

“ASREN is a non-profit company with limited liability (GmbH) and is officially registered in Germany, under the umbrella of the League of Arab States. The main goal is to connect Arab institutions among themselves and to the globe through high-speed data-communications networks. Such networks will enable sharing and access to a variety of R&E services and applications in addition to utilization of highly sophisticated and technologically advanced computing resources available only at very few institutions in the world.”

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Concluding the “8th International Platform on Integrating Arab e-Infrastructures in a Global Environment”



Amman – Under the patronage of HE the Minister of Education, Higher Education and Scientific Research, and chaired by H E Dr. Talal Abu-Ghazaleh, the “8th International Platform on Integrating Arab e-Infrastructures in a Global Environment” and the “10th Annual Conference of the Arab Organization for Quality Assurance in Education” concluded their activities on 3 December 2018. Academics, scientists, experts, and representatives of institutions and research and education networks in Europe, America, Africa and Asia.



The meeting was attended by HE Mr. Sami Al-Salaita, Secretary General of the Ministry of Education, HE Dr. Sabri Saidam, Minister of Education and Higher Education in Palestine, HE Dr. Duaa Khalifa, Director of the Department of Education and Scientific Research, League of Arab States, HE Mr. Andrea M. Fontana, the EU Ambassador to Jordan, and Dr. Abdel Rahim Al-Hunaiti, Assistant Secretary General of the Association of Arab Universities.

HE Dr. Talal Abu-Ghazaleh, Chairman of the Arab States Research and Education Networks and the Arab Organization for Quality Assurance in Education, acknowledged the role of the European Union in co-funding high speed networks in the context of EUMEDCONNECT and AFRICACONNECT projects. These networks have contributed to supporting research and education in the Arab region through interlinkage to the European GEANT research and education network.

A cooperation agreement was signed with the

Palestinian Ministry of Education and Higher Education for cooperation to launch education for innovation in schools. Other cooperation agreements were also signed with the research and education networks in Morocco and Tunisia to establish high speed links for research and education and linking to ASREN POP in London.

A number of case studies have been presented on the status of national and regional research and education networks and their importance in supporting research communities. The development of a comprehensive Arab regional e-infrastructures is needed to advance research and provide access to computational resources and repositories.

Research and networking priorities have been identified, including the development of services, coordination with regional e-infrastructures, and enhanced research and education cooperation in various areas among Arab countries and regional communities in Europe, the United States, Canada, Latin America, Africa.

Abu-Ghazaleh Chairs ASREN Shareholders' Meeting



Amman – HE Dr. Talal Abu-Ghazaleh chaired the shareholders' meeting of the Arab States Research and Education Network (ASREN) at Marriott Hotel in Amman. During the meeting, a number of decisions have been made, including the approval of ASREN's 2017 financial statement and 2019 operational plan. The plan provides concrete steps for the development of pan Arab research and education network and for the implementation of services and applications to research and education communities, including; eduroam, eduGain, Science Gateway, and Identity Federation platforms for seamless access to repositories, computing facilities, and services, worldwide. The success of the EUMEDCONNECT, AfricaConnect and other European funded projects provide a good basis to enhance collaboration between Arab and European scientists, and to promote the development of research that focuses on the use of e-Infrastructures.

The shareholders have emphasized on the importance of integration of Arab e-infrastructures and connection with Europe, the United States, Latin America and Africa through ASREN's exchange point in London. They also requested that ASREN contributes to the development of national research and education networks (NRENs) in a number of Arab countries, including Kuwait, Iraq, Bahrain, Yemen, Libya, Djibouti and Comoros.

The shareholders have encouraged the Arab NRENs to join ASREN as members of the Board of Trustees. The current shareholders will remain the founding members of ASREN.

Some Impressions from e-AGE18



This year ASREN, GÉANT's partner in the Arab region, hosted its flagship event – eAGE18 – at the beginning of December in Jordan's capital Amman, attracting over 150 participants from 35 countries. I confess, I usually find it quite challenging to sit through all the sessions of a two-day event, I tend to 'cherry pick' and get roped into ad-hoc side meetings. e-AGE18 was different. The agenda was of the highest standard, with captivating speakers and ample opportunity for discussion with a very engaged audience. Opening speeches by dignitaries can at times be a rather dry affair, however, Andrea Fontana, EU Ambassador to Jordan, got my full attention – he clearly understands what research and education connectivity is about and how projects such as EUMEDCONNECT3 can catalyse it.

