ASREN

Arab States Research and Education Network

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Five Lebanese Universities Establish a Lebanese National Research and Education Network (NREN)

At a signing ceremony at AUB on May 28, 2018, five major Lebanese universities signed the Technology Cooperation Agreement for Research and Education (TechCARE). This historic agreement marks the creation of Lebanon's national research and education network (NREN).

TechCARE will connect educational institutions within Lebanon and from Lebanon to the world, allowing for enhanced collaboration and improved e-services for the member universities and their communities of researchers and learners.

At the signing event were President Fadlo Khuri of the American University of Beirut (AUB); President Amr El-Adawi of Beirut Arab University (BAU); President Georges Hobeika of Holy Spirit University of Kaslik (USEK); Vice President for Human Resources and University Services Roy Majdalani of the Lebanese American University (LAU), representing President Joseph Jabbra; and Rector Salim Daccache of Saint Joseph University (USJ). The hope is that this is just the beginning and more universities will join the agreement soon.

Overcoming obstacles with creativity

The road leading to this point was not an easy one, but the obstacles encountered were faced with resourcefulness and creativity. Most NRENs around the world begin with infrastructure in the form of a dedicated network connecting universities and research institutions in a given region or nation. Services are then built on this foundation and institutions begin collaborating. But starting with the network proved to be a major stumbling block. Dr. Yousif Asfour, AUB's chief information officer, explained the novel approach they took to deal with these obstacles.

"Instead of trying to build the physical network so we can build the services and then collaborate, we decided to start collaborating so that we can build the services, and then we can build the network," explained Asfour. "We flipped it around."

Collaboration to advance knowledge

The vision of NRENs around the world— and TechCARE in Lebanon—is that building connections and fostering collaborations between a large number of universities and research institutions is key to advancing knowledge. At the signing ceremony, four of the presidents as well as the heads of information technology at the five universities were on hand and explained what this agreement means to their own institutions and Lebanon as a whole.

"Today, informatics is no longer an option, it is a duty," said USJ Rector Salim Daccache. "A duty that universities have to take into consideration and introduce into their programs in order to benefit our students, and higher education in Lebanon."

LAU Vice President Majdalani, who represented President Jabbra at the ceremony, commented on behalf of Dr. Jabbra that this agreement is "one more step in building a stronger technology infrastructure for students in leading higher education institutions in Lebanon." Adding that, "this is vital to foster more innovations, more communications, and more entrepreneurial endeavors."

Looking to the future, AUB President Fadlo Khuri commented on one of the next steps, which is broadening the membership. "This is further evidence of the level of genuine cooperation between five of the top private universities in the country and our hope is with this step—which will make life easier for our students, faculty, and staff—that the next step will be to work with the major public university in Lebanon," said Khuri.

BAU President Amr El-Adawi also commented on what he hopes the future will bring, saying: "Today's signature is a good start for the five universities and I hope this will lead us to more cooperation in other fields." While a statement from USEK noted that, with this agreement, "USEK will strive to provide unmatched services that will transform the entire educational ecosystem in Lebanon."

Connecting to the world

The purpose of this agreement is not only to connect researchers and students within Lebanon, but also to connect them to the world. Among the foundational services of TechCARE are the connections it provides to the European community—through GÉANT and its EUMedConnect3 program—and the regional community through the Arab States Research and Education Network (ASREN).

David West, project manager of EUMedConnect3,

explained how pleased they were that Lebanon is participating in this EU-funded program.

"GÉANT welcomes the Technology Cooperation Agreement for Research and Education (TechCARE) among Lebanese research and education institutions and is happy to provide the Lebanese R&E community with the benefits from connectivity and services provided under agreements between GÉANT and AUB," said West. "We look forward to a continuing and growing partnership."

In addition to this enhanced connectivity, Asfour told us that the TechCARE group will be working on broadening the membership to include other institutions, libraries, and researchers; and developing other collaboration services.

Source:
https://www.aub.edu.lb/articles/Pages/
techcare-nren.aspx

Call for Papers
The e-AGE18 Conference

The e-AGE conference had established itself as an important venue for networking among experts and scientists. In 2018, e-AGE will be held under the patronage of HE Professor Adel Tweissi, Minister of Higher Education and Scientific Research, in Amman, Jordan during 2-3 December 2018. This year e-AGE is technically sponsored

by IEEE. The focus will be on demonstrating successes in using the research and education e-Infrastructures at national, regional and global levels. In short words, e-AGE18 "CAPACITY FOR TRANSFORMATION" as the main theme of the conference.

e-AGE18 will include events, workshops and meetings centered around the following:
- 11th Event on Euro-Mediterranean e-Infrastructure
- 8th Annual Meeting of ASREN
- EUMEDCONNECT3 Project meeting
- AfricaConnect2 Project meeting
- Internet2 Middle East SIG Meetings
- Workshops dedicated for e-Infrastructures users
- Technical Workshops on R&E networking

Moreover, special sessions will be dedicated to specific domains, mainly focusing on experiences in connectivity and e-Infrastructure, applications and services across a variety of scientific domains. It is also important to show how research infrastructure creates tangible benefits to communities and collaborations. It is still critical to demonstrate how research connectivity can promote collaboration and innovation. Different discussions will be stimulated during e-AGE to drive outcomes and concrete results on practical steps towards developing a regional e-Infrastructure.

Authors are invited to submit full papers reporting on their original and unpublished research in e-Infrastructures and computational and data-intensive sciences. All papers will be peer-reviewed and accepted papers will be published in the event proceedings. Selected papers will be published in a special issue of the International Journal of Advanced Pervasive and Ubiquitous Computing.

