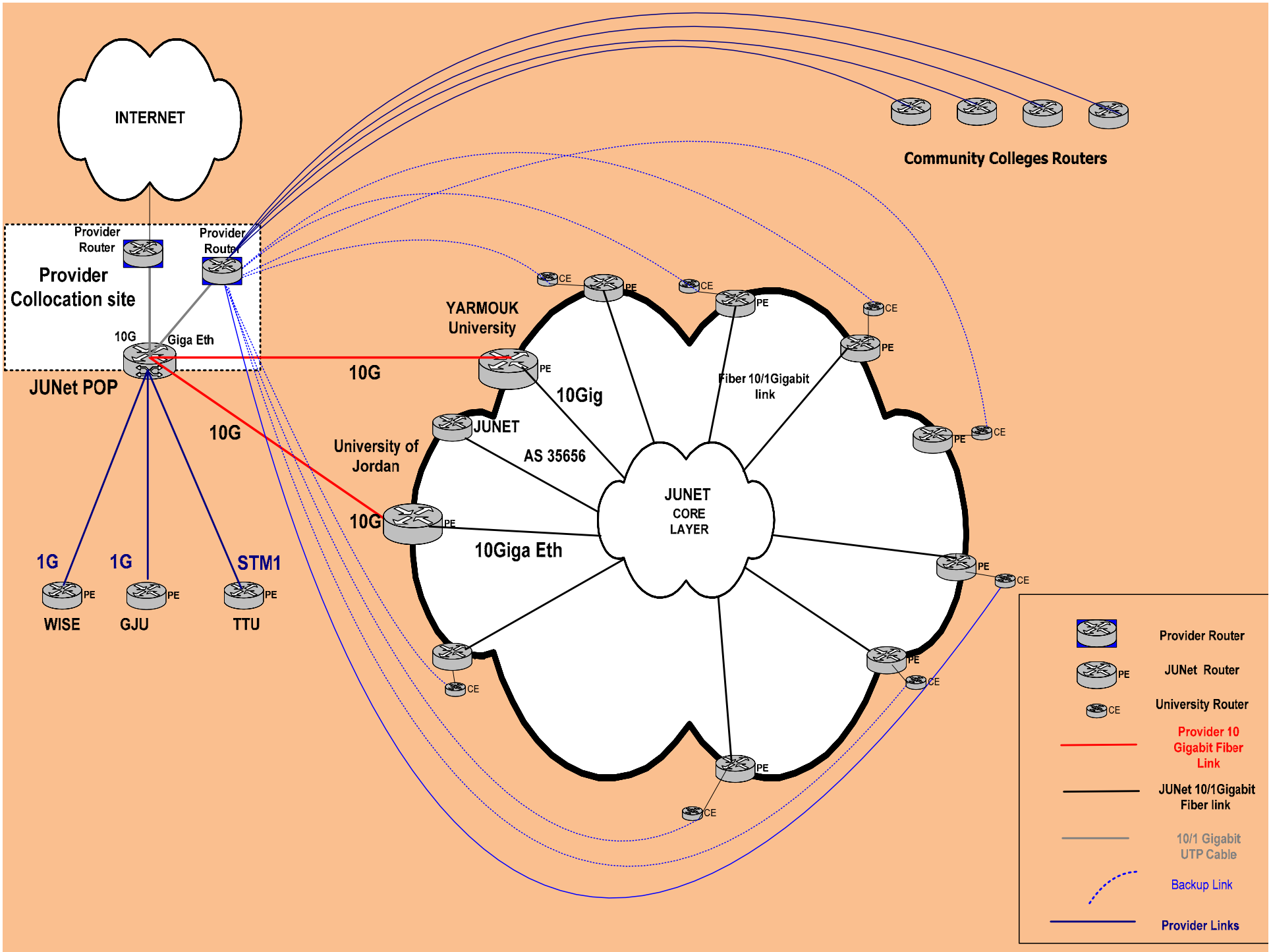
- Provide scientific research and education institutions with reliable means of communication in order to facilitate ease of cooperation and coordination
- Strengthen the notion of partnership and encourage joint scientific research among communities.
- Minimize cost of research by using diversified academic and technical resources to be made available for use on the network with no need for duplicating investment.
- The fact that students, teaching staff, and researchers use such dedicated networks would eventually uplift efficiency and productivity and would boost the concept of creativity and innovation.

