ASREN
Arab States Research and Education Network

NEWSLETTER

HRH PRINCE EL HASSAN BRIEFED ON REGIONAL E-CLOUD

ASREN HOSTS 3RD EUMEDCONNECT3 MEETING, AMMAN

FEDERATION OF IDENTITIES WORKSHOP, AMMAN

RESEARCH AND EDUCATION NETWORKS TACKLED
AT THE 2ND ARAB IGF

THE COMPUTING CENTER AL KHWARIZMI TO HOST
E-AGE 2013 IN TUNISIA, 12-13 DECEMBER 2013

ASREN PARTICIPATES IN THE ITU ARAB DEVELOPMENT FORUM

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Arab States Research and Education Network

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HRH Prince El Hassan briefed on Regional E-cloud

HE Dr. Talal Abu-Ghazaleh, Chairman of ASREN, presented a report to the Prince on "Talal Abu-Ghazaleh E-cloud" project for West Asia and North Africa, which is being launched by Talal Abu-Ghazaleh Organization (TAG-Org).

HRH hoped that this project will contribute in reducing dependency on abroad in the areas of Information and Communication Technology (ICT). HRH also called on establishing an Arab database which will be used as a reference when determining priorities and formulating national policies.

The E-Cloud project provides e services to all TAG-Org's offices around the world with a the latest global technology. It includes specialized funding organizations, which will contribute in establishing an Arab database that will serve all productive, economic and service sectors especially the institutions that are concerned with developing the educational, training and capacity building sectors.

ASREN Hosts 3rd EUMEDCONNECT3 Meeting, Amman

Under the patronage of HE Dr. Talal Abu-Ghazaleh, Chairman of the Arab States Research and Education Network (ASREN), the 3rd EUMEDCONNECT3 meeting and a series of workshops on e-Infrastructure technologies were held in Amman, Jordan on June 17-19, 2013.

Representatives of national research and education networks from Morocco, UAE, Algeria, Libya, Oman, Egypt and Bahrain as well as representatives of European institutions from UK, Italy, The Netherland, Ireland, and France have actively participated.

The pan-Arab e-Infrastructure network has grown widely during the past two years, interconnecting to global research networks and allowing Arab scientists seamless access to resources and services through federated and dedicated high-speed networks.

HE Dr. Abu-Ghazaleh said: "We are proud to see today an evolving pan - Arab e-Infrastructure serving scientists across the region with high speed connectivity and access to variety of scientific resources and services. Without the support of the European Commission and the League of Arab States, this could not have been possible".

Professor Federico Ruggieri, Coordinator of CHAIN-REDS project, from INFN Italy, said: "We work with Europe, Latin America, Africa, China, India, and the Arab region to consolidate interoperability of their e-Infrastructures and facilitate seamless access to data repositories, scientific applications, computing facilities, and research cloud infrastructures. Today's meeting is about harmonization of our efforts to support Arab young scientists."

Mr. David West, Coordinator of EUMEDCONNECT3 project, from DANTE UK, said: "It has been my great pleasure to have worked for the Mediterranean region since 2004 with funds from European Commission to build high-speed dedicated networks serving more than 2 million scientists across the region. We see our efforts expanding to the Arab region, as a whole."

It was concluded that dedicated connectivity is critical to our young scientists and researchers if Jordan and the Arab world will keep in pace with the world e-Infrastructure development, which has reached in some regions to 200 Gigabits per second dedicated connectivity for research and education. By far, the Arab world still lacks basic connectivity and barely has reached half Gigabits per second dedicated international connectivity. It is worth mentioning that the series workshops are conducted by experts from TERENA to put more emphasis and build capacity on identity federation management, to be deployed across the Arab region along with a region-wide Science Gateway deployment.

UNESCO and TAG-Org Issue A Report on ICT in Education

Importance of ICT in Education is Gaining Ground; Governments are Increasingly Including Its Integration in Education

The report focuses on major issues that tackle the gap in ICT integration which can be summarized according to the following points: learner-to-computer ratio; and learner-to-computer connected to the Internet ratio

Talal Abu-Ghazaleh Organization (TAG-Org), the United Nations Educational, Scientific and Cultural Organization (UNESCO) and UNESCO Institute for Statistics (UIS) issued a comprehensive report on ICT in Education in five Arab countries: A comparative analysis of ICT integration and E-readiness in schools in Egypt, Jordan, Oman, Palestine and Qatar.

The report which was issued in a special ceremony at Talal Abu-Ghazaleh Knowledge Forum provides a snapshot of ICT integration in education in the abovementioned countries which have made great efforts to control the power of ICT to help meet many development challenges, including those related to education as some countries are still far behind and need to put more effort to implement ICT in their crucial education systems.

The report focuses on major issues that address the gap in ICT integration which can be summarized according to the following two points: learner-to-computer ratio; and learner-to-computer connected to the Internet ratio.
Data shows that in Egypt and Palestine, 120 and 19 students on average, respectively, share a single computer in primary education. Meanwhile computer resources connected to the Internet are more overstretched in primary education as the learner-to-computer connected to the Internet ratio increases to 441:1 and 41:1, in Egypt and Palestine, respectively.

According to the report, in the Arab states, the implementation and use of ICT in education often lags behind other social and economic spheres, including communications, employment and commerce. In fact in many countries in the Arab states, children and youth learn more about how to use various ICT tools informally outside of the school system.