Posters are also welcome, an effective poster presentation is not just a standard research paper stuck to a board. It should summarize your work with graphs and images to tell the story and should use text more sparingly. Featuring a poster at e-AGE will serve as an excellent advertisement for your work, and can act as a great conversation starter with e-AGE participants.

Topics of interest include, but not limited to:
- Scientific computing and data-intensive e-Science in areas related to energy, environment, health, climate, water, agriculture, biology, economy, medicine, as well as in social sciences and humanities.
- Perspectives on NRENs, including challenges, operation, sustainability, funding, governance, business models, security and services.
- Problem-solving environments, Virtual Research Environments, Science Gateways and collaborative tools, applications and services.
- Education and e-Learning Technologies, access to educational resources, repositories, libraries and contents, clouds, grids, parallel and distributed computing, and high performance computing.
- Internet technologies and trends, Internet of Things, Security, SDN and AAIs.

For more details, please visit the conference website at:
http://asrenorg.net/eage18/?q=Page/call-participation

New Techs Cut Costs at Pan-European Network GÉANT

European research and education community GÉANT operates a pan-continental network that transfers more than 1000 terabytes of data each day for its 50 million-plus users at 10,000 institutions.

The IP backbone network operates at up to 500Gbit/s and reaches more than 100 national networks worldwide. Through interconnections with 38 national research and education network (NREN) partners, the GÉANT network is considered one of the largest and most advanced research and education networks in the world. Since it was established more than two decades ago, the GÉANT network has undergone many technological advances. Since 2006, Guy Roberts has been at the helm of some changes. As senior network architect he is responsible for introducing new transmission technology; currently he's focused on reducing costs by using Open Line Systems and Data Center Interconnect (DCI) equipment. Recently, Roberts -- who will speak at NGON & DCI Europe 2018 -- chatted with Broadband World News contributor Logan Armendone-Mowbray about 5G, Internet of Things (IoT), the latest cloud services, open line systems and much more. Read on for an edited version of the conversation:

Broadband World News: Tell us a bit more about what you do and your current projects.
Guy Roberts: We are undergoing a major network expansion over the next four years. We plan to extend our optical fiber footprint to reach most European countries. Combined with traffic growth and expectations of price erosion we need new optical network architecture to deliver this

in a cost-effective way. We are leveraging DCI technology by disaggregating the digital and optical parts of the DWDM layer of our network. We have recently chosen Coriant Groove G30 to do this and increase our network capacity. This rollout will begin in the third quarter of 2018.

BBWN: Does fiber play any role here?
GR: GÉANT is also part of a community of European national research networks. We are working with our NREN partners to deploy extensive alien wave (spectrum sharing) solutions to reduce where possible duplication of dark fiber links in Europe. This collaboration is resulting in new ways of working, in particular the introduction of DCI technology is expediting this spectrum sharing.

BBWN: What's the impact of 5G, IoT and new cloud services on optical networking space?
GR: 5G and IoT have little direct impact on GÉANT as we rely on our regional and university partners to connect to users. It's too early to say how this will affect our traffic volumes, but we expect the transition to mobile access will

continue to push up capacity requirements. The largest part of capacity growth in GÉANT over the past 12 months has been from our big science users such as CERN European Organization for Nuclear Research).

BBWN: How do Open Line Systems affect network costs?

GR: Our analysis shows that, under the right conditions, DCI will allow us to deliver 100Gbit/s services at a cost reduction of up to 90% compared to traditional carrier grade DWDM equipment. However, there are several considerations to keep in mind. The carrier grade DWDM performance gained from using GMPLS restoration is not available on DCIs. Also, we need to upgrade our line system to an OLS by implementing ROADMs in our network. The costs of this upgrade are significantly out-weighed by the cost savings of using DCIs; however this system investment will impact costs in the short-term. We see some very competitive pricing in the line system technology, but many vendors are insisting on licencing fees for the use of alien waves, so we need to be careful to account for this cost when considering the total cost of an OLS upgrade.

BBWN: What are your views on disaggregation and integration? Which one do you think presents an opportunity for the optical networking industry?

GR: For me disaggregation in optical networking is about separating the digital and optical parts of DWDM, i.e. DCI and OLS. The DCI technology is relatively simple to manage as it is, in effect, not much more than a media converter from 100G b&w interface to 100G DWDM. Configuration just requires setting the DWDM side transmission wavelength and power. This is not complex. We plan to continue to use our line system provider's NMS for OLS management. In this model integration of the two disaggregated layers is straightforward. To keep this simple we intend to keep the DWDM optical layer relatively static -- circuits are unlikely to use on-demand provisioning. We see on-demand circuit delivery as the role of L2 of the network.

The opportunity here for the optical networking industry is that low-cost data center technology is driving down the cost of building networks which will help stimulate demand and increase equipment volumes. It is too early to know if DWDM pluggables will move in large quantities out of transponders/DCI equipment and start being used directly in routers/switches. Certainly Cisco/Juniper would like to see this, but it's not a model that GÉANT is taking up yet as we see router backplane real estate as too expensive for the low density DWDM interfaces currently available.

Furthermore, there will be an opportunity for network management integration between DCI and OLS. It is not clear if the trend will be towards single vendor solutions to allow for management integration or if third party integrators will pick up the integration role. In the short term GÉANT will take on the responsibility for WDM integration ourselves.

BBWN: How will disaggregation impact the optical network and DCI market?

GR: I expect the traditional carrier - graden

DWDM equipment vendors will be under considerable pressure over the next few years. How they adjust their business models to account for the lower revenues from transponders will determine their future. There is, however, a much better outlook for network providers. GÉANT expects to make considerable savings to our equipment revenues over our next four-year funding cycle.

Source:
http://www.broadbandworldnews.com/document.asp?doc_id=742883

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