NRENs: Major Services

- Unified connectivity to all research and education
- Consolidated Internet services
- Connectivity to regional research networks,.
- Access to content, common repositories, and library resources of all universities with a unified subscription.
- Video conferencing services, media streaming, IP telephony....
- Consolidated agreements with software vendors.
- Common caching, filtering and anti-spam and anti-virus protection services provided by NRENs to all connected institutions.
- NREN can be eligible to create and manage a national Internet Exchange, domain name services and networking consultancy.

National Efforts *(Jordan)*

- **The Jordanian National Broadband Network NBN is a national program to use dark fiber to connect around 3200 schools, 10 Universities and around 110 Public Access Sites**
- **The Jordanian Universities Network (JUNet) is the official NREN of Jordan, currently connecting 15 University sites via optical fiber, with 1Gbps each**
- **18 Community Colleges are also using this network at lower speeds using the operators circuits**
- **14 Private Universities and 6 research institutes are planned to be connected to JUNet this year**


INTERNET
Provider Router
Provider Router
Provider Collocation site
10G
Giga Eth
JUNet POP
10G
10G
1G
1G
STM1
WISE
GJU
TTU
YARMOUK University
JUNET
University of Jordan
AS 35656
10Gig
Fiber 10/1Gigabit link
JUNET CORE LAYER
10Giga Eth
Community Colleges Routers
PE
CE
Provider Router
JUNet Router
University Router
Provider 10 Gigabit Fiber Link
JUNet 10/1Gigabit Fiber link
10/1 Gigabit UTP Cable
Backup Link
Provider Links

JUNet Services and Activities

- Consolidation of Internet service
- License Consolidation through signing one agreement with software and services providers on behalf of all Universities
- Integrated Library Management system to serve all libraries in all Universities through one center and one unified system: the
- Consolidated Access to Journals and Periodicals by having one subscription for all Universities
- Video Conferencing Network and services
- Connection to the Pan European Network GEANT under the EUMEDCONNECT Project
- Unified email service for all Universities' students
- Conducting specialized workshops, seminars and training sessions
- Promoting the use of technology in research and encourage research collaboration and joint research projects.
- Partnering with EC projects: EUMEDGRID, EPIKH, LinkSCEEM, CHAIN…

NRENs around the world

Africa

D.R. Congo (Eb@le)
KENET (Kenya)
MAREN (Malawi)
MoRENet (Mozambique)
RwEdNet (Rwanda)
South Africa (TENET)
SUIN (Sudan)
RENU (Uganda)
ZAMREN (Zambia)

East Asia & Pacific

Asia (APAN)
South&East Asia (TEIN2)
Australia (AARNET)
China (CERNET,CSTNET,NSFCNET)
Fiji (USP-SUVA)
Hong Kong (HARNET)
Indonesia (ITB)
Japan (SINET, WIDE, JGN2)
Korea (KOREN, KREONET2)
Malaysia (MYREN)
New Zealand (KAREN)
Philippines (PREGINET)
Singapore (SingAREN)
Taiwan (TANet2, ASNet)
Thailand (UNINET, ThaiSARN)
Vietnam (VINAREN)

Europe & Central Asia

Europe (GEANT2)
Armenia (ARENA)
Austria (ACOnet)
Belgium (BELNET)
Croatia (CARNet)
Czech Rep. (CESNET)
Cyprus (CYNET)
Denmark (Forskningsnettet)
Estonia (EENet)
Finland (Funet)
France (Renater)
Georgia (GRENA)
Germany (G-WIN)
Greece (GRNET)
Hungary (HUNGARNET)
Iceland (RHnet)
Ireland (HEAnet)
Italy (GARR)
Kazakhstan (KAZRENA)
Latvia (LATNET)
Lithuania (LITNET)
Luxembourg (RESTENA)
Malta (Univ. Malta)
Netherlands (SURFnet)
Norway (UNINETT)
Poland (PIONIER)
Portugal (RCTS2)
Romania (RoEduNet)
Russia (RBnet, RUNNET)
Slovakia (SANET)
Slovenia (ARNES)
Spain (RedIRIS)
Sweden (SUNET)
Switzerland (SWITCH)
United Kingdom (JANET)
Tajikistan (TARENA)
Turkey (ULAKBIM)
Uzbekistan (UZSCI)