The report also tackles the types of Internet connectivity, which is a prerequisite for the integration of ICT-assisted instruction using the Internet; an analysis of basic Internet connectivity is primordial in determining a country's level of preparedness. In Qatar, where resources are unevenly distributed between the public and private sectors, 55%, 40% and 62% of total primary, lower and upper secondary schools, respectively, are connected to the Internet. Meanwhile, in Palestine, where about one third of schools have Internet connections, all are via fixed broadband. In Oman and Jordan, where different types of connections coexist, more than one-half of Internet connections are via fixed broadband.

In general, Jordan, Oman and Qatar have much higher levels of integration of ICT-assisted instruction and the essential infrastructure, including basic hardware (i.e. computers) and Internet connectivity, than Egypt and Palestine. While learner-to-computer ratios (LCRs) are relatively low in Jordan, Oman and Qatar (i.e. 15:1 or less), indicating that fewer children share a computer, they are much higher in Palestine and especially in Egypt, where 120 children on average share the same computer.

The current report also provides a comparative analysis of ICT integration in the five targeted Arab states by looking at four specific types of data: i) use of ICT in policy and key curricular areas (mathematics, sciences, computing, arts, as well as first and second language learning); ii) ICT infrastructure to support the integration of ICT in educational institutions (access to ICT and connectivity); iii) participation in programs offering ICT; and iv) teacher's use of and training on how to use and teach ICT in the classroom.

HE Dr. Talal Abu-Ghazaleh, Chairman of ASREN, highlighted the efforts in issuing the report commending the partnership between TAG-Org and UNESCO in this strategic project saying:"In phase one we started conducting a survey to find out the use of information and communication technology in the input and output of education through the work of accurate census according to the criteria of State for Statistics as well a joint team representing TAG-Org and UNESCO in the second phase to complete the survey in the rest of the Arab countries, and in the third phase will examine the results of the survey with the ministries and institutions concerned, to assess what has been achieved and research gaps and shortcomings and what measures should be taken by the decision-makers."

Dr. Abu-Ghazaleh thanked Ms. Costanza Farina, UN Resident Coordinator and UNDP Resident Representative in Jordan for attending the event stressing that this project came in response to directives of His Majesty King Abdullah II Bin Al-Hussein and Queen Rania Al-Abdullah, saying: "We are in a position that needs a lot of effort to get good result, especially in Jordan and called on the government to enter into real programs," adding "we need a lot of change is our responsibility all thought leaders, and the private sector, the media, and education so that our future is linked to this topic."

The report concludes that through global initiatives, such as the Millennium Development Goals and the World Summit on the Information Society, the importance of ICT in education is increasingly gaining ground. Governments are increasingly including the integration of ICT in education, enhancing infrastructure, and training human resources into national policies in order to develop their educational systems.

Federation of Identities Workshop, Amman

ASREN, in cooperation with EUMEDCONNECT3 Project and TERENA hosted a technical workshop on building federation of identities infrastructure in Amman, 17-19 June 2013. This hands-on course is aimed at enabling NRENs and Campuses to setup Federated Identity Infrastructure in their own environment, and how to best pass that knowledge to their broader constituencies in their own language.

Historically, IP-based authentication has been a common mechanism for accessing external resources but denies a user access when working off campus. Shared accounts have solved the off campus issue but don't allow personalization of a resource. These approaches are simplistic and fail when staff, students and researchers are off-campus, need to access collaborative resources intended for an individual user or want to use a resource intended for a specific group of users.

Federated Identity Infrastructure allows campus authentication systems to integrate with a wide variety of services on campus, within your country and beyond.
The workshop was attended by representation from Bahrain, Algeria, Libya, Egypt, UAE, Oman, Morocco, Palestine, South Africa and Jordan.

Over two and half days, both trainers and participants shared thorough technical discussions on establishing a national federation of identity infrastructure in their countries. In addition to the technical discussions, participants discussed planning on sharing knowledge and experience towards establishing a pan Arab Federation of Identities Infrastructures and to integrate it with the world wide federation services.

The workshop was followed with short overview on Eduroam and Edugain which are the main services that can be use the federation of identity infrastructures. Some participants decided to implement Eduroam in their organizations and to discuss joining Edugain.

Research and Education Networks
Tackled at the 2nd Arab IGF

Algeria 1-3 October 2103. The 3-days second Arab Internet Governance Forum (Arab IGF) had been successfully concluded in Algeria with several themes discussed through five main panel sessions and twelve workshops. One of the main topics discussed was the role and the importance of Research and Education networks as these networks represent a substantial percentage of Internet users in the Arab World.

In the main session on "Access: Infrastructure & Critical Internet Resources", Yousef Torman talked about the status of R&E infrastructure in the world in general and in the Arab region in specific. He pointed out that some Arab Countries have National Research and Education Networks (NRENs) in place and that some other countries started planning for NRENs, while some others do not have plans yet. There is no network that connects the ARAB NRENs at the regional level except the network provided by the EUMEDCONNECT3 Project which provides partial EC funding to connect some Arab Mediterranean countries to GEANT2 network. He pointed out the role Arab states Research and education Networks taking in assisting those countries with no NREN to develop their NREN and then to connect all Arab NRENs at the regional level.

