



Arab States Research and Education Network

Summary Report 2nd International Platform on Integrating Arab e-Infrastructure in a Global Environment

e-AGE 2012

“Collaborate towards developing the regional e-Infrastructures”

Zayed University, Convention Center
Dubai Academic City, UAE
12-13 December 2012,

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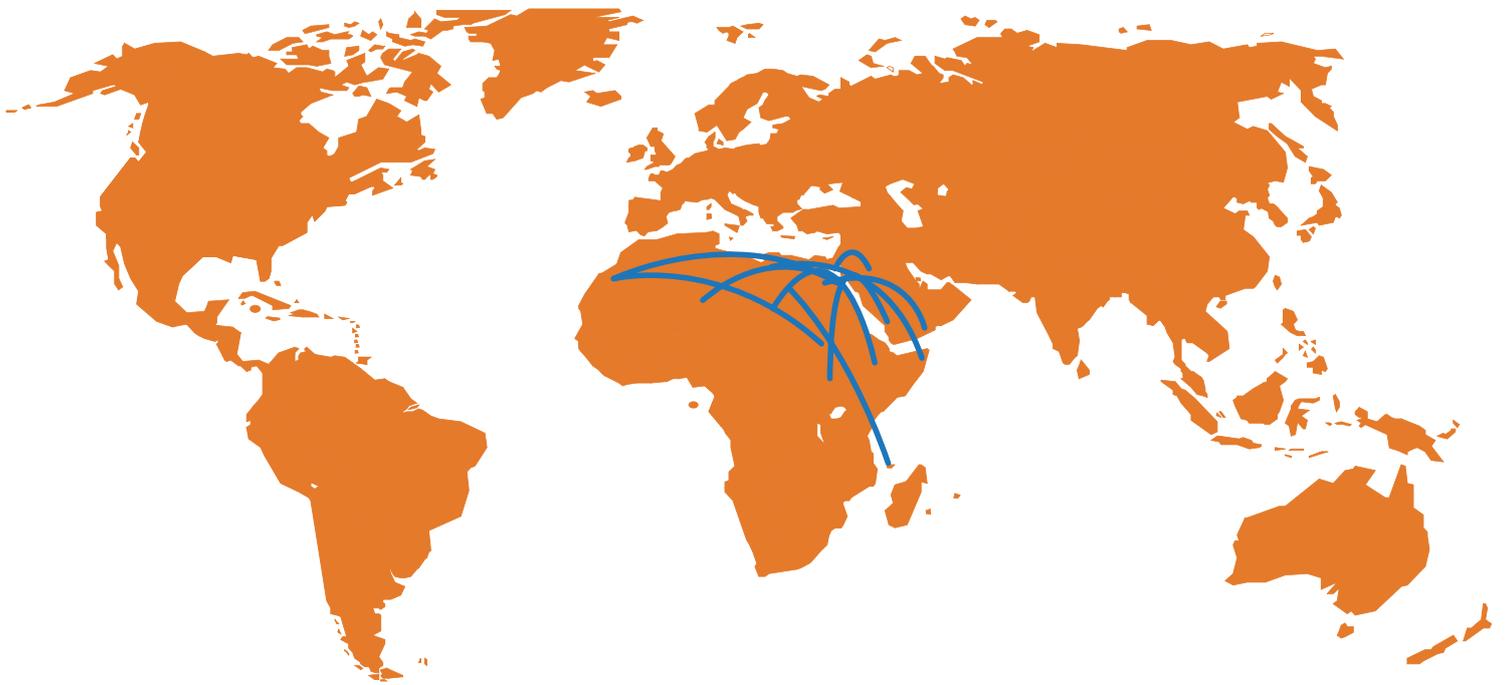
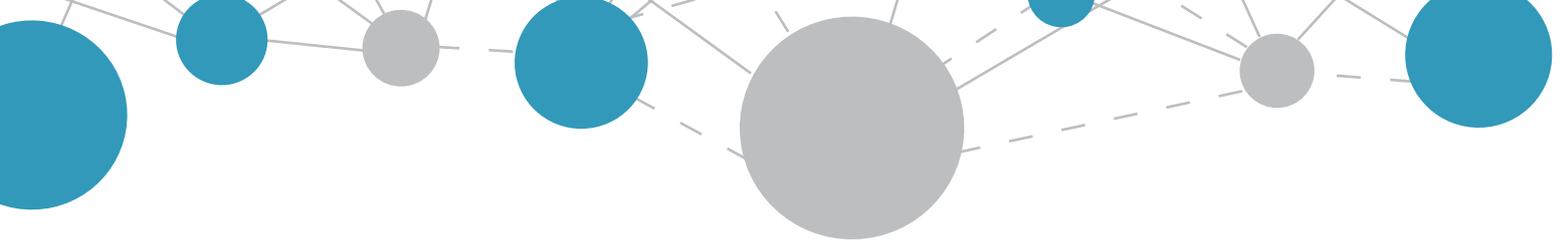


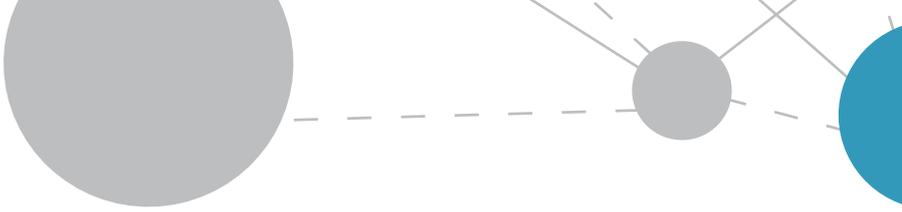
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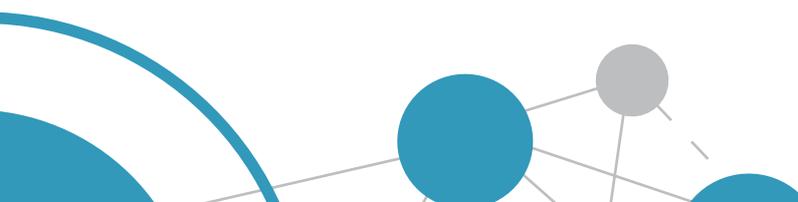
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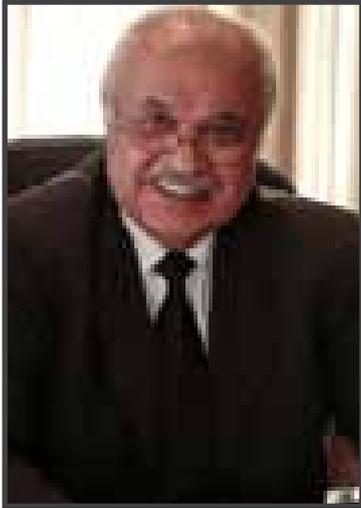




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Main Office: Geothestrassse 7 – 40237, Dusseldorf, Germany
Executive Office: P.O.Box: 921100, Mec ca Street 104, 11192 Amman – Jordan
www.ASRENOrg.net