Mid-East & N.Africa

Algeria (ARN)
Egypt (EUN/ENSTINET)
Jordan (JUNET)
Lebanon (NCSR)
Morocco (MARWAN)
Palestinian Terr. (PadI2)
Qatar (Qatar FN)
Syria (HIAST)
Tunisia (MRST)
U.A.E. (ANKABUT)

Americas

Latin America (redCLARA)
Argentina (RETINA)
Bolivia (ADSIB)
Brazil (RNP2/ANSP)
Canada (CA*net)
Chile (REUNA)
Colombia (RENATA)
Costa Rica (CR2Net)
Ecuador (CEDIA)
El Salvador (RAICES)
Guatemala (RAGIE)
Honduras (UNITEC)
Mexico (Red-CUDI)
Nicaragua (RENIA)
Panama (RedCyT)
Paraguay (ARANDU)
Peru (RAAP)
Uruguay (RAU2)
Venezuela (REACCIUN2)

South Asia

India (ERNET)
Nepal (NREN)
Pakistan (PERN)
Sri Lanka (LEARN)

The only regional network in the Arab Mediterranean Countries

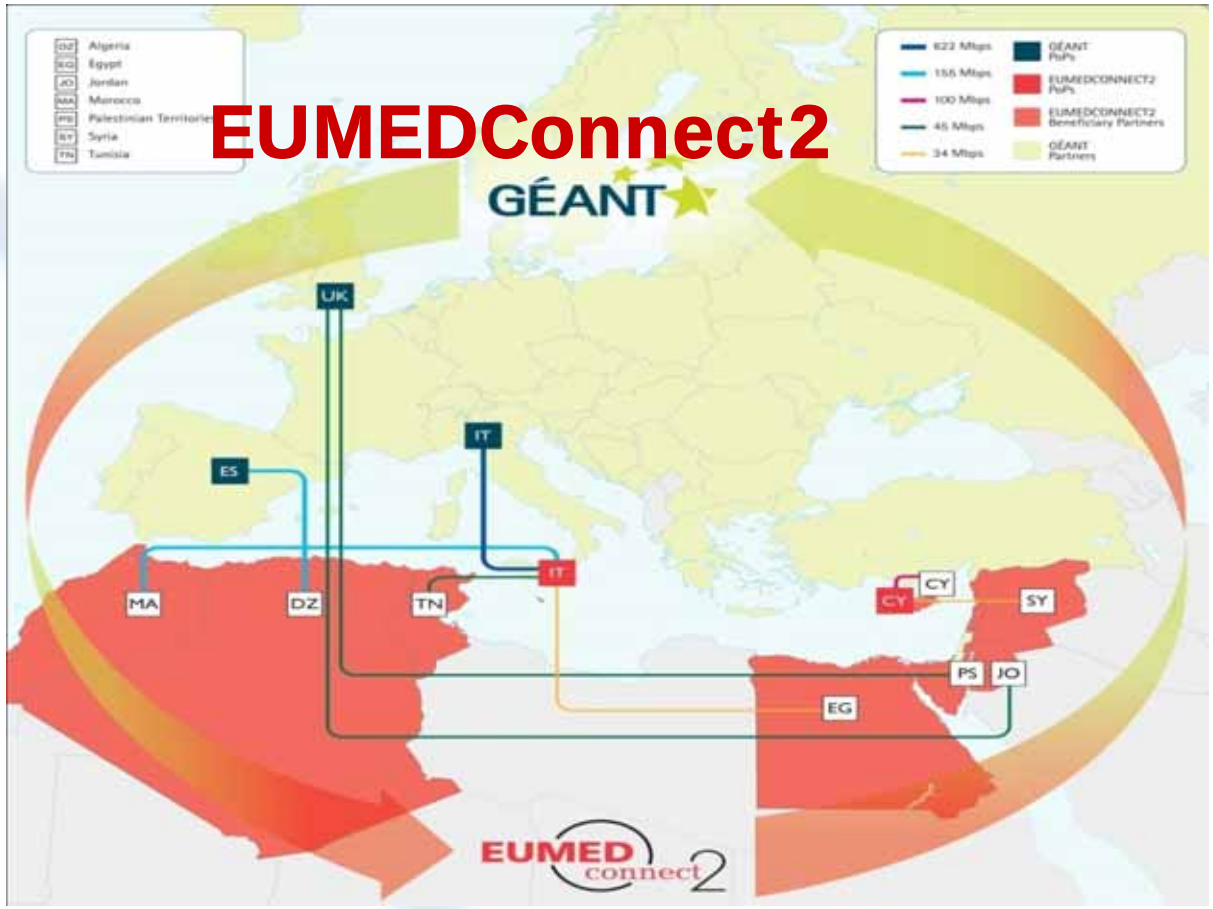
A Euro-Med success story

Connects ~2m users at ~700 institutions among each other and with their peers in Europe and beyond

Directly connecting Algeria, Egypt, Jordan, Morocco, Palestine, Syria and Tunisia

Linking Mediterranean and European partners via GÉANT

Jointly funded by the EC and the MED partners to reduce the digital divide



EUMEDConnect3 Will be further (Partially) funded by the EC for additional 3 years