Yousef concluded his talk with the invitation to governments, policy and decision maker, regulators, League of Arab States, ESCWA, ICANN, ISOC and others to support the developments of NRENs in the Arab countries and emphasized the importance of working together to provide the best service to the R&E sector which represents a substantial percentage of the Internet users in the Arab region.

Among 12 workshops conducted in the 3-days event, the workshop on "Community Networks for Research and Education and Health" was attended by the highest number of participants during the forum. This session was arranged by MPICT of Algeria, Arab States Research and Education Network - ASREN and Algerian Research Network - ARN.

Yousef Torman introduced ASREN history, vision, mission and objectives. He also presented progress and activities ASREN achieved since it was launched at the League of Arab States and presented the services ASREN is planning to provide with focus on connectivity through the first ASREN PoP in London in cooperation with DANTE and ISOC, and the first Arab Giga PoP in UAE in cooperation of Ankabut, the advanced

R&E network of UAE. ASREN is also working with CHAIN-REDS Project to establish the Arab Science Gateway and federation of identity infrastructure in cooperation with University of Catania science gateway.

Dr. Iman Abu El Maali, CEO of the Sudanese Research and Education Network (SudREN) presented the role of NRENs and how NRENs should be developed with emphasis on the role of the government to fund the initial investments and that the NRENs should have their own sustainability approach either through subscriptions or through the services provided to the universities and research organizations connected.

The Sudanese Research and Educational Network (SudREN) is the NREN of Sudan. In 2004, It was founded as a Virtual Library project initiated by some university Vice-Chancellors and funded by the Ministry of Higher Education and the Universal Fund. The network was established using Frame Relay technology providing 4 Mbps of Internet to 27 public universities. Now SudREN is an NGO operational under the umbrella of the Association of Sudanese Universities. The network is developed to be based on the national optical fiber connecting 45 public and private universities and research centers. The BW is 100 fold in 2013; SudREN provides its members 2 STM-1 for the Internet and STM-1 connectivity to GEANT through UbuntuNet Alliance router in London. In its international relationship, SudREN is an active member of UbuntNet Alliance in Africa and a shareholder of ASREN in the Arab region.

Aouaouche El-Maouhab, Director of Algerian Research and Education Network (ARN), presented topics related to open access to Internet for the education, research and health communities. These aspects are related to open environments that are developed and shared freely by the scientific community in the world. These resources are not only related to data as open archives and open data, but also free and open source which are considered as a key for facilitating innovation in many fields and are also being the practice in GRID middleware and GRID applications. In terms of sharing and mutualizing resources through network infrastructure, Aouaouche El-Maouhab presented the idea to widen the NREN community in Algeria to all education sectors including health and to let all these communities benefit from facilities offered by Algerian NREN « ARN ».

Ali Bouali from Heath sector in Algeria presented briefly description of Health Network and focused on e-health services which are being used or are planned to be deployed. Finally, Mustapha Lounis from Algeria Telecom operator gave a short view about infrastructures deployments in the different sectors related to the topic of the workshop and agreed also on the necessity to mutualize infrastructure resources.

About Arab IGF

The Arab internet governance Forum is one of the most important Arab events as it is the regional edition of the world internet governance Forum, which was established by the UN world Summit on the information society, Tunis 2005, and entered into force as a system since 2006. This Forum has been established at the initiative of the ESCWA and the Arab League, and all parties working in internet field work together within it in order to sort out efficient solutions to the most important issues regarding internet in the region www.igfarab.org

ASREN Participates in the BoF at TNC 2013

CHAIN REDS project organized a BoF during the TERENA Conference 2013 (Tuesday, 4th June). The major purpose of the BoF was to provide a forum for presentations about status of deploying the Identity Federations through the world and in the same time to expose the speakers to the international community that regularly participates at the TERENA Conference.

Ludek Matyska, CESNET and Masaryk University, Czech Republic

Major part of the BoF consisted of presentations given by speakers from several world regions (China, Africa, Arab and Mediterranean countries, Latin America), providing up to date status and experiences with deploying distributed authentication approaches. This was followed by a shorter discussion.

Ludek Matyska provided a brief introduction of CHAIN-REDS and presented main topics of the BoF. Then Sijin Qian (CERNET) presented status of CARSI and its connection to project CALIS which looks like a very promising solution for China's academic Identity Federation (IF) because of its scale. Siju Mammen (CSIR) showed how IF can be made using top-down approach, which is not common in most of countries, however it can be very inspiring for others to follow. Brook Schofield (ELCIRA) presented how far they are in deploying Eduroam, IF and eduGAIN in Latin America. Eduroam currently drives well in building up the identity federations then SAML based IF. Yousef Torman (ASREN) described ASREN and cooperation with INFN on deploying Science Gateways and IdPs.

Tiwonge Banda (Ubuntunet Alliance) mentioned NRENs in Africa which are part of the project of deploying certificate authorities and identity federations. There was also presentation of Perun system which can help with establishing IF, because it provides tools to manage user's enrollments, group management and resource management which are essential for IF/CAs. The system is available as a service, with no additional needs on the institution/research community side.

Some important notes from the BoF:
· China will probably have more than one IF, so we need to cope with that as it can be the case for other countries too.
· Top-down approach presented by Siju looks very promising for national IF.

