



**Sixth Annual Platform on Integrating
Arab e-Infrastructures**
e-AGE 2016

@ American University of Beirut
December 1-2, 2016



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Declaration and Outcomes

Beirut, December 3, 2016

- Under the patronage of his Excellency Mr. Botrus Harb, Minister of Telecommunications in Lebanon and Chaired by His Excellency Dr. Talal Abu-Ghazaleh, the 6th Annual Platform on Integrating Arab e-infrastructures: e-AGE 2016, held in conjunction with:
- 8th Annual Conference of Quality in Education: AROQA 2016; and.
- 2nd Annual Conference on Open Source Software Communities: OSSCOM 2016.

concluded with a wide range of high level participation and delegates from over 42 countries.

Recognition

- NRENs' of Egypt, Jordan, Algeria, Qatar, Tunis, Sudan, Morocco, Saudi Arabia, Somalia, Palestine, Iraq, Oman, UAE, and Lebanon in the development of their national networks and support to establish international high-speed links cross border interconnection and toward building a more inclusive network infrastructure for research and education at the regional level.
- League of Arab States' support and harmonization at the political level for an integrated "Arab Connect".
- ASREN's leading roles in developing pan Arab e-Infrastructures to support research and education communities and linking them to Europe and worldwide.
- European Commission's co-funding schemes and GEANT Association's development role in the framework of EUMEDCONNECT3 and AFRICACONNECT2 to build and operate dedicated high-speed networks in the Mediterranean countries and in coordination with UbuntuNet Alliance and WACREN in Africa.

- Internet2 Special Interest Group's efforts in international linkage to Internet2 network in the US and abroad.
- Organizations and communities such as GEO, Internet Society, RIPE, ICANN, ITU, ALECSO, and ISESCO in supporting research and education communities.

Opening Session Highlights

The opening session was addressed by H.E. the Minister of Telecommunications, the Provost of the American University of Beirut, Minister plenipotentiary of the League of Arab States, the International officer of the European Commission (EC), and further the president of the Lebanese University on December 3, 2016.

In his opening speech, H.E. Mr. Harb expressed his strong interest in advancing the Lebanese network infrastructure to support not only research and education communities, but also the citizens of Lebanon as motivated in the telecom vision 2020. He noted that Lebanon is acknowledged among the first three most dynamic countries in terms of the ICT development and the second biggest mover in the year 2015 on the Network Readiness Index. These developments will of course strengthen innovation and entrepreneurship movement in the Lebanese mobile Internet ecosystem supported by high-speed networks and open source technologies. He declared his support for the Lebanese Education and Research Network (LERN) for which highly discounted connectivity prices will be provided.

H.E. Dr. Talal Abu-Ghazaleh expressed the utmost appreciation to all who contributed to the success of the conferences under this important and timely patronage. As AUB Alumni, he expressed his gratitude to the American University of Beirut for hosting the conferences, to the League of Arab States for their continuing support, to the European Commission for their generosity and great contributions, to the sponsors of the events, and to all delegations, speakers, and authors from all over the world. He also expressed his appreciation to the president of the Lebanese University for the host of open source software activities in the OSSCOM project framework supported by the EC Tempus.

H.E. Mr. Yaser Abdelmonem noted that technology, culture, and literacy are identified as priorities for development to support youth across the Arab region. The efforts of the League of Arab States in the enhancement of education have been emphasized. He presented the League's vision that is both unconventional and inclusive to enhance educational approaches to meet millennium development and sustainable goals for development and prosperity across the region.

Provost Dr. Mohamad Harajli emphasized the importance of these events to the development of communities, and AUB is proud to host the activities of technology, infrastructure, and quality of education. He acknowledges the contribution of ASREN and EUMEDCONNECT3 project funded by the EC to establish 300 Megabits per second (Mbps) link to the GEANT research and education networks via ASREN's PoP in London.

Sessions Highlights

The aspirations towards building advanced pan-Arab e-Infrastructures and strengthening research connectivity have been highlighted in the EUMEDCONNECT3 and AFRICACONNECT2 project meetings as well as the Internet2 Special Interest Group meeting. David West of GEANT Association and Project director emphasized EC 60% co-funding for building dedicated high-speed networks for research and education in the Arab Mediterranean Countries. Helga Spitaler of GEANT Association presented a communication strategy to support Mediterranean and African e-Infrastructures. John Chapman of Internet2 highlighted the importance of coordination between GEANT and Internet2 partners in the Arab region towards building consensus for a robust pan-Arab network.

The EUMEDCONNECT3 Project meeting has witnessed presentations on the development of:

- Jordan's 155 Mbps international link connecting SESAME (Synchrotron-light for Experimental Science and Applications in the Middle East) and other universities in Jordan.
- Palestine's planned 155 Mbps international link to be established with co-funds from the EC and Talal Abu-Ghazaleh Organization.
- Lebanon's 300 Mbps upgrade of the international link connecting the American University of Beirut to ASREN and GEANT.