Preface



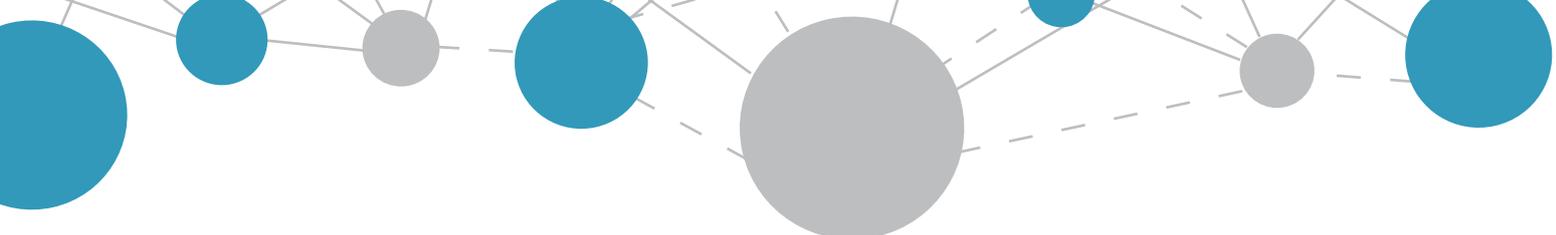
As we move into an era of change towards investing to advance inter-Arab ICT infrastructure for research and education. Research is no more possible without international outreach. Scientists work in research teams to solve common problems in engineering, environment, health, energy, economy and many others. High-speed communication networks provide powerful means for team collaboration, sharing of resources, and exchange of real-time simulation and data transfer. The Arab States Research and Education Network (ASREN) have been striving to make these networks ready for collaboration among Arab scientists and their peers at the international level. Our goal has been to connect all Arab research and education institutions in a unified network that provides scientists, academics, students, and researchers with state-of-the-art connectivity. Through the unified e-Infrastructure, ASREN will provide its users with services, applications, and means for joint research collaboration. It will also allow for a wider access to educational content and efficient computing facilities. However, financing, political instability, scattered geographical landscape, and lack of expertise are the main challenges. With EUMEDCONNECT funding, EUMEDGrid Support, and other regional initiatives, ASREN will be able to sustain existing networks in the Arab countries.

While still the subject of debate, there is now a growing consensus for the concept of ASREN Arab regional e-Infrastructure with main PoPs (point of presence) possibly originating in Egypt, UAE, Saudi Arabia, Jordan, and Morocco and connecting to the regional networks in Europe, Asia, Africa, and North America. ASREN will continue to join efforts with its European counterparts to bring new technology means and services to the Arab research and education communities and to provide hope to our future scientists towards enhanced educational environments equipped with better tools, connectivity, and services.

ASREN hopes to take advantage of the series of new cables laid in the region to become more economical to connect the Arab national research and education networks to the world and to evolve as a backbone between the East and the West.

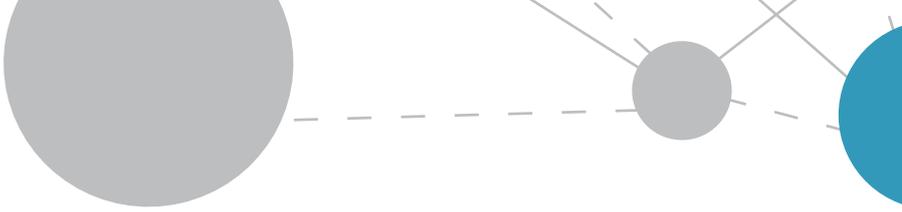
Chairman of ASREN
H.E. Dr. Talal Abu-Ghazaleh





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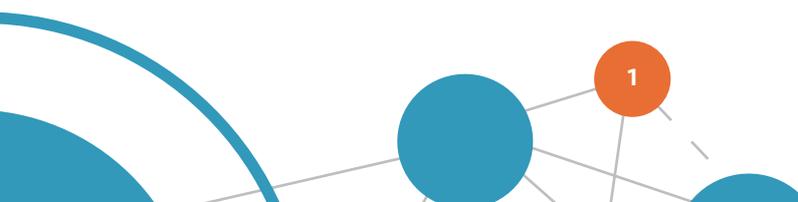
1. Introduction / ASREN overview

The Arab States Research and Education Network (ASREN) was launched in 2010 under the auspices of the League of Arab States and the UN Global Alliance for ICT and Development (GAID). ASREN is a legal not for profit regional Arab organization that aim 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 the Arab countries through the provision of world-class e-Infrastructures and e-services.

ASREN's vision is "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". Its mission is "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". The e-AGE platform is a very important tool which includes several activities in the aim of achieving this mission. The activities include promotion, creating awareness, networking people, draw the attention of high level and key decision makers and promoting the use of technology and communications in conducting research and education activities.

2. Objectives and achievements

The key objectives of e-AGE 2012 included:

- Announce the second year of achievements of ASREN and present its future planning
 - Overview of the third phase of the EUMEDCONENCT project
 - Overview of the recent research and education initiatives and projects that focus on collaboration and joint activities approach.
 - Show the achievements of e-infrastructures in the area and further build on the success of the previous eumed events 1,2,3 and 4 to present and develop the cooperation and collaboration between the arab, european, african and us researchers
 - Draw attention to high level politicians and decision makers on the importance of the e-infrastructures to develop the research and education communities in the arab world and beyond
 - Help and support sustainable research and education network across the Arab region connected to the European network Geant2, north American network Internet2 and other regional networks around the world
 - Attract and encourage donors, research foundations and supporting institutions in the arab region, europe and worldwide to support the development of asren and supporting the research e-infrastructure
 - Strengthen the involvement of the private sector and industry collaboration in developing the research and education.
- 

- Bring the attention of scientists and researchers on the importance of e-infrastructure and to showcase examples of collaborative and joint research projects
- In-depth view on infrastructure and connectivity services in the region
- Discuss opportunities to link ASREN and Africa RENS, and to the global RENS

All objectives have been achieved and more

3. Participants

As a Platform on Integrating Arab e-Infrastructure in a Global Environment, the e-AGE 2012 was attended by academics, network professionals, researchers, scientists, and high level decision makers from governments, enterprises, NGOs, academia, and civil society. The e-AGE platform will be most important venue for networking among experts and scientists from all over the world. The participants represented:

- Researchers, Academics, and Scientists from variety of disciplines
- University presidents, research deans, and network directors
- R&E related corporate executives
- Senior staff from National, International, Regional, European, and American Agencies
- Ministers, government officials and representatives of Higher Education and Scientific Research and Ministries of ICT in the Arab World and the region
- GEANT, Internetz and AfREN, WACREN, Ubuntunet and APAN high level representatives
- Officials from National research foundations
- Arab, European, Dante, Terena, and American NREN representatives
- Islamic Social Education Science Cultural Organization (ISESCO)
- Managers of regional Scientific Research projects
- Telecom and technology service providers and Cable Operators
- Librarians, publishing companies, and educational curricula and content providers
- E-Learning, distance education, and instructional technology developers
- ITU, ISOC and MENOG

Representatives from the following countries participated in e-AGE meetings:

Jordan, Palestine, Egypt, UAE, Saudi Arabia, Oman, KSA, Algeria, Tunis, Morocco, Lebanon, Sudan, Qatar, Somalia, Cyprus, USA, Italy, Netherlands, Switzerland, Belgium, Germany, Greece, UK, Bahrain, Dominican Republic, Yemen, Nigeria, Afghanistan, Czech Republic, Ghana, Zimbabwe, China, Latin America, Malawi, Cameroon, India, Spain, Rwanda, Belgium and Cote d'Ivoire .