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The EUMEDGRID Support Project

Coordination and Harmonization of Advanced e-INfrastructures

Exchange Programme to advance e-Infrastructure Know-How

Linking Scientific Computing in Europe and the Eastern Mediterranean

Arab States Research and Education Network ASREN المنظمة العربية لشبكات البحث العلمي والتعليم

Arab States Research and Education Network (ASREN)

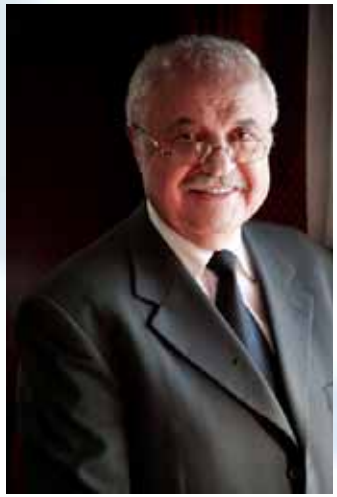
ASREN is the association of the Arab region NRENs and strategic partners.

Promoting world-class Pan-Arab e-Infrastructures and E-services for the Research and Education communities to boost Scientific Research and regional Cooperation

“The ASREN initiative will connect our researchers and scholars allowing them to share knowledge and to collaborate. It is a unifying network for the Arab region, and I commend it.”

H.E. Amro Moussa

Secretary General of the Arab League



“Investing in e-Infrastructures will advance inter-Arab research and education and promote cooperation with Europe and the World”

H.E. Talal Abu-Ghazaleh, Chair of UN Global Alliance for ICT and Development (GAID)