- There are two types of IF (from technical point of view), hub&spoken and meshed. There is no clear answer which is better, because it depends on local conditions (technical and legal).
- When establishing a federation, prepared templates for policy documents can be downloaded from eduGAIN.
- We should promote Eduroam as well, because this type of service is really cool and it is much easier to understand how it works and then it is very small step towards web based IF. There is endorsement from Miro Milinovi?, who is Eduroam task leader within GN3, to implement Eduroam in the countries of CHAIN REDS interest, even if the otherwise required reciprocity won't be provided from the beginning.
- Jens Jensen from EUGridPMA offered help with establishing certificate authorities in partner's countries, they are very interested in having those CA accredited by the IGTF.

MoU signed between DANTE and NSRC to support NRENs across the globe

Networking organization DANTE and the Network Startup Resource Centre (NSRC) - two of the world's leading agencies responsible for developing and connecting national research and education networks (NRENs) around the world - have signed a partnership agreement to formalize and further develop their collaboration across the globe. This new step in their longstanding working relationship has been welcomed with great enthusiasm by both parties and is expected to lead to an expansion of their joint activities to give a helping hand to the many NRENs being set up in emerging regions such as Sub-Saharan Africa, South East Asia and Central Asia.

The Network Startup Resource Center (NSRC), based at the University of Oregon, provides network engineering assistance and technical training to improve Internet access in Africa, Asia, the Pacific Islands, Latin America, the Caribbean and the Middle East. By strategically working for more than twenty years with universities, research institutes, Internet Service Providers, Regional Internet Registries, government agencies, supranational agencies, industry, private foundations and non-governmental organizations, the NSRC helps to develop national and regional networks for collaborative R&E partnerships. Steve Huter and his enthusiastic team provide hands-on training to university network and NREN engineers to help them optimize network performance, covering topics ranging from network design, to routing and switching, to installation of network monitoring and management tools, to implementing network security practices and deploying wireless networks. The NSRC is partially funded by the US National Science Foundation, Google, and Cisco Systems, with additional contributions from dozens of public and private organizations.

This capacity building effort at campus and NREN level complements DANTE's expertise in procuring and implementing data communications infrastructures for the dedicated use by the R&E communities across the world: DANTE provides the regional network infrastructure working with the NREN partners in each country, NSRC's primary focus is to help connect universities and research centers to get the best out of the dedicated network capabilities.

Over the next few months Steve and his colleagues will be travelling extensively across Sub Saharan Africa to support the UbuntuNet Alliance countries in their effort to set up a regional R&E network. Efforts are also underway to work with the West and Central African Research Network (WACREN) to improve technical capacity in the community. In addition to this long-standing commitment towards expanding Internet access in Africa, the NSRC team is exploring synergies and collaboration opportunities with other regional networking projects DANTE is involved in. Under the new agreement, DANTE and NSRC plan to identify needs and develop joint programmes for supporting EUMEDCONNECT in the Mediterranean (in conjunction with ASREN), CAREN in Central Asia, TEIN (in conjunction with TEIN*CC) as well as further support Africa via AfricaConnect (in conjunction with the UbuntuNet Alliance and WACREN).

"We are very excited to work with NSRC, as it is a truly global facilitator for R&E networking in emerging regions. Both DANTE and NSRC are driven by the same philosophy: our activities are not just about computers and routers, but also about people and human networks that develop and use the connectivity. I have seen Steve and his team in action in Africa and Latin America. I now look forward to this inspiring team work in other parts of the world in support of research and education at the margins." **Cathrin Stover, Chief International Relations and Communications Officer at DANTE**.

"This is an opportune time to leverage the numerous investments happening in the global R&E network fabric. We are delighted to work more closely with DANTE and numerous regional partners around the world to enhance the substantial contributions by the European Commission to improve network connectivity and infrastructure. In working together more closely, I believe we can more effectively support our international colleagues with their activities to build affordable, sustainable university networks and RENs." **Steven Huter, Director of the NSRC**

The Computing Center Al Khwarizmi to host e-AGE 2013 in Tunisia

e-AGE 2013 will take place in Tunis, Tunisia, 12-13 December 2013 Under the Patronage of HE Minister of Higher education and Scientific Research hosted by The Computing Center Al Khwarizmi (CCK)

Integrating Arab e-infrastructure in a Global Environment e-AGE, is an annual international platform conducted by ASREN. Since launched in December 2010 at the League of Arab States, it was decided to have this annual activity moving from one Arab Country to another. e-AGE comes in line with ASREN's major objectives related to creating awareness, promoting R&E collaboration and joint activities and establishing human networks in order to facilitate collaboration and cooperation among researchers and academicians in the Arab region and the rest of the world.

e-AGE is meant to be the launching pad for R&E connectivity and cooperation. It brings together ASREN, EUMED, GEANT, AfREN and INTERNET2 stakeholders and region's foremost innovators, leaders, scientists, and businesses to discuss and debate new models of innovation, integration of R&E networks, policies for sustainable development in education, means of knowledge sharing and dissemination, capacity building programs, and region-wide e- infrastructure deployment to tackle today's crises in climate change, global economy, food, water scarcity, alternative energy, and threatening environmental issues. The forum can lay the foundation for a dream of many of today's leaders towards a global e-infrastructure for R&E based on real life broad inclusiveness beyond any political protocols.