Adapting to the 4th industrial revolution

One of the recurring themes was the need to adapt to the 4th industrial revolution. Artificial intelligence. Automation. Ubiquitous supercomputing. Self-driving cars. Exciting opportunities, but at the same time also the potential for technological unemployment. NRENs have a role to play – that was one of

the core messages in the keynote of GÉANT's CEO Erik Huizer. NRENs can provide the tools and act as the enabler for governments, educators and students to tackle challenges to the educational systems and thus to cater for the individual rather than the mass brain.

Ensuring access to knowledge

NRENs were called upon also by representatives of library consortia in Africa and the Middle East to help ensure open access to knowledge. Diana Naser, Library Director at Birzeit University in Palestine spelled it out: "Libraries need good connectivity, and we need your help". The AfricaConnect2-funded LIBSENSE project sets out to provide this very support: to improve the capabilities of the African HE libraries via workshops to leverage network services and to become effective curators of knowledge.

The voice of demanding users

One of the highlights was listening to scientists involved in SESAME – the synchrotron radiation facility officially opened in Allan, 50km north of Amman, in May last year. Based on the CERN model, it is the largest scientific project in the Middle East, bringing together

physicists from several countries that rarely talk to one another – Cyprus, Egypt, Iran, Israel, Jordan, Turkey, Pakistan and Palestine – but whose scientists are determined to collaborate. Their enthusiasm about the fact that 2 beamlines are now operational was catching and their endorsement for the need of international connectivity for such massive data generators (a single experiment generates 2–3 TB of raw data!) was music to my ears – we must be doing something right!

Catching up

e-AGE18 offered the opportunity to catch up with friends – old and new – across the Arab region. There was a good vibe in the room during the combined AfricaConnect2-North African

cluster/EUMEDCONNECT3/Internet2 Middle East SIG meeting with representatives from across the Maghreb, Eastern Mediterranean and the Gulf States. We were also able to welcome colleagues from Syria and Iraq!

Yes, the picture that emerged was complex and uneven. Some partners plan multi-gigabit upgrades, whilst others are challenged by prohibitive tariffs in unfavourable market conditions (and spending 80% of their budget on telcos!). Yet, there were achievements to celebrate, such as the nascent Lebanese NREN TechCARE, the fact that all North African AfricaConnect2 partner countries now have access to international R&E connectivity, the explicit endorsement of the role of NRENs by the earth observation and high energy physics communities, and the willingness to share best practice and learn from each other, be it in human capacity building, roll-out of services such as eduroam and eduGAIN, promotion or user engagement strategies.

I left Amman inspired and with a feeling of optimism: there are challenges ahead in the Arab R&E networking world – but there is a willingness among the partners to tackle them together!

Source:

<https://blog.geant.org/2018/12/18/some-impressions-from-e-age18>



GÉANT Implements a 300Gbit/s IP Link Using the Latest DCI Equipment



Reducing costs and increasing capacity with alien wave technology

GÉANT has in December implemented a 300Gbit/s POP to POP link on the backbone network using Infinera G30 Groove DCI equipment. This link, between the two London POPs, is the first step in upgrading the GÉANT ‘Western Ring’ (London – Brussels – Amsterdam – Frankfurt – Geneva – Paris – London) to provide a 300Gbit/s DCI loop. This will reduce the overall costs of the network, increase capacity and free up valuable equipment to extend the life of the Infinera switching fabric in advance of the next generation GN4-3N project.