The AFRICACONNECT2 Project meeting has witnessed presentations on the development of:

- Egypt's 1 Gbps international link for the ENSTINET (Egyptian National STI Network) and planned upgrades to interlink Egypt University Network via AFRICACONNECT2.
- Tunisian planning for the 1 Gbps international link to GEANT network in Europe.
- Algerian 2.6 Gbps international link for research and education network co-funded by the EC AFRICANCONNECT2 project.
- Moroccan plans for interconnection to GEANT.
- Sudan's coordination with ASREN to setup 1 Gbps international link with Ubuntunet alliance in the eastern and sub-Saharan region.
- Somalia's 155 Mbps planning for international link.

The meeting of AFRICACONNECT2 coordinators: GEANT, ASREN, Ubuntunet Alliance, and WACREN has emphasized on the importance of the pan-African integrated high-speed network to support collaboration among research communities at large.

The Internet2 Special Interest Group meeting has witnessed presentations on the development of:

- United Arab Emirates 155 Mbps linkage to Internet2 via Ankabut and its plans to establish the Arabian Open Exchange point in Fujairah.
- King Abdullah University of Science and Technology dual 10 Gbps international links to Internet2 and GEANT .

- Oman's 155 Mbps international link to GEANT and planning for future upgrades to 1 Gbps.
- AUB's membership at Internet2, and their work in helping develop an NREN in Lebanon .

Specialized technical workshops delivered by partners in Europe have contributed to capacity building and training of professionals from across the Arab region on variety of topics representing a transfer of core knowledge needed to maintain secure and robust high-speed networks and services:

- Serge Droz and Jaap van Ginkel of SurfNET have delivered 2 days workshop on "Computer Security Incident Response Team".
- Michal Prochazka and Jan Oppolzer of CESNET from Czech Republic have given two full day workshop on "Identity Federation".

In their keynote speeches,

- Stéphanie Truillé-Baurens, EC international cooperation officer, identified regional and global cooperation are important means for development and prosperities of societies in an era of information explosion. She outlined the importance of the UN Sustainable Development Goals, with focus on "the spread of information and communication technology and global interconnectedness with great potential to accelerate human progress, to bridge the digital divide and to develop knowledge societies".
- Steve Cotter, CEO of GÉANT, outlined the main challenges and opportunities for research and education networks to respond to changing demands by users and the need to adopt innovative business models. He urged NRENs to focus on delivering greater value added for users and learn from the business world to deliver services more responsively and nimbly.
- Ayman El-Sherbiny, UN-ESCWA's Chief, Information and Communication Technology Policies presented the key issues on today's information society, digital economy and smart development and means towards advancement at the regional and global scales.
- Lars Fischer, Strategy and Policy Officer of NORDUNet emphasized on importance of establishing open exchanges toward the development of integrated and ubiquitous e-Infrastructures. Open exchanges are important building blocks for peering data traffic and for fast access to research and education resources and computing facilities.

The technical sessions of e-AGE 2016 have been designed with more than forty contributions to discuss topics on areas related to:

- e-Infrastructure development in the Arab region with presentation from the Arab NRENs in more than 15 Arab countries.
- Global research and education networking with contributions from ASREN, WACREN, GEANT, Ubuntunet Alliance, Internet2, and CANARIE.
- The Biodiversity case in the global science community.
- Scientific contributions in research, education, and collaboration.

- Experiences of layout of infrastructure and services.
- Trends of Internet of Things and how NREN can impact their advancements in societies.