Now, and after 2 years of success in bringing together high level and wide range of participants from many countries around the world, e-AGE 2013 is planned on the basis of three main themes: Connect --› Access --› Innovate

Connect: Facilitate connectivity through a high-speed network to allow scientists to communicate, collaborate, exchange, and run both data and computational-intensive scientific applications and services. The objective is to scale up broadband dedicated networks with a growing focus on cross-border connections and regional peering. Several initiatives can be introduced to support reforms, e-Infrastructure sharing, and open access models.

Access: Enable seamless access to data, services, applications, and resources related to science and education. e-AGE 2013 will be a platform to explore access opportunities and services that can be provided to research communities in a federated context. Case studies and best practices will be demonstrated on federated access, science gateway, cloud and grid computing, data repositories, and other related resources and services.

Innovate: High-speed networks and wide access represent enabling environments for students, researchers and scientists to innovate for greater competitiveness across industries towards wealth creation through knowledge economy.

ASREN is becoming more visible and more active in the region and beyond. It has developed a new shareholder scheme with more Arab NRENs joining as well as more supporting organizations. Following on the success of e-AGE in 2011 and 2012, e-AGE 2013 will include more events, workshops, meetings centered on the following:
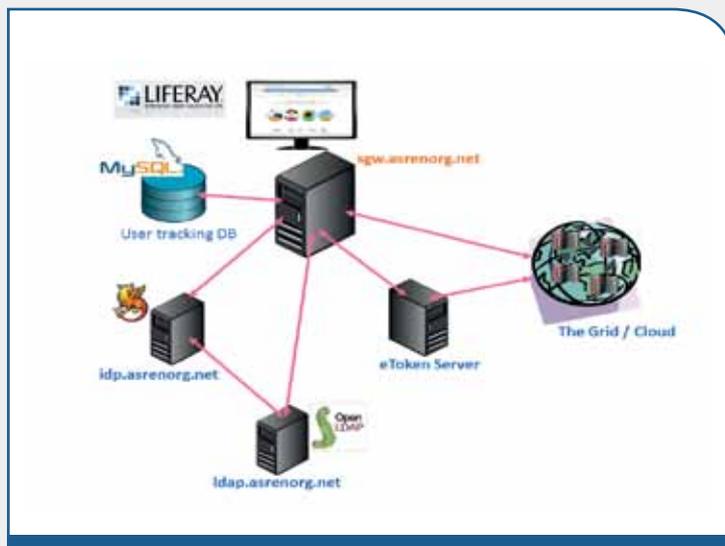
· The 6th Event on Euro-Mediterranean e-Infrastructure
· The 3rd ASREN event, eAGE 2013
· Workshop on NREN NOCs by NSRC
· CHAIN-REDS Workshop
· EUMEDCONNECT3 Meeting
· AROQA ACQUIN Workshop
· AROQA 6th Conference

Moreover, special sessions will be dedicated to specific domains, mainly focusing on experiences in connectivity and e-Infrastructure, applications and services in variety of scientific domains, and case studies with impact indicators and measures.

It is also important to show the benefits of research infrastructure to communities and collaboration. It is still critical to show 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.

ASREN Science Gateway

Deployment of science gateway is taking place at sites in Jordan, Egypt, Algeria and Morocco. The science gateway server installs Liferay with federations made through idp.asrenorg.net and authorization through ldap.asrenorg.net. All users login to sgw.asrenorg.net, and when authenticated and authorized for use, ASREN eToken server issues the proxy certificate needed for Grid transactions.

Our goal is to implement, manage and extend sustainable Pan-Arab e-Infrastructures dedicated for research and education communities. This will provide vital resources for the deployment of services that are authenticated for access to a large group of Arab scientists in more than 1,000 institutions.

Several efforts has been and can still be made to stimulate interest and increase usage of e-Infrastructures across the region. These include region-wide awareness campaign on computing resources, services, and applications that are available to scientific communities as well as allocating funding on projects that are computationally intensive to address problems and issues of regional importance.

Testing has been demonstrated using the EMI-gLite-based e-Infrastructure layout at INFN Catania. A Java multi-platform client has been developed and configured for inter-service communication via HTTPS. In order to improve performance, the server is built on top of the Apache Tomcat Application Server and configured to accept requests only from a set of authorized "clients" (i.e., the Science Gateways). The grid proxies generated by the server on request and are accessible by a Representational State Transfer (REST) API. The adoption of Apache Tomcat as an Application Server ensures scalability and high performance, with a cache mechanism implemented at the eToken Server.

DANTE celebrates 20 years of networking excellence

Cambridge, UK - 10 July 2013. DANTE (Delivery of Advanced Network Technology to Europe) marked its 20th anniversary in delivering networking excellence to the global research and education community.

DNTE was founded in 1993 as a not-for-profit organisation to provide a high-speed internet network for the European research community. Since then DANTE has created and managed four consecutive generations of this network and today, the world-class GÉANT network is used by the European Commission as a blueprint for funding similar networks all over the world.

Neelie Kroes, Vice President of the European Commission, said: "I give my full congratulations to DANTE for 20 years of networking excellence. DANTE's work is essential to the European and global research community. World-class internet networks, through GÉANT and the regional networks it manages, is fundamental to realizing the EU's 2020 vision for the European Research Area, and key to helping us tackle societal challenges such as food and energy security, health and aging, and environmental protection. DANTE has my full support and well wishes to continue its innovative journey in support of research and education, across Europe and beyond."