4. Highlights from the opening ceremony

4.1 Welcoming address



His Highness Sheikh Nahayan Mubarak Al Nahayan, Minister of Higher Education & Scientific Research of UAE, inaugurated the Conference. He delivered a speech, conveying greetings to guests and participants, appreciating their efforts and wishing them success in reaching their objectives while pledging to provide all necessary support and facilitation. In summary, His Highness Said:

“The name of your organization – the Arab States Research and Education Network – suggests creativity, innovation, forward thinking, receptiveness to change, and, to me, especially, regional development and global connections. It is a great pleasure to welcome all of you to the United Arab Emirates and to Dubai for this E-AGE 2012 Conference.”

“There is a need in our region for digital infrastructures that promote more research and discovery in all disciplines – infrastructures that will help our region achieve important objectives. Those objectives include increasing economic growth and development, enhancing academic research, and keeping pace with global developments and innovations. More important, these digital infrastructures in our countries need to help increase the effectiveness of our national universities and research institutions. For all of that to happen, however, businesses, government

agencies, and academic institutions must envision the promise and power of these effective connecting tools. They must explore the opportunities such digital infrastructures can provide for the exchange of information among all segments of society and academia about research applications in all areas of our lives.”

“Today, by holding this conference, you aim to advance substantially the research and education capacity of the Arab region. Your network has the potential to expand the boundaries of teaching, learning, and research. You can dramatically increase the ability of students, researchers, and institutions to learn together and to collaborate. You can help place our region in the forefront of technological development. And, of course, you can help our colleges and universities keep pace with global technological innovations and enhance their collaboration with leading universities and research centers around the world.”

“Our digital infrastructures must allow us to connect, communicate, and collaborate. They must provide individuals and institutions with the knowledge and ability to retrieve, analyze, and use large quantities of information. And they should help to create the conditions that will allow modern technologies and innovation to enrich all aspects of our lives. You are absolutely right to be concentrating on those themes in this conference.”

“We therefore welcome you warmly to this “e-AGE Conference”, dealing with integrating Arab e-infrastructures in a global environment. Along with you, we are quite excited by the great potential of the Arab States Research and Education Network and by its role in the building of our national capacities in education and research.”

Full speech can be found at http://eage2012.asrenorg.net/images/stories/HHNahyanSpeech-e-AGE_2012-Arab_e-Infrastructures_in_a_Global_Environment.pdf

ASREN Chairman



HE Dr. Abu-Ghazaleh stated in his keynote speech: “I want to capture this historic moment of meeting here in UAE and under the patronage of my great friend His Excellency Sheikh Nahayan Mabarak Al Nahayan , UAE Minister of Higher Education and Scientific Research and much more, to announce that I will be asking ASREN Management jointly with ANKABUT Management in collaboration with DANTE which is responsible for the pan-European GEANT Network and the US Internet2 to work together towards the development of an action plan whereby UAE with its developed e-Infrastructure environment can host the hub of knowledge and connectivity and services for the Arab region with its international partners worldwide. If we succeed with this ambition, one day we will be proud all of us that we

have enabled our educational institutions, researchers, and knowledge workers in the Arab world to become part of the world Research and Education globally.”

He stressed on the fact that there are growing interests of Arab NRENs for joining ASREN as shareholders in addition to the NRENs in Jordan, Morocco, Sudan, and Somalia.

“We look forward to having all NRENs of Arab countries to become part of ASREN as owners and shareholders to help support and sustain the development of the Pan-Arab research and e-infrastructure. ASREN will continue to serve the Arab region in developing best practice NREN model and provide pan-Arab e-Infrastructure connectivity at the regional level,” he said.

“We hope to see high speed networks with Gigabits bandwidth connecting neighboring countries in the Arab region, and to the world regional networks for research and education as this will help to introduce tools for developing collaboration and cooperation between scientists, researchers and students and to enhance the quality of education and research. We are happy to announce that ASREN is investing in its first STM1 cable connection between ASREN and the European research and education Network “GEANT,” he added.

H.E. Adam Kulach, Head of Delegation of the EU to Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates, KSA



HE Adam Kulach welcomed the participants and talked about the cooperation between the EC and the world with focus on R&E support and development. He also presented the programs supported by the EC and how can these programs be utilized. Supporting the e-Infrastructures and e-Science is a component of major importance to the EC as it is a key to develop the research and hence to develop the communities around the world.

Dr. Sultan Abu-Orabi, Secretary General of the Association of Arab Universities



“Scientific research has become a necessity and not a luxury as it draws the map for a new world in a fast changing age”. Said Prof. Sultan Abu-Orabi. He talked about the current situation in Research and Education in the Arab Region and also highlighted the the major obstacles and concerns related to the slow development and the very low achievements in R&E in the Arab World. He also talked about the recent development and activities conducted by the Association of Arab Universities. Dr. Sultan emphasized on the importance of the e-Infrastructures and the networks to bring the Arab researchers and educators together and to share the resources and experiences around the region and beyond.

Mr. Fahem Alnuaimi, CEO of ANKABUT



He talked about the development of UAE’s academic research and education network and the latest technologies in cooperation with UAE network, Collaboration between Arab states via the ASREN network, Collaboration between researchers and technology partnership to encourage innovation in education and research, and announced that ANKABUT is working on three important initiatives; An E-library in the UAE, several data centers and a multi-purpose data warehouse.

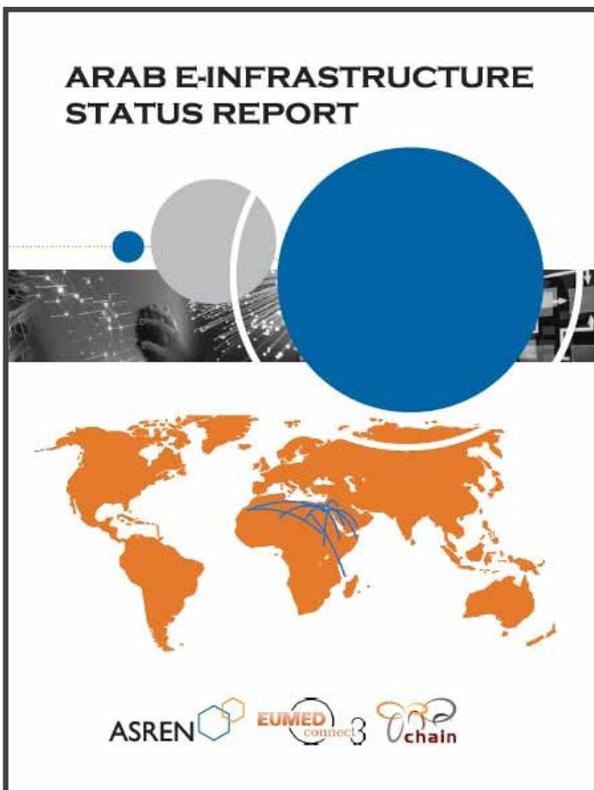
4.2 Arab e-Infrastructure Status Report



Dr. Salem Alaghtash, Chairman's Senior Advisor on ICT and Technology, German Jordanian University, ASREN, Jordan, Has represented the Arab e-infrastructure report that contributes to analyzing the status of Arab e-Infrastructures in supporting research and education communities at the regional level as well as to highlighting connectivity trends and opportunities for developing a pan-Arab regional e-Infrastructure within the context of the Arab States Research and Education Network (ASREN).