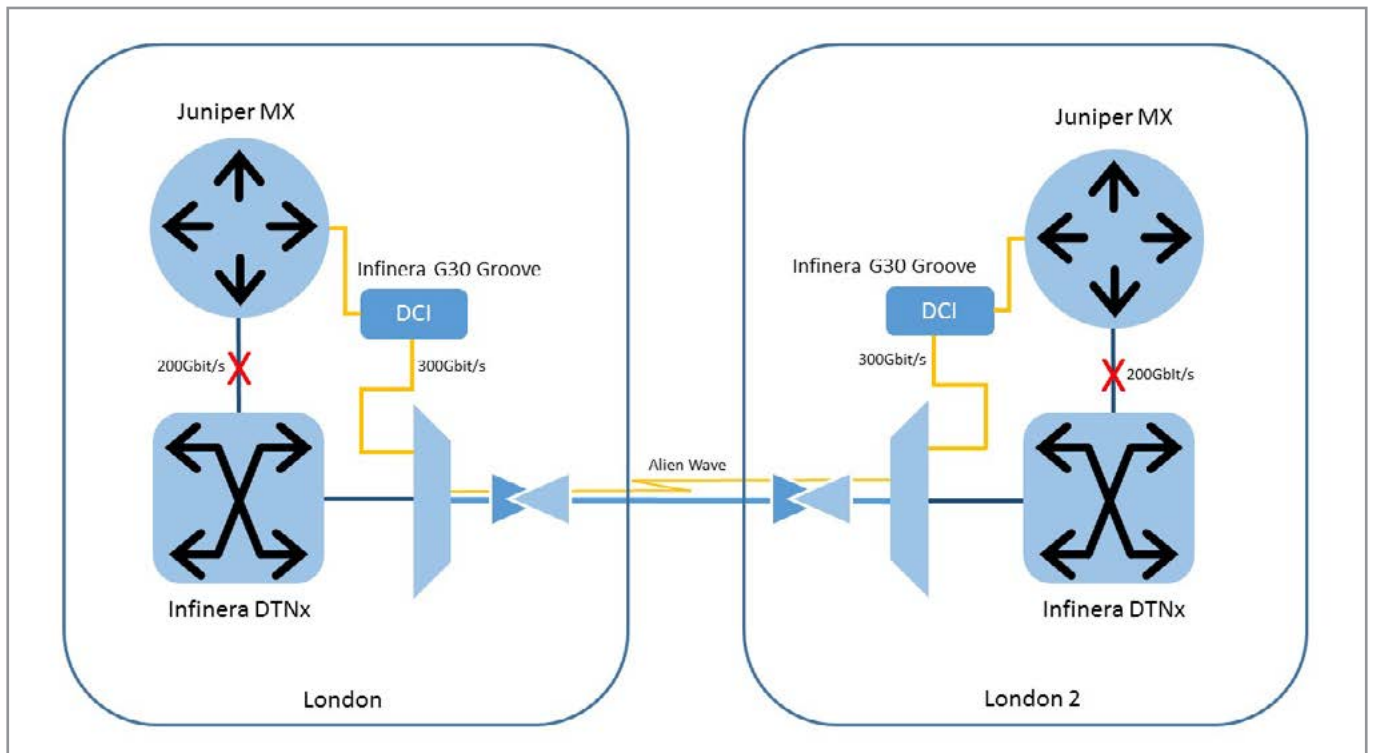
<https://www.geant.org/gn4-3n>

Previously, IP connectivity between the London POPs was managed through a 200Gbit/s connection via the Infinera DTNx. This connection used multiple interfaces on the DTNx chassis, which were reaching capacity. This service now operates using a pair of Infinera G30 Groove DCI (Data Centre Interconnect) devices running at 300Gbit/s and directly connected to the Juniper MX routers. The outputs of the DCIs are then inserted into the existing fibre connection using Alien Wave technology (a parallel light channel using a different frequency to separate it from the existing DTNx interconnect)

Implementation of DCI interconnection using alien wave services

This update has three major benefits:

- It releases up to 200Gbit/s of extra capacity on the current 500Gbit/s London to London2 link for other services;
- It frees up 100Gbit/s Infinera interfaces that can be reused in other parts of the network;
- It avoids the need to upgrade the Infinera DTNx switches, which are reaching capacity.



This work also helps GÉANT and the wider R&E networking community gain experience in these innovative techniques and technologies to assist in the planning and implementation of the next generation of research and education networking worldwide.

Moving forward to GN4-3N

The innovative use of DCI equipment and alien wave technology is a pathfinder for the future implementations of these solutions within the GN4 Phase 3 Network (GN4-3N) project.

GN4-3N will involve restructuring the GÉANT backbone network through exploration and procurement of long-term Indefeasible Rights of Use (IRUs), leased lines and associated equipment, serving the GÉANT partner NRENs and providing interconnectivity to the global research and education community.

This new way of thinking will enhance the ability of GÉANT to offer a range of IP and Layer 2 services in cost-effective and flexible ways. It will be an essential approach to ensuring the long-term success of this major re-development of the GÉANT network and will support the growing demands of research and education.

Source:

<https://blog.geant.org/2018/12/18/geant-implement-a-300gbit-s-ip-link-using-the-latest-dci-equipment>

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