DANTE building a global village

DANTE has played a crucial role in enabling the profound change that high-speed networks have had on research and education in the last 20 years. By building and managing these high-capacity infrastructures, DANTE is creating a global village for millions of scientists, students and researchers to work together.

DANTE continues to plan, build and manage these very large-scale global projects on behalf of the European Commission and Europe's National Research and Education Networks (NRENs): the Mediterranean (EUMEDCONNECT), Sub-Saharan Africa (AfricaConnect), Central Asia (CAREN) and Europe-China collaboration (ORIENTplus). DANTE also supports R&E networking organisations in Latin America (RedCLARA), Caribbean (CKLN) and Asia-Pacific (TEIN*CC).

Two decades of research and education networking

Co-founders Dai Davies and Howard Davies, author of "History of International Research Networking – The People who Made it Happen" which charts the history of R&E networking, said: "We have come a long way in 20 years. In 1993 we were building networks with 64 Kbps connections. Today we use 100Gbps a factor of one and a half million increase. But it is not just about technology, services play an increasing role enabling all researchers, not just the technically literate to benefit from R&E networks. It is difficult to believe now, but in 1993 e-mail was a new service. Today we offer many more advanced services allowing researchers to manage their own network needs."

Highlights / facts:

The network operated by DANTE has a total global reach of 203,940 Km - that's enough fiber to stretch around the earth five times.

The total capacity of pan-European network, GÉANT, represents 100 times the world telephone requirement. That's 100 x 12,400,000,000 (12 billion) calls per day or a capacity of 1.2 trillion calls per day !

DANTE then and now

	1993	2013
Location	Lockton House, Cambridge	City House, Cambridge (only 100 metres away)
Number of staff	8	70
Annual turnover	€3 million	€50 million
No. of countries connected	9	50
Access capacity	64 kbps	100 Gbps
Data equivalent	1 x phone call	1,560,000 phone calls at one time

UNESCO-HP meeting

10-11 September 2013 - Representatives from higher education and research institutions from Africa and the Arab States gathered on 10 and 11 September in Paris for the meeting of the UNESCO-HP Brain Gain Initiative (BGI). The BGI mobilizes concurrent trends – mobility, internationalization – and the emergence of advanced IT tools to foster cooperation across borders among academics, researchers and students. The workshop served to highlight achievements, to reinforce links among participants and with regional stakeholders, and to reflect on the way forward.

Ms Carla Khater and Mr Ziad El Bitar presented the two-pronged BGI project at St Joseph University (USJ, Beirut, Lebanon), which comprises an "e-flora" database and has also helped reopen the link between EGI, the European Grid Initiative, and Lebanon. Through USJ, Lebanese academics, researchers and students are now able to leverage significant computing resources for astronomy, bioinformatics, genetics, medical physics, etc.

Mr Paul Manuel from Kuwait University presented research results of the nanotechnology-focused BGI project at the University, and recalled its focus on international cooperation. Notably, collaboration with ASREN resulted in the deployment of a first grid node at Kuwait University. Mr Manuel highlighted the strong institutional commitment to sustainability, as well as the alignment with governmental plans to develop cloud computing in education.

Mr Nabil Talhaoui from CNRST (Rabat, Morocco) presented MARWAN, the Moroccan NREN, and MaGrid, the national grid infrastructure. Participation in the BGI has improved infrastructure and services, reinforced awareness and use of the grid, and has also contributed to strengthening international cooperation.

Speaking on behalf of ASREN, Mr Talhaoui highlighted next steps in the Arab States, including the extension of NREN services to universities in Jordan, the current work with Algeria, Egypt and Morocco, and a proposal, to be announced the same day in Doha, for a Pan Arab Federation of identities infrastructures. Finally, he warmly invited all participants to e-Age 2013 in December 2013 (Tunisia).

ASREN participates in the ITU Arab development forum

28 October, 2013 , Manama, Bahrain - ASREN participated in the ICT for Quality Education Session, outlining the importance of e-Infrastructures in supporting research and education. The session deliberated on the ICT as a catalyst to build quality education, how it can be channeled to create real knowledge transfer that will generate a positive impact on the education system, especially in developing countries. The education of today is no longer dominated by the traditional-content experience, but focused on radically different tools and interactive student-centred services. This Session addressed the pressing issues and challenges related to the education in terms of infrastructure and access, applications, content and training issues.

A wide range of issues, trends, challenges and opportunities relevant to Arab region were discussed. The following presents a summary of the statements of the panelists:

Education has changed over time due to the introduction of ICT, in particular Adult Education. New kinds of skills and knowledge have emerged, but also have challenges. National, regional and international strategy is most important to address these challenges.

Education of today experiences transition from e-learning to smart learning which emphasizes the knowledge sharing. In order to accelerate this transition in the Arab region there is a need for multi-stakeholder engagement.

The concept of smart learning would be nucleus for creativity.

The importance of getting teachers into the ICT in Education picture, the power of tools such as the ICT Competency Framework for Teachers can be of help.

There is a need for enhanced promotion of Open Educational Resources which makes the knowledge sharing and innovation much easier.