The results of analysis show a growing digital divide in e-Infrastructures for research and education between Europe and the Arab region. Arab national e-Infrastructure varies but it is well established in many countries. However, connectivity to international links is still lacking. The absence of such links has held back collaboration within the region and excluded researchers from global projects and activities. Breaking out of this vicious circle requires concerted co-operation between all stakeholders and interested parties to support the advancement of research and education. Governments, national RENs, and industry can play an important role in building the Arab e-Infrastructure by taking advantage of the opportunities in liaising with EUMEDCONNECT³ and ASREN towards contributing to a wider Arab research and education network.

The report is available on ASREN website: http://www.asren.org.net/images/stories/Arab_e-Infrastructure_Status_Report_Eng.pdf



5. ASREN Shield



In recognition and honor for their efforts and their role in the success of the development of ASREN and the e-AGE2012 platform, HE Dr. Talal Abu-Ghazaleh, ASREN Chairman, has given the ASREN shield to the supporting personalities, ministries and sponsoring institutions.

- HH Sheikh Nahayan Mubarak Al-Nahayan (Dr. Husam Alulama on his behalf)
- HE. Adam Kulach, Head of Delegation of the EU to Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates, KSA
- HE Dr. Sultan Abu- Orabi, Secretary General, Association of Arab Universities, Jordan
- Dr. Husam Alulama, Director, National Research Foundation, UAE
- Mr. Fahem Alnuaimi, CEO, UAE Advanced Network for Research and Education (Ankabut), UAE

Shareholders:

- Dr. Iman Abu Almaaly, CEO, SudRen
- Dr. Aouaouche El-Maouhab, Executive Director, CERIST, Algeria
- Dr. Mohamed Jemni, Tunisia

Keynotes:

- John Dyer, TERENA, Netherlands
- David West, DANTE, UK
- Federico Ruggieri, INFN and CHAIN – REDS Project Manager, Italy
- Roberto Barbera, University of Catania and INFN, Italy

Hosts:

- ANKABUT , Dr. Ahmad Dabbagh, Technology & Services Development Manager
- NRF, Maha Qortom, Knowledge management specialist

Sponsors:

- Zain, Mr. Mahmoud Zaghaleel
- TAGITOP, Mr. Esmat Fahmi
- Alcatel-Lucent, Mr. Nabil Azar
- Naseej, Mr. Rani Taha
- IBM
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- Zayed University
- ICANN

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- Dr. Rheinold Poppek

6. Highlights from the panels and discussions

6.1 Keynote

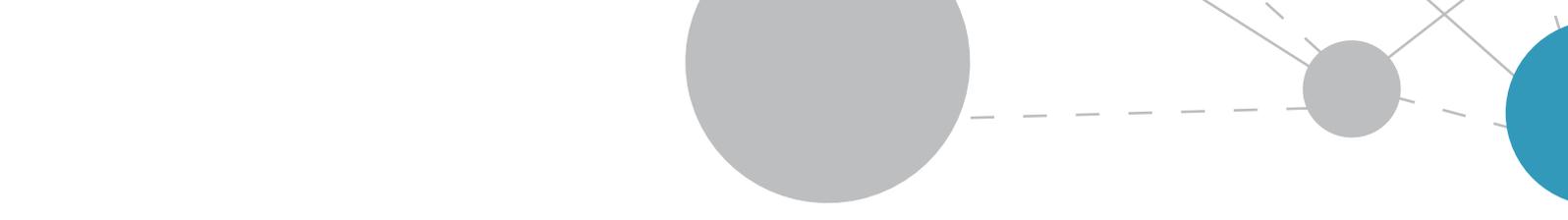


John Dyer, “The future landscape for Research and Education Networking”, Business and Technology Strategist, TERENA, Netherlands

Dr. John presented the ASPIRE (A Study on the Prospects of the Internet for Research and Education) study that was undertaken by TERENA as part of the European Commission’s GN3 project. The presentation reviewed the major findings of the panels and provided a summary of the ASPIRE conclusions and recommendations which included the Need to maintain ERA world leadership, Innovation is driven by advanced NREN networks, Public/private collaboration vital and emphasis also on the need to embrace adoption of new approaches like Virtualization, Public/Private/Hybrid Cloud.

6.2 National Research and Education Networks (NRENs) Development





Yousef Torman, Managing Director, ASREN, Jordan (Chair)

The main purpose of this session is to highlight the recent developments of some selected NRENs in the world and expose the experience in the various NRENs to the audience. Another focus area of this session is to explore new opportunities for NRENs to collaborate with the network operators.

Aouaouche El-Maouhab, Executive Director, CERIST, Algeria

Aouaouche E-Moaouhab officially announced that CERIST will join the Arab States Research and Education Network – ASREN as a shareholder.

Ahmed Dabbagh, “UAE Educational Cloud over ANKABUT”, Technology & Services Development Manager, Ankabut, UAE

United Arab Emirates - UAE's leading universities formed a dedicated research and education network within the country named “Ankabut”. Ankabut caters for the regional educational and research needs, offering great improvements in how research is conducted, as well as improving the teaching and learning processes. It also provides collaboration and sharing of resources. It links international collaboration with other research network such as the US Internet2 and the European GEANT. Dr. Ahmad also presented Ankabut community services, and its plans to build the UAE Educational Cloud.

Osman Babury, Deputy Minister for Academic Affairs, Ministry of Higher Education, Afghanistan

HE Osman Babury talked about the progress in developing and establishing a NREN in Afghanistan with focus on how can researchers cooperate with their opponents in the world.

Fred Baker, Fellow, Cisco Systems - Research & Advanced Development, USA

Mr. Fred has discussed the IPV6 deployment and network management and the business case for IPV6 in Afghanistan, and assured that the IPV6 support is no longer considered optional.

Ognjen Prnjat, “Greek Research and Technology Network: Status and Updates”, European and Regional e-Infrastructure Manager, GRNET, Greece

Ognjen presented the Greek Research and Technology network, its mission and vision. The status in terms of networking and computing services was given. Focused on the latest developments in cloud provisioning for Research and Education Community, as well as the upcoming highperformance computing developments.

Iman Abu El Maaly, “Sudanese Research and Education Network: Evolution, Challenges and Opportunities”, CEO, SudREN, Sudan

Iman has represented the Sudanese Research and Education Network (SudREN) and provided an overview of SudREN, its progress in terms of governance, number of members, bandwidth and its international activities. Challenges and opportunities facing SudREN were also presented and illustrated.

Osama Al-Dosary, “The Value of Internet Exchange Points”, Chairman, MENO, Saudi Arabia

Osama highlighted the importance of the Internet Exchange at both local and regional levels. He recommended that the NRENs can play a major role in developing and deploying Internet Exchange Points as NRENs are usually neutral against competition with the national and regional ISPs.