ASREN

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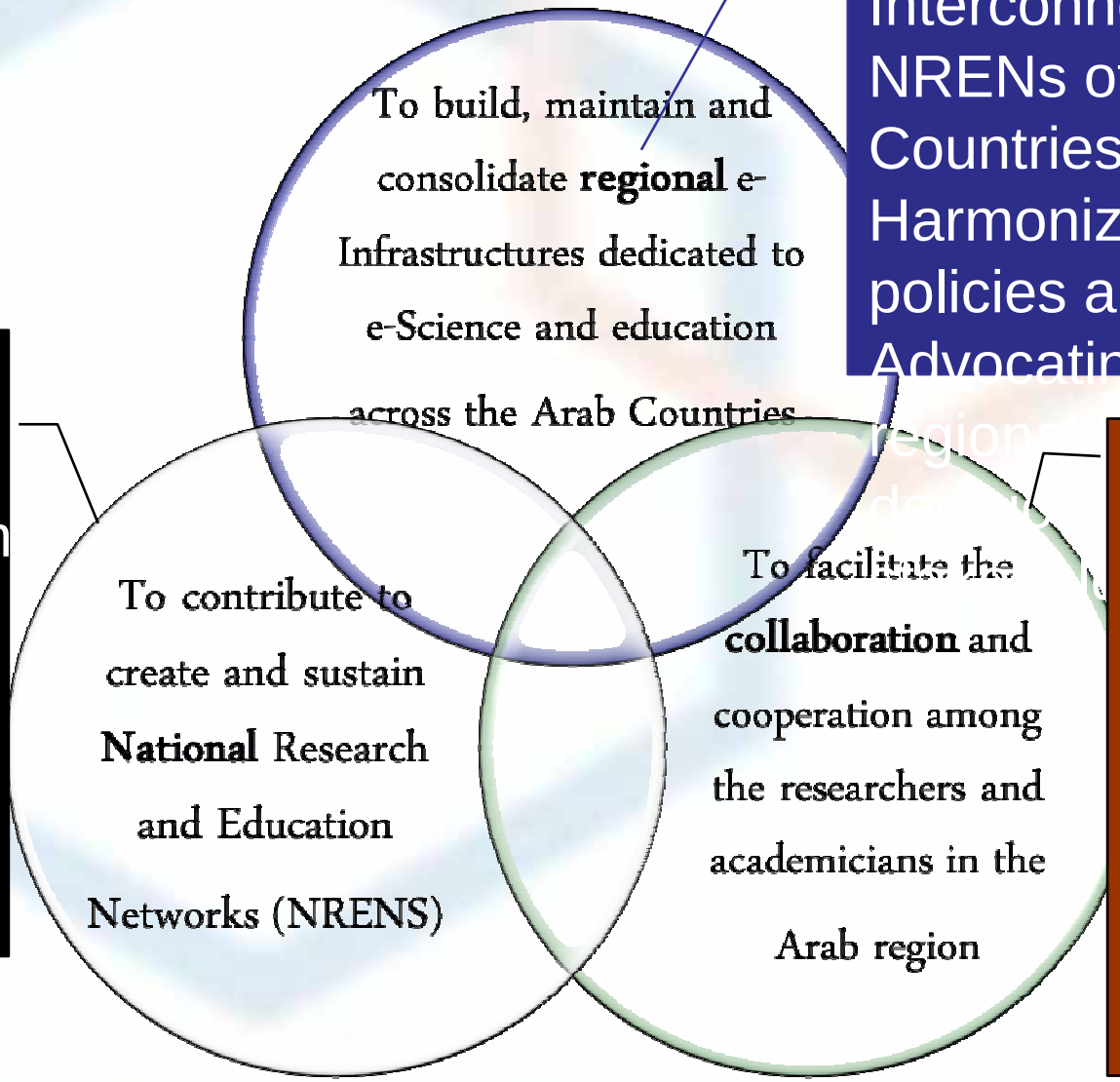
ASREN: Vision and Mission

- **Vision Statement**: Pan-Arab collaborative research and education projects and activities, contribute to boost the scientific research, innovation and education levels in the Arab countries by uplifting efficiency and productivity of research and education communities.

- **Mission statement**: To implement, manage and extend sustainable Pan-Arab e-Infrastructures dedicated for the Research and Education communities and to boost scientific research and cooperation in member countries through the provision of world-class e-Infrastructures and E-services.

Objectives

Regional network that Interconnects the NRENs of the Arab Countries
Harmonization of policies and standards
Advocating at the



Supporting NRENs to implementin g technologic al solutions
Exchange of expertise

Knowledge resources, exchanges
Arabic contents
Usage of e-Infrastructure s and services

ASREN is now an official legal entity

ASREN now is officially registered in Dusseldorf, Germany as non-profit company with 3 Shareholders:

Jordanian Universities Network, JUNet
Moroccan Research and Education Network, MARWAN
Abu-Ghazaleh & Co. Consulting GmbH

HE Amre Moussa, Secretary General of the League of Arab States was elected as Honorary Chairman

HE Talal abu Ghazaleh was elected as ASREN Chairman

ASREN Website www.ASRENOrg.net

Arab States Research and Education Network (ASREN)

Under the Patronage of His Majesty
King Abdullah II bin Al Hussein

Integrating Arab e-infrastructure

12-14 December 2011, Amman, Jordan

Event 4 on Euro-Mediterranean e-Infrastructure
US Internet2 SIG meeting
ASREN first annual meeting

Register Now

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Ministry of Information and Communications Technology
DC NET Digital Cultural Heritage Network
DANTE
LINKSCEEM
INDICATE
EUMEDGrid
EUMED connect
TALAL ABU-GHAZALEH ORGANIZATION

Thank You

More on the event website

www.ASRENOrg.net

www.junet.edu.jo

eAGE2011.ASRENOrg.net

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