There is also a need for considering the findings of others international organizations working with this regard such as the UNESCO Tag.Org report on ICTs in 5 Arab States and other report in relevant to the process of e-Education.

It is important to make children part of the ICT revolution. Programmers such as AppsForGood can unleash children creativity (learning to code).

With the right guidance, educators/teachers can consider social networks as vehicle for a different education right in the classrooms.

There is a need for adequate skilled workforce in order to cope with the projected growth figures.

Skilled workforce is empowered by ICT Education.

Coordination and partnership between different initiatives would make real difference. Many initiatives were developed including ICT strategic plan development and research in ICT solutions and applications.

Research has become not only "community dependent", but also "digital dependent". In this respect potential of global and regional research networks has been highlighted. There is a considerable shift in the way education is delivered in the classrooms and the rising of mobile learning is an example of this paradigm change.

There is still a need to continue to create ICT centers that may play multiple-role in education for Adults and in building country capacities in field of ICTs.

The BDT Director initiative on "Smart Sustainable Development Model" could be used as a working tool to foster economic and social development, providing community telecommunication services where people can access education, health or best practices in any particular field.

Another initiative of the BDT Director on "m-powering development" has been designed to take advantage of the high penetration of mobiles globally using them for applications like m-health, m-education and m-banking, among others, to foster economic development and improve the quality of life of people who still don't have access to the benefits of the information society.

Developing e-Infrastructure to link educational institutions with high-speed networks is necessary to facilitate seamless access to learning resources and repositories that are available in large volumes elsewhere.

ASREN participates in the CHAIN-REDs PMP meeting and UbuntuNet Alliance annual conference

Kigali – Rwanda - November 12-14, 2013 - ASREN actively participated in the CHAIN-REDs PMP meeting outlining the regional development in the coordination and harmonization of advanced e-Infrastructures with specific reference to the deployment of Identity Federation and Science Gateway. During the Ubuntu Alliance conference, Dr. Salem Al-Agtash, has presented ASREN Regional Perspective Towards Enhanced e-Infrastructures for Research and Education and discussed opportunities for cooperation with UbuntuNet and WACREN African regional research and Education Networks

ASREN supports development of research and education network in Bahrain

ASREN is actively contributing to the analysis for building the Bahrain National Research and Education Network (BahREN), joining a team from the University of Bahrain in leading BahREN initiative. The team is lead by Sheikha Dr. Eshaa Al Khalifa and has completed a technical feasibility study on the infrastructure development after a series of meetings with key stakeholders including the Ministry of education, universities and telecommunication companies. The objective is to support universities with high-speed networks, resource, and facilities to help boost scientific research as well as sharing of facilities

ASREN supports development of research and education network in Iraq

ASREN participated in a workshop on development of Iraq national research and education network organized by the Ministry of Higher Education and Scientific Research in Baghdad on 1 October, 2013. Representatives of Iraq universities actively participated in the Workshop, outlining the importance of developing high-speed network infrastructures to support access to research facilities and educational resources. Dr. Mohammed Abd Atiya Al-Saraj – General Manager of RDD in Higher Education and Scientific Research emphasized the importance of establishing Iraq REN to support scientific research across Iraq.

ASREN setting up London POP with donation from ISOC and Cisco

ASREN is setting up its first POP (Point of Presence) in London for peering research and education traffic among Arab NRENs and the European GEANT research infrastructure. The POP will be located at Telecity Data Center, and will be operated and managed by ASREN as part of the EUMEDCONNECT3 project. The POP equipment has been donated by ISOC and Cisco, and will be supported by Talal Abu-Ghazaleh Organization, in an effort to support the development of Arab regional research and education. It is expected that ASREN POP will be operational beginning of January 2013.

ASREN Participates in 11th SESAME Users Meeting

Amman, 20-22 November 2103 - SESAME, (Synchrotron-light for Experimental Science and Applications in the Middle East) is a "third-generation" synchrotron light source which is the Middle East's first major international research centre.

The 11th SESAME users' meeting was organized on November 20 - 22, 2013 in Amman, Jordan. The scope of the meeting was to inform the users about recent progress and developments around SESAME, to give them the opportunity to present their results and to exchange ideas and develop new collaborative research projects within the SESAME users community and present their views of interest in SESAME. The meeting brought together scientists from the region and world experts in the various fields of synchrotron applications. The program of the meeting included:

1. Opening Session and Plenary Talks
2. Dedicated workshops on IR, XRF/XAFS, PX and
3. Visit to SESAME site.

Detailed scientific program of the meeting included invited, plenary, and contributed talks as well as a poster session. The scientific program covered topics in:

- Atomic, molecular, and chemical physics.
- Structural biology, drug design, and medical applications.
- Materials science, electronic structure and nanotechnology.
- Archaeology and cultural heritage.
- SESAME machine and Phase I beam lines development.

ASREN was present and was included in the program. The presentation covered the importance of R&E infrastructure and the role of NRENs in developing the research and education. This can be achieved by providing connectivity and services to the R&E communities so that researchers and academics can collaborate and jointly work on topics of common interest without borders. The presentation included cooperation avenues between SESAME and ASREN with focus on providing connectivity to SESAME to GEANT and the global R&E networks. A fruitful discussion took place with SESAME Technical, Scientific and Administrative representatives during the meeting.