Nabil Azar, “Alcatel-lucent Enablement Towards NREN”, Sales Manager, Alcatel-lucent, UAE

As a sponsor, Alcatel-Lucent was represented by Nabil Azar who went through advanced technology in establishing NRENs and service provision to the academic communities.



6.3 Regional Research and Education Networks Development

David West, EUMEDCONNECT₃ Project Manager, DANTE, UK (Chair)

The objective of this session is to go through developments of the Regional Research and Education Networks – RRENS.

Mukhtar Ahmed, “Pan Islamic Research and Education Network - PIREN”, Deputy Director General, ISESCO, Morocco

PIREN was reviewed as the infrastructure in Islamic countries is a weak link in their development and prosperity of the people as a whole. Mukhtar emphasized that the Information and Communication Technology (ICT) infrastructure is not an exception. For this reason, having RRENS in academic sector can play a very important role in overcoming these challenges. Information sharing for research and education is also a perceived benefit from these RRENS which can trigger effective collaboration in these areas aimed at innovating existing processes and creating new knowledge.

Markus Buchhorn, “The Asia-Pacific Advanced Network (APAN)”, APAN General Manager & International e-Infrastructure Consultant, Australia

APAN was reviewed as it is an ongoing, incorporated, partnership of over seventeen countries, spanning more than half the world’s population. Markus focused on its importance and how it fosters the development of higher-capacity network links between national RRENS within the region, and especially importantly to support the use of these network links by research and education communities from all disciplines.

Matthew Pietz, “Networking MENA Researchers to Translate Information into Action: The Partnership Forum”, Director, Regional Partnership on Culture and Development, Cairo

The USAID-funded Regional Partnership on Culture and Development is a program based in Cairo, Egypt and with staff in six other countries (Lebanon, Morocco, Jordan, Palestine, Iraq and Yemen) that works to improve the culture of information sharing in the Middle East North Africa Region. The program does this through the Partnership Forum, a network of 145 research organizations in the MENA region, all of whom produce high-quality, actionable research on democracy & governance, youth, and natural resource management. The Partnership Forum links MENA researchers through in-person regional conferences, virtual discussions of cutting edge research (“webinars”), and national-level workshops; and also provides free translation of members’ research, grants, and exciting opportunities for collaboration. The Forum aims promote the free exchange of ideas and the use of evidence to inform policies and development efforts, so the lives of all citizens in the region may be improved.

Boubakar Barry, “African Research and Education Networking - Status and Prospects”, Coordinator, Association of African Universities, Ghana

For a couple of years now and despite several challenges, research and education networking is high on the agenda of several African countries. The presentation gave the history of research and education networking in Africa and highlighted initiatives that have catalyzed the development of RRENS in Africa. The present status of these initiatives was presented and prospects discussed.

It also focused on regional networks such as the UbuntuNet Alliance, the West and Central Research and Education Network (WACREN), the Arab States Research and Education Network (ASREN) and EUMEDCONNECT; besides the activities of the Association of African Universities (AAU) in the field of research and education networking.



6.4 Regional Research opportunities

Robert Klapisch, “ASREN as a Tool to Boost Education and Research Activities in Arab States”, President, Sharing Knowledge Foundation, Switzerland. (Chair)

After Ubuntunet and Wacren, the now well established ASREN is an efficient tool to enhance Research and Education Activities in Arab states.

Regarding Research, the key to the success, if we take Morocco as an example is the remarkable participation in the LHC experiment which is going to be upgraded due to the gift of servers by CERN. Concerning Education, the outstanding example is Jordan which has linked all its universities with a high bandwidth link. But the long term goal is to bring Education and Research in Arab States to the same level as those in developed countries. David discussed what other measures should be taken to complete the task in the 20 years to come.

Danny Powell, “Cyber infrastructure to Enable Global Collaborations”, Executive Director, NCSA, USA

Researchers, educators, and industrial enterprises all over the world are addressing many of the same key issues and problems. And the complexity of these problems are increasing rapidly - as is the complexity of the cyber resources and tools we have been developing to find solutions to these problems.

Cyberinfrastructure resources and services over expansive and high-speed networks need to be built and evolved to empower open international collaborations, which will play increasingly important roles in resolving the most challenging problems facing our world and society. Danny mentioned some of the activities NCSA is engaged in with other groups in the US and around the world.

Jens Wiegand, “LinkSCEEM-2: A Computational Resource for the Development of Computational Sciences in the Eastern Mediterranean”, Scientific Coordinator, Cyprus Institute, Cyprus

Jens represented the LinkSCEEM-2 project that aims at the establishment of a High Performance Computing (HPC) ecosystem in the Eastern Mediterranean region by interlinking and coordinating regional compute, storage and visualization resources to form an integrated e-infrastructure; LinkSCEEM-2 approach, and outcomes.

Fotis Karagiannis, “Cloud Computing for Research and Science in the Horizon 2020: A Hybrid Future”, Independent Consultant, Athens University of Economics and Business, Greece

Cloud computing has raised many expectations in the global economy, and its applicability for research and science has been debated. The presentation gave insights on the outcomes and current findings from a series of initiatives like VENUS-C, e-FISCAL and the e-IRG Task Force.



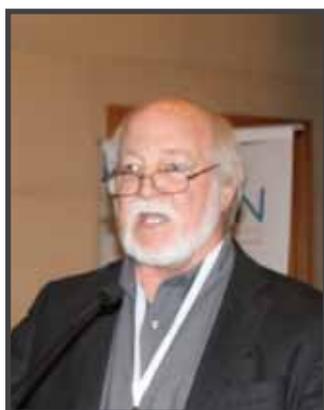
George Loftus, “Updates on Internet2 Initiatives”, Associate Vice President for Network Services, Internet2, USA

George presented the recent developments on Internet2 mainly the new services and the development of the backbone to 100 Gbps infrastructures and member Universities and colleges which is now over 200. He also presented and stressed on the new role of NRENs which should be: 1) essential global platform, 2) innovation incubator, 3) demand-side market maker, 4) market aggregator, 5) knowledge multiplier, 6) economic development engine, 7) transformation vehicle, 8) collaboration enabler, 9) community developer, and 10) political stabilizer

Iman Abu El Maaly, “From dreams to achievement”, Vice-Chair, UbuntuNet Alliance, Sudan

For a couple of years now and despite several challenges, research and education networking is high on the agenda of several African countries. The presentation gave the history of research and education networking in Africa and highlighted initiatives that have catalyzed the development of RENs in Africa. The present status of these initiatives was presented and prospects discussed.

It also focused on regional networks such as the UbuntuNet Alliance, the West and Central Research and Education Network (WACREN) , the Arab States Research and Education Network (ASREN) and EUMEDCONNECT; besides the activities of the Association of African Universities (AAU) in the field of research and education networking.



6.5 Research and Education Applications and Services (1)

Roberto Barbera, University of Catania and INFN, Italy (Chair)

Mustafa Jarrar, “Europe-Palestine Research Cooperation – Ongoing Projects at Sina Institute”, Director of Sina Institute for Knowledge Engineering and Arabic Technologies, Birzeit University, Palestine

This talk overviewed active research cooperation between European universities and Sina Institute at Birzeit University towards developing multilingual and multi-cultural knowledge sharing technologies. The talk was delivered through the Internet.