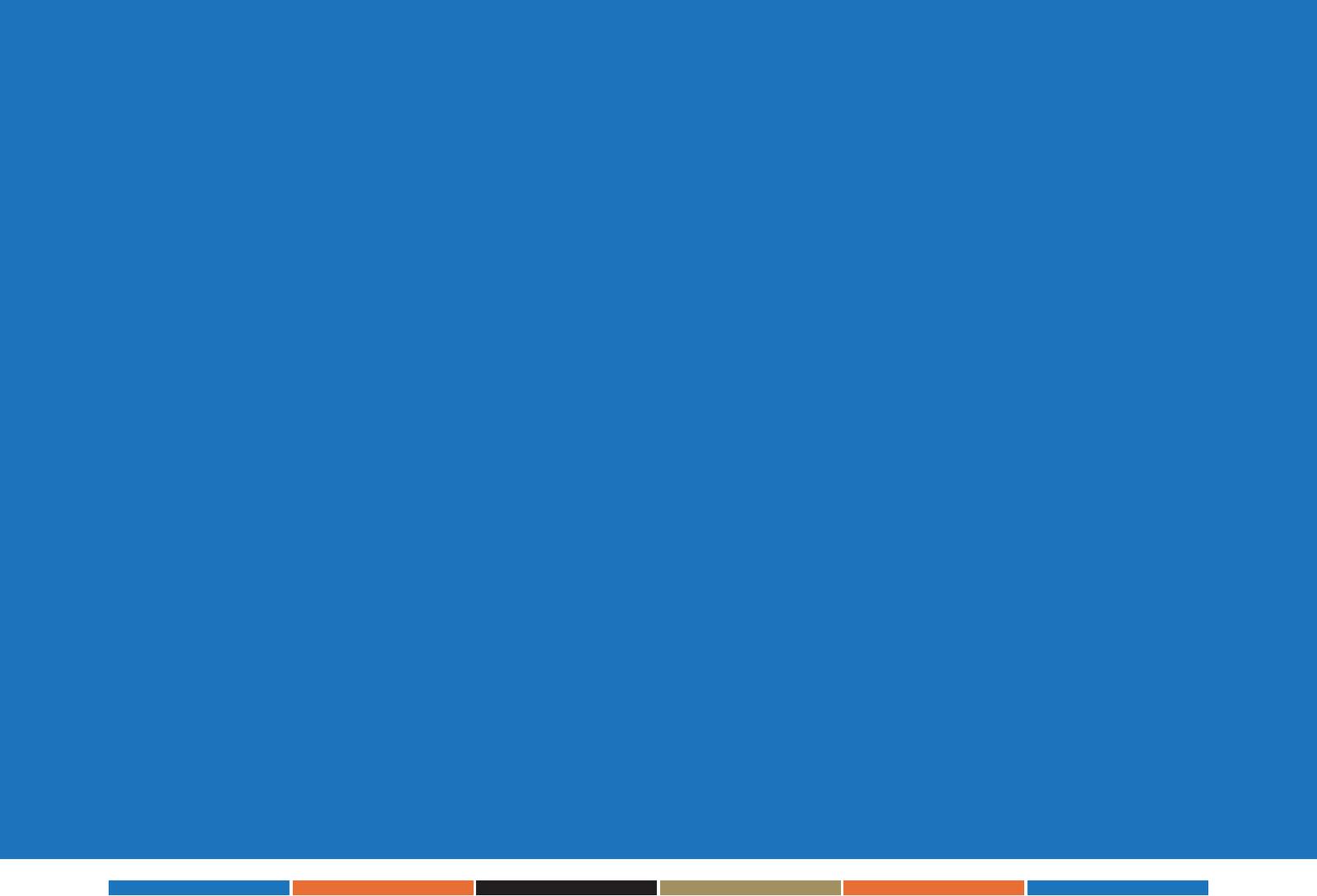
ASREN's shareholder meeting was concluded with the following recommendations:

- Supporting Arab national research and education networks.
- Developing an advanced pan-Arab e-Infrastructure and strengthening research connectivity to make it available for use on a regional scale.
- Developing regional points of exchange, one of them currently operational in London for peering with GÉANT, and two other being established in Fujairah, and Alexandria.
- Deploying services for science and education at the national and regional levels including science gateway, eduroam, and edugain activities.
- Continuing a process of consultation with a task force of experts from ASREN, GEANT, and Internet2 for the following actions on the "Arab Connect" initiative:
 - A comprehensive concept document.
 - Detailed technical design and financial implications.
 - Marketing document for dissemination and outreach.
- Endorsing ASREN's plans for 2017 as follows:
 - Operations and development of network and points of exchanges (Fujairah, Alexandria).
 - Support the development of Arab NRENs.
 - Legally register the new shareholders of the Arab NRENs: Iraq, Somalia, Algeria, Palestine, Oman, and Lebanon.
 - Developing a master plan for awareness of the importance of research in the Arab world for economic and social development such that we may be able to engage decision makers, researchers and the civil society at large towards making scientific research a priority.
 - To develop an action plan explaining the usefulness of the scientific research infrastructure developed by us for all development purposes and engaging research centers at universities and other research institutions to make use of this infrastructure research facility.
 - To define the management model for this facility in such a way that it becomes a constructive tool for creativity, especially by our young generations.
 - To ensure that the network will be strictly used for productive useful research in the fields of educational economic and social development away from counter productive use and strictly for research objectives.
 - e-AGE 2017 will be held at the League of Arab States in Cairo - Egypt during December, 2017 in co-location with AROQA 2017.
- Continuing efforts of e-AGE in a larger audience scale as a manifestation of the sound basis and the respectable sustainability of the dialogue environment towards developing Arab research and education networks.

Closing Highlights

Remin Sedehi, the COO of AUB gave the closing remarks with honors and appreciation to the organizers of e-AGE, AROQA, and OSSCOM conferences and relevant workshops and meetings. He said that these activities are at the core of AUB mission, essentially empowering our best and brightest to achieve their full potential, be they researchers with burning question or students with the desire to shape the world around them.

The organizers have acknowledged the role of each institution and member who has contributed to the success of the conferences, workshops and meetings. It is a hope that they successfully served as effective medium in attaining a convincing environment towards achieving our goals in developing stronger technology, research, and education communities in the Arab region and beyond.



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