

DECLARA

ALICE2 seeks to include Honduras



The ASTRA project
Recovering the sounds that times gone by erased from our historical memory



CLARA's birthday



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«The European Union is made up of 25 Member States who have decided to gradually link together their know-how, resources and destinies. Together, during a period of enlargement of 50 years, they have built a zone of stability, democracy and sustainable development whilst maintaining cultural diversity, tolerance and individual freedoms. The European Union is committed to sharing its achievements and its values with countries and peoples beyond its borders».

The European Commission is the EU's executive body.

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The added value of having more members



Rafael Ibarra,
Director Ejecutivo de RAICES.

“To spread the good news and attract more human richness into the group”. This could be the colloquial version of the Inclusion Work Group’s main objective within the ALICE2 project.

All national research and education networks participating in the ALICE2 project, from our CLARA organisation, understand the benefits and wide possibilities that this network can bring into our countries and their citizens, through an improvement of the way to conduct scientific and technological activities, which in turn impinges on the desirable conditions for a better quality of life.

This is, in part, the good news we are interested in spreading, both within our countries and regions, as well as towards other countries which are currently not connected to RedCLARA.

Diversity is one of CLARA’s assets

The more than 700 universities and research centres across Latin America which are connected and communicate through CLARA and their member national networks, represent a key asset and our network’s best presentation card. It is not only the quantity, which in itself is a relevant data, but also the diversity of disciplines, experiences, environments and skills found throughout the network.

By enabling their interaction in an efficient and effective way, RedCLARA exponentially increases the impact of their activities on our population’s welfare. The doors to other world research centres have been left open through the many interactions regularly developed and the joint research projects which take place in the different disciplines, thus widening the scope of Latin American e-Science.

Human riches

The contribution of members in terms of the ways of scientific cooperation, the invitations to events, the offering of projects and the interaction among peers fill up the optical or copper fibre links which RedCLARA maintains. This is our network’s true mission and core business.

The idea of attracting human riches into the network, the second part of the ALICE 2 Inclusion Group’s fundamental objective, aims to have other universities, other research centres and other educational institutions connected to those who currently make up this community in Latin America. More institutions in the countries already connected, and new countries which connect their national networks to the network.

The meeting in Tegucigalpa, Honduras, has an additional objective apart from the usual purposes of regular meetings: to have the opportunity, first-hand, face-to-face, of participating and inviting Honduran colleagues to set up their own national network and to become fully incorporated into CLARA, thus materialising the intentions already expressed in the past.

The incorporation of new members into the network is good news for everyone. It is a win-win situation, since at the same time that the new country’s national network wins because it becomes associated with other networks in the region, RedCLARA wins because it widens the human riches that constitutes it.

Let us work all together so that we can soon be welcoming a new partner into Latin America’s science and research advanced network.

June 10

CLARA's birthday

Six years ago, as a result of ALICE project, the representatives of 13 Latin American countries signed the Constitutive Act, which officially signed the founding of the Latin American Advanced Networking Corporation, a non for profit organization dedicated to scientific development through advanced telecommunications networking for research, innovation and education. Today CLARA stands up, raise its hands and salutes its community which is celebrating the achievements of such a young but solid institution.

Tania Altamirano

1 RedCLARA creation

CLARA develops and operates RedCLARA, advanced Internet network, established in Latin America- for regional interconnection- on 2004, and connected to GÉANT2 (advanced pan European net), through ALICE Project, which- until march 2008- was co financed by the European Commission, through @LIS Programme.