Danfeng Zhu, “HPC and e-Infrastructure Development in China’s High-tech R&D Program”, Beihang University, China

In this talk, Danfeng gave an introduction of the key project of the China’s High-tech R&D program on high productivity computer and grid service environment. She talked about the key technical issues and the major achievements in developing the peta-scale computers. He also presented the efforts in developing the China National Grid (CNGrid), including efforts on grid middleware, grid service environment, and grid applications

Luis Nuñez, “From e-Infrastructure to VRC”, Academic Relations Manager, RedCLARA, Venezuela

Luis presented the lesson learned in the road to build Virtual Research Communities (VRC) in Latin America. Described what is the Cooperación Latinoamericana de Redes Avanzadas, RedCLARA and what has been its evolution coming from an e-infrastructure oriented organisation to be now focusing on VRC services. He also described the strategies, lesson learned and some of the achievements to build VRC and VRC services.

Marc Bellon, “Digital Infrastructure Linking African Universities and the Arab World Global Knowledge”, Assistant Programme Specialist, UNESCO, France

Marc started presenting the UNESCO-HP Braingain by presenting the key concepts and then went through the activities. The preliminary results included : 1) Development of international cooperation through specific research projects, 2) Capacity-development for the mobilization of tools enabling distance cooperation, 3) Institutions took steps to build on the training offered by the Initiative (workshops, training sessions, 4) Core infrastructure deployed; core group of stakeholders, 5) First results reached by projects illustrate practical uses for the e-infrastructure



6.6 Research and Education Applications and Services (2)

Ahmed Dabbagh on behalf of Eesa Bastaki, Former CEO, ICT Fund, “From Technology to Knowledge Development in UAE”, Technology & Services Development Manager, Ankabut, UAE (Chair)

Ahmad has discussed the objectives of the cloud computing. Also, reviewed a program called National Interest ICT Projects and its vital projects “National Research and Education Network” (NREN) called ‘Ankabut’, He proposed to Ankabut a project known as “ANCHOR” which stands for “Ankabut National Cloud & Hypercomputing Organization” where it creates series of private clouds, such as a cloud for universities, a cloud for incubators, a cloud for libraries and a cloud for government.

Abdulla Al Hefeiti, “UAE Library Consortium (eFADA): Opportunities and Challenges”, Library Director, Masdar Institute for Science and Technology, UAE

Many academic libraries throughout the world have geared towards adoption of new policies to confront the challenges brought by the information and communications technology (ICT), as well as to meet the increasing needs of the users for information at different levels, and minimizing the effects of the restricted budgets. Discussed the actions was taken by many libraries to face these challenges.

Fahar Hayati, “Faculty for the Digital Age”, Dean of College of Engineering, Ajman University of Science & Technology, UAE

The big challenge that is facing academic faculty in our present rapidly changing digital age market is the role they have to play in the teaching/learning process. The teaching/learning environment has stretched beyond local time and space due to the use of advanced technological tools and new lecture delivery modes. The situation can be resolved partially by preparing faculty who can meet the immediate needs of the new environment. However, this will not be sufficient and a more comprehensive solution would be in shifting towards collaborative learning with the faculty being a mentor as well as lifelong learner.

Rusagara Innocent, “The Advantages of E-Learning in Inclusive Education: The Case of WEC-Learn to People with Disability”, Lecturer, Kigali Institute of Science and Technology, Rwanda

In this topic, we are concerned by the marginalization of people with disability in accessing normal Schools or Universities as well as job. The Worldwide E-Learning Campus has developed an e-learning system portal named WECLearn, which shall contribute a lot in assisting people with special needs as it does not require much.

The pilot group has been identified to be brought from the Ubumwe Community Center, and the extension can help Africa which is having a big number of such people due to several issues ranging from conflicts to poverty. To meet the multicultural needs and to be useful anywhere in the world, the WEC-Learn can be customized by any School, University or Company that may need to use it to assist its society in their own language.

6.7 E-Infrastructures Sustainability and Funding



Husam Al Olama, Director, National Research Foundation, UAE (Chair)

Samia Melhem, “Open Data and Open Government Initiatives”, Lead ICT Policy Specialist, Chair, e-Development, World Bank, USA

She discussed the Open Data and Open government initiatives the World Bank team is getting a lot of demand to support from several client countries. She reviewed the benefits of opening data, for governments, academia and civil society, as can be measured today. Also, Samia discussed government and academia readiness, the behavioral changes and the change management programs that seem to have worked in some of the leading countries (UK, Brazil, Australia, etc.), and briefly demonstrated some public goods/resources available to policy makers and academia.

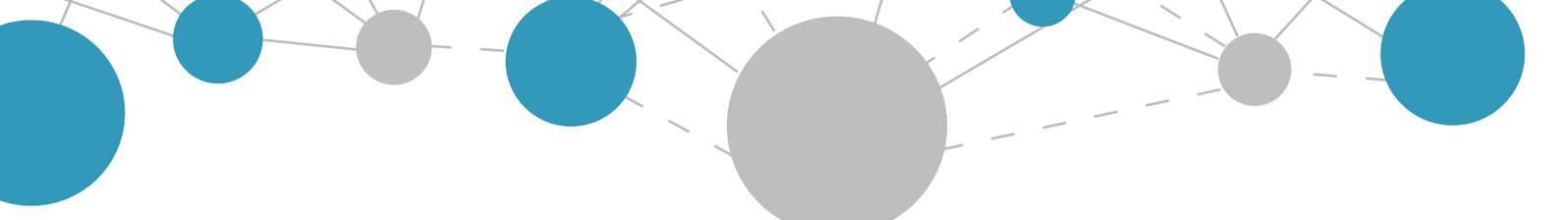
David West, “Regional Perspectives”, EUMEDCONNECT₃ Project Manager, DANTE, UK

David reviewed the status of the regional R&E networks including their approaches to sustainability. The experiences of other regions in terms of such factors as funding and organisational development were contrasted, and some lessons were suggested for the development of R&E within the Arab region

Salem Alagdash, Chairman’s Senior Advisor on ICT and Technology, ASREN, Jordan

Salem presented the major components towards a sustainable Arab e-Infrastructure which included; Network expansion, Hardware resources, Software and services, User communities and Funding.

He emphasized that there should be a political consensus to provide funding schemes. Potential funding should come from the League of Arab States, the Association of Arab Universities, Development banks such as; World Bank, African, Islamic, and Foundations such as; Qatar, Maktoum, AGfund, Ford, Gates, Clinton..



Ahmed Alosi, “National Research Foundation-Funding Programs”, Research Program Manager, NRF, UAE

Ahmed presented the National Research Foundation which was established in 2008 by his Excellency Sheikh Nahyan Mubarak Al Nahyan, Minister of Higher Education & Scientific Research with vision to support world-class research activities and create an internationally competitive research environment and national innovation system in the United Arab Emirates. He also presented the key objectives which include 1) Raise awareness in the country of the important role that R&D plays in helping to build a competitive knowledge economy. 2) Promote and expand R&D in the country 3) Provide funding for research projects on a competitive basis.

Ankabut, the UAE NREN was one of the entities highly supported by the NRF in recognition of the importance of the e-Infrastructures. NRF also funded several projects and initiatives since established.

George Loftus, Associate Vice President for Network Services, Internet2, USA

George presented the recent developments on Internet2 mainly the new services and the development of the backbone to 100 Gbps infrastructures and member Universities and colleges which is now over 200. He also presented and stressed on the new role of NRENs which should be:

1. essential global platform
2. innovation incubator
3. demand-side market maker
4. market aggregator
5. knowledge multiplier
6. economic development engine
7. transformation vehicle
8. collaboration enabler
9. community developer
10. political stabilizer

Margaret Ngwira on behalf of Tiwonge Banda, Head, Finance and Administration, UbuntuNet Alliance, “e-Infrastructures and Applications in Sub Saharan Africa: Challenges and Opportunities”, Special Projects Coordinator, UbuntuNet Alliance, Malawi

E-Infrastructure application opportunities in sub Saharan Africa are emerging steadily. However they have been hampered by low quality high cost connectivity. NRENs have been working to address this with great success in countries such as South Africa and Kenya, The reinforcement of the existing UbuntuNet Alliance network by the AfricaConnect project through the establishment of regional links will level the playing field over the next year for other countries, especially landlocked countries. The presentation looked at the applications already running successfully in the region and the potential being unveiled partly within the framework of EU FP7 CHAIN and the forthcoming EU FP7 CHAIN-REDS.

6.8 Round Table Discussion: ASREN and networking with the world



Boubakar Barry, Coordinator, Association of African Universities, Ghana (Chair)

Fahem Al Nuaimi, CEO, Ankabut, UAE

Federico Ruggieri, INFN and CHAIN – REDS Project Manager, Italy

Jonathon Chapman, Chair, Middle East SIG, Internet2, Qatar

Yousef Torman, Managing Director, ASREN, Jordan

Osama Al-Dosary, Chairman, MENO, Saudi Arabia

Over one hour, panelists, together with the audience discussed their opinions on how can ASREN succeed and what are the priorities. The main concern in consensus was the applications and services need to be provided to the users and that ASREN should take care and plan of this. It was also agreed that building the network infrastructure is a key objective that ASREN should work on. ASREN is now gaining momentum and should build on this to further accelerate the development of the network and services, and that ASREN should be a motivator and creator too. In summary:

- ASREN has to grow in terms of technical staff and capabilities in order to support users. This can be achieved by collaboration with NRENs partnering with ASREN and also to make use of the support projects as well as the EC and Internet2.
- ASREN should address the policy makers, users and stakeholders, invite technicians and CIOs of NRENs to share experience and support the developments and shareholders expansion of ASREN
- ASREN should start building and providing services, contents, solutions and applications to the users
- ASREN can identify Champions from the users communities who can listen and then
- ASREN should push NRENs to establish a regional connectivity and establish taskforces to develop and put the guidelines for using the network including training and providing services
- The announcement of UAE as a HUB for connectivity and services is an excellent start for ASREN to establish the first hub in the Arab region.
- ASREN should work on extending the outreach and should be a motivator and creator of services and applications and to create collaborative environment and events

6.9 CHAIN – REDS



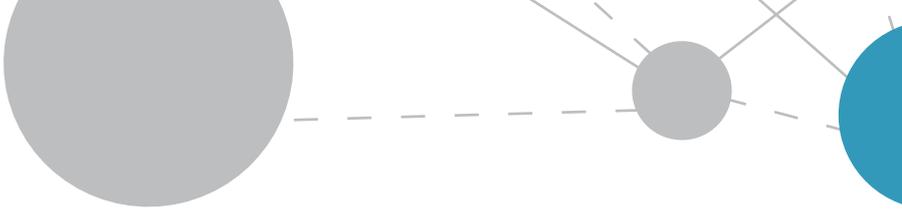
Federico Ruggieri, “CHAIN-REDS Project Overview”, INFN and CHAIN – REDS Project Manager, Italy (Chair)

CHAIN-REDS vision is to promote and support technological and scientific collaboration across different e-Infrastructures established and operated in various continents, in order to facilitate their uptake and use by established and emerging Virtual Research Communities (VRCs) but also by single researchers, promoting instruments and practices that can facilitate their inclusion in the community of users. The project aims to support and disseminate the best practices currently adopted in Europe and other continents, together with promoting and facilitating interoperability among different regional e-Infrastructures.

The core objective of the CHAIN-REDS project is to promote, coordinate and support the effort of a critical mass of non-European e-Infrastructures for Research and Education (R&E) to collaborate with Europe by addressing interoperability and interoperation of Grids and other Distributed Computing Infrastructures (DCI).

Ognjen Prnjat, “Grids and Clouds for Research & Education”, European and Regional e-Infrastructure Manager, GRNET, Greece

One of the main objectives of the CHAIN-REDS project is to improve the impact achieved by the CHAIN initiative. In this sense, it is looking for new challenges and technologies. Thus, once CHAIN proposed a road-map of services to be provided by the Infrastructures according to the (VRCs) needs and demonstrated and validated a model of interoperation and interoperability. First, CHAIN-REDS plans to: extend the CHAIN Knowledge base with Data Infrastructures: collecting issues, best practices & discovering data



repositories that could be of interest for VRCs; support the study of data infrastructures for a few VRCs; promote trust building towards open scientific data infrastructures across the world regions, including organizational, operational and technical aspects with a strong liaison with other CHAIN-REDS Activities; study the opportunities of data sharing across different e-Infrastructures and continents widening the scope of the existing CHAIN Knowledge Base to Data Infrastructures; and, provide proof-of principle use cases for Data sharing across the continents. All these topics were discussed along the presentation.

Rafael Mayo-García, “Data Infrastructures in CHAIN-REDS”, Researcher, CEIMAT, Spain

Rafael presentation included a description of WP4 which is about the Data Infrastructures. The objective of which is to: 1) perform an investigation on the data used by existing and potential trans-continental communities (VRCs) by profiting from the CHAIN legacy and by exploring new ones, 2) performing an analysis on the commonalities and differences of the available data bases/repositories (format, range, granularity, etc.), their future challenges and the mostly related executed applications and 3) proposing at least two use cases, which show common format for the stored data by means of software developments that could make all of them compatible and ‘interoperable’

CHAIN-REDS will explore the collaboration with several projects: AgINFRA (Agriculture), Climate change and Urban Vulnerability in Africa, EarthServer (Earth Sciences), EFDA-ITM (Fusion), Elixir (Life Sciences), ENGAGE (Governmental), EUDATA (multidisciplinary), SuperB (HEP), UNESCO Brain Gain (Education), VAMDC (Atomic Physics and Astronomy)

Ludek Matyska, “Identity Federations for Scientific Collaboration”, Senior Researcher, CESNET, Masaryk University, Czech Republic

Use of scientific facilities usually requires some kind of authentication to allow owners of the facility to decide that only genuine and approved users are allowed. While digital X.509 certificates can be used, they are rather cumbersome and hard to manage by ordinary users. Recently, the concept of Identity Federations is helping to overcome the digital certificates shortcoming and improve the user friendliness of the authentication in a widely distributed environment.

The Identity Federations use user’s home institutions to provide the primary authentication to a very wide set of different services from very different parties. Rafael Discussed the benefits, constraints, and also some shortcomings of this approach, as well as the Code of Conduct that defines the responsibilities of identity and service providers in a federation

Roberto Barbera, “Science Gateways”, University of Catania and INFN, Italy

Recently, the Grid team at INFN Catania has developed a framework to easily and quickly build Science Gateways which can be configured as Service Providers of Identity Federations and then potentially accessible by huge numbers of users. The framework makes use of the Simple API for Grid Applications (SAGA) standard, defined by the Open Grid Forum, to perform middleware-independent job and data management.

In this contribution he presented the CHAIN Science-Gateway and the results of its program to demonstrate standard-based interoperability amongst local (clustered or opportunistically exploited), grid and cloud resources distributed worldwide and based on several different middleware.

Nikos Manouselis, “Large-Scale (meta)Data Aggregators and Requirements from Research & Education e-Infrastructures: the Case of Agriculture”, R&D Director, Agro-Know Technologies, Greece

In this presentation, Nikos discussed some of the main challenges related to the ways such large-scale (meta) data aggregation may take place in order to support various applications and scenarios for research and education. The reflection of their experience in initiatives such as the agINFRA project was given, in order to discuss how requirements can be given to the infrastructure providers as well as how meaningful services can be designed and deployed over such data-driven e-infrastructures. This is why

the presentation put emphasis on three main topics: (a) management/creation of data repositories and collections, (b) aggregation of data and metadata in centralized indexes and pools, and (c) deployment of services for specific research and educational scenarios.

7. Closing



The event was closed at the end of the second day by Dr. Sultan Abu Orabi who thanked all participants, speakers, organizers, hosts, and sponsors. He stressed on the importance of such events and that the Association of Arab Universities is very keen in cooperating with ASREN to further develop the R&E opportunities.

8. Recommendations

The recommendations of the event have been concluded during the Round Table Discussions at the end of the second day. Panelists, together with the audience discussed their opinions on how can ASREN succeed and what are the priorities. The main concern in consensus was the applications and services need to be provided to the users and that ASREN should take care and plan of this. It was also agreed that building the network infrastructure is a key objective that ASREN should work on. ASREN is now gaining momentum and should build on this to further accelerate the development of the network and services, and that ASREEN should be a motivator and creator too. In summary:

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- ASREN should work on extending the outreach and should be a motivator and creator of services and applications and to create collaborative environment and events

In addition to that, the Status Report on the Arab e-Infrastructures included several recommendations towards developing and enhancing the Pan Arab e-Infrastructures. The recommendations are:

- Supporting the development of national RENs in countries where such networks do not exist
- Establishing ASREN international private leased circuit connecting to GEANT and other international RENs
- Creating ASREN Points of Presence within the Arab region for interconnection with additional Arab RENs, and aggregate inter-regional traffic where cost effective
- Encouraging participation of Arab NRENs in the EUMEDCONNECT3 and connecting them with communities of scientific research, worldwide
- Promoting network's dedicated bandwidth and high-speed communication capabilities to enabling researchers in the Arab region in carrying out innovative scientific research
- Advocating on the importance of research and education networks amongst decision makers and stakeholders to support the development of a Pan-Arab e-Infrastructure
- Enhancing transfer of knowledge between all ASREN partners to help build expertise in emerging NRENs
- Organizing workshops, technical training sessions, mentoring programs and encourage participation among NREN members
- Recruiting all Arab NRENs to become members of ASREN.

ASREN Chairman announced that he will be asking ASREN Management Jointly with ANKABUT Management in collaboration with DANTE which is responsible for the pan-European GEANT Network and the US Internet2 to work together towards the development of an action plan whereby UAE with its developed e-Infrastructure environment can host the hub of knowledge and connectivity for the Arab region with its international partners worldwide, to enable our educational institutions, researchers, and knowledge workers in the Arab world to become part of the world Research and Education globally.

9. e-AGE-2013

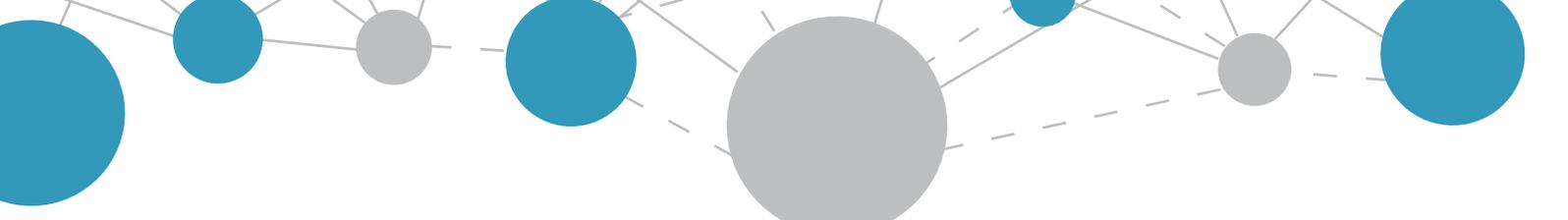
It was decided to have the 3rd International Platform on Integrating Arab e-Infrastructure in a Global Environment e-AGE 2013 in Tunisia, 12-13 December 2013.

10. ANNEX

Organizers and partners:

The Platform will be organized by Arab States Research and Education Network GmbH, in cooperation with:

- Ankabut, the UAE Advance Network for Research and Education
- National Research Foundation, UAE
- Talal Abu-Ghazaleh Organization
- Association of Arab Universities

- 
- Delivery of Advanced Network Technology to Europe Ltd (DANTE)
 - Euro-Mediterranean Connect project (EumedConnect3),
 - US Internet2 Special Interest Group Middle East,
 - German Jordanian University
 - Co-ordination & Harmonization of Advanced e-Infrastructures for Research & Education Data Sharing (CHAIN - REDS)

Program Committee:

- Ahmad Alosi, National Research Foundation, UAE
- Ahmed Dabbagh, Ankabut, UAE
- David West, Delivery of Advanced Network Technology to Europe, UK
- Mohamed Jemni, Khawarizmi Computing Center, Tunisia
- Salem Al-Agtash, ASREN/ German Jordanian University, Jordan
- Federico Ruggieri, The Italian National Institute of Nuclear Physics, Italy
- Jonathon Chapman, US Internet2 Special Interest Group Middle East,
- Yousef Torman, Arab States Research and Education Network, Jordan
- Federica Tanlongo, GARR Consortium, Italy

Organizing Committee:

- Dean Hooke, Ankabut, UAE
- Ahmed Dabbagh, Ankabut, UAE
- Maha Korttom, National Research Foundation, UAE
- Ahmad Alosi, National Research Foundation, UAE
- Helga Spitaler, Delivery of Advanced Network To Europe, UK
- Salem Al-Agtash, ASREN/ German Jordanian University, Jordan
- Yousef Torman, Arab States Research and Education Network, Germany
- Sara Al-Eisawi, Arab States Research and Education Network, Jordan
- Ola Samara, Arab States Research and Education Network, Jordan

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