ArabWAYS: the first platform for young scientists & researchers in the Arab World

Research and development have assumed, since decades, an increasingly important place in developing countries strategies and budgets. Nowadays, the Arab states devote 0.2% of their resources to research and development. For instance, where an estimated 0.34% of the GDP is spent on research in Jordan, United States spends about 2.7% of its income, UK 1.8%, and Germany 2.6%. Regarding per capita expenditure on scientific research, United States spends $1205.9 and Japan $1153.3, while the Arab countries spend an average of $14.7 annually per capita. While global focus has been placed on political developments in the Arab region, ongoing scientific research crisis continues which is still leading to Arab brain drain. Hence, there is an urgent need to boost spending on scientific research and consolidate national research institutions and academia as well as encouraging scientists and researchers.

In this context, the Arab World Association of Young Scientists (ArabWAYS) is called to play a crucial role at least vis-à-vis mobilizing young scientists and researchers in the Arab World to play fully their role in enhancing research and science outputs for the well-being of Arab societies. The objective of ArabWAYS is to contribute towards strengthening the capacity of young Arab researchers & scientists to conduct relevant and high quality research that covers Science and Technology (S&T), environment, social sciences, humanities and their inter-linkages, and to advance science and enhance the situation of young scientists throughout the Arab world. ArabWAYS intends to work on encouraging scientific research, increasing the impact and utility of scientific knowledge, building a scientific network that enables the potential of young scientists to contribute to the advancement of science and society, helping and providing training, mobility and career development opportunities to young scientists. On the other hand, ArabWAYS is also concerned about giving S&T a higher profile in the media and education. S&T activities need to be centered on society needs and to improve social impact of research activities, as well as to promote networking capacities and promoting trans-national exchange of good practices and experience.

ArabWAYS counts on more than 7000 young scientists from almost all Arab countries. They cover a wide variety of research fields, with special emphasis on technologies fields such as: water, climate change, renewable energies, computer sciences, agriculture, biotechnology, nanotechnology, organic chemistry, earth sciences (remote sensing), etc.

As young scientists, we have a unique perspective, special responsibility, and active need to build for the future. As such, we have established ArabWAYS to enhance the voice of Arab young scientists in decision making and action for science and society.
http://www.arabways.org
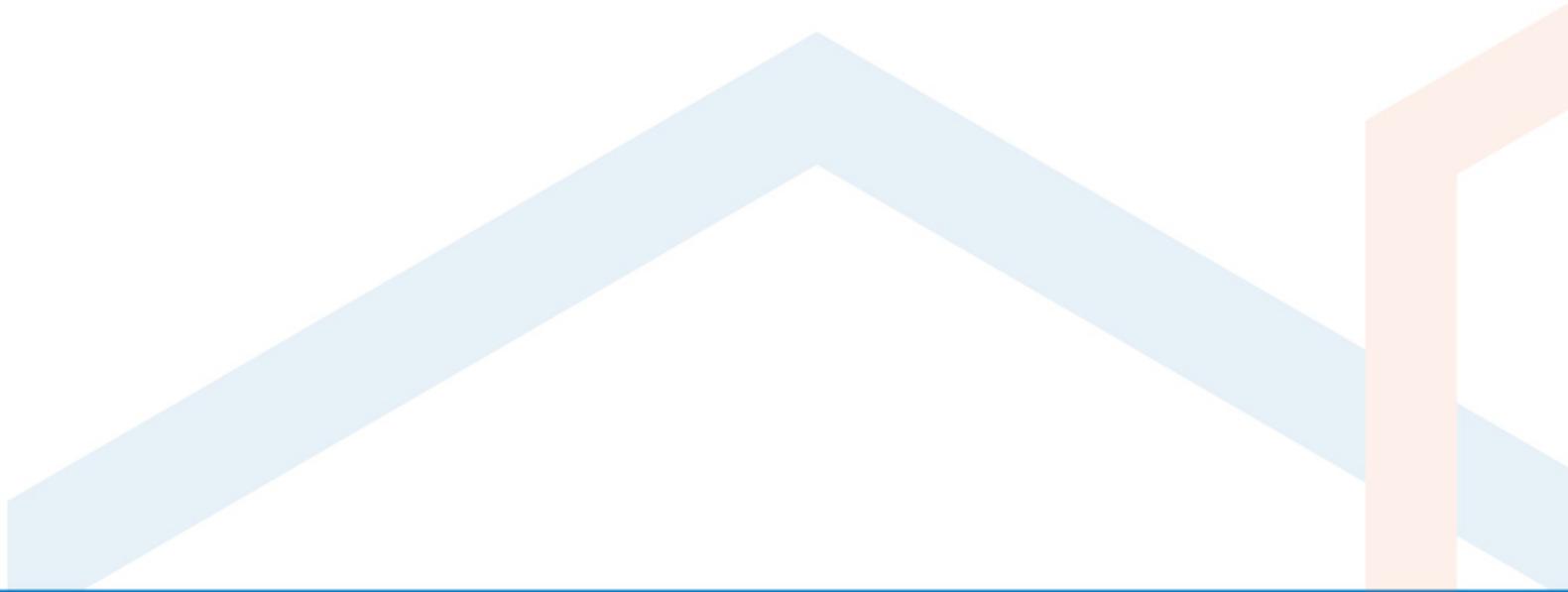
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