"The enthusiasm generated by ALICE clearly appeared in CLARA's creation, created to develop and make sustainable in the long term this key infrastructure for scientific development, and also for the generation of virtual integration spaces for universities and research centres in the region". Florencio Utreras, CLARA Executive Director, DeCLARA N°1, April 2005, at: http://www.redclara.net/doc/DeCLARA/DeCLARA_english_0405_1.pdf

2 CLARA management

CLARA is integrated by 17 Latin American countries and her Assembly- where each country has a representative- seasons every six months, in order to define the action lines and policies to be implemented. CLARA's institutional government organisms are the Directory (main body, integrated by: President, Vice-president, Secretary, Treasurer and a Director), the Fiscal Commission (conformed by three members of the Assembly non part of the Directory), and the Technical Commission (with seven members, engineers of the networks connected to RedCLARA, watches over the development, the technical implementations and the security of the net). The Executive Secretary of CLARA



is the organism in charge of CLARA's Executive Direction, a charge trusted by the Directory and the Assembly.

"The success of the ALICE Project which was able to create a Latin American Research and Education Network (RedCLARA) linking together 12 Latin American Countries among themselves and to the pan-European Network GÉANT2 has been one of the major achievements of the EU-LAC Cooperation in Information Society. The construction of the physical telecommunications network has been implemented successfully but, more importantly perhaps, the Latin Americans

stakeholders of this ambitious endeavour have been able to create an independent working organisation which manages and operates the network and promotes collaboration between the LA countries, each with its national organisation of networks for research. These achievements and the dynamism of this relatively young organisation, has convinced us to support the ALICE2 Project, aiming at expanding the network and its benefits to all the countries in the region and, to promote collaborative research intra LA and with EU, contributing thus to the consolidation of RedCLARA's self sustainability". Basile T. Papadopoulos, Head of Unit EuropeAid/B/2, "ALICE2: The EC funds extension of RedCLARA Network and continued interconnection with Europe's GÉANT to support development of Latin America" (on line at: http://alice2.redclara.net/index.php?option=com_content&view=article&id=7:otra-noticia-destacada&catid=3:destacado&lang=en&Itemid=0) March 24th, 2009.

3 Capabilities development

A big community of technicians, managers and research communities' leaders have been trained to collaborate among them and with their European counterparts, in order to benefit from the opportunities offered by the fact of being part of research projects.

"ALICE y CLARA are not an end themselves, but a way to achieve an end. The national networks themselves and their users communities will be the pillars that will sustain this initiative in the future in order to turn it into a regional development generator through its utilization as an instrument for international collaboration in education, science and innovation fields, bringing benefits to the whole Latin American society". Elena Vilar Pascual, December 2005. Book "In order to get far... you must be near" (on line at: http://www.redclara.net/index.php?option=com_content&task=view&id=30&Itemid=214) , page 31.

4 Regional inclusion

RedCLARA has promoted and propitiated the creation and consolidation of National Research and Education Networks (NRENs) in Latin America.

Until now, it has been achieved the connection with and between: Argentina (Innova-Red), Brazil (RNP), Chile (REUNA), Colombia (RENATA), Costa Rica (CONARE), Ecuador (CEDIA), El Salvador (RAICES), Guatemala (RAGIE), Mexico (CUDI),

Panama (RedCYT), Peru (RAAP), Uruguay (RAU) and Venezuela (REACCIUN2-CENIT).

Bolivia, Cuba, Honduras, Nicaragua and Paraguay are not yet connected. The goal is to establish a net with a wide coverage of Latin America and deeply connected with the Caribbean.

"RedCLARA operation, from 2004 on, and the countries connection, from Mexico to Argentina, was possible thanks to the strategic communications between Latin America and Europe, the support of the Information Society Programmes of these countries, and to the linkage with the institutions customers from international networks and international partners. Their value as an instrument of cohesion and collaboration was recognized by the hemispheric agendas of science and technology, and in the plans and projects of international organisms that promote the advance of Latin America inclusion by diminishing the regional and global asymmetries". Nelson Simões, RNP General Director. Book "In order to get far... you must be near" (on line at: http://www.redclara.net/index.php?option=com_content&task=view&id=30&Itemid=214), page 35.

5 Community support

For the academics, scientists and researchers of Latin-America, CLARA is developing and will offer a data base about available funds for Research and Innovation in the region, founded by the Special CIDI Multilateral Fund (FEMCIDI), and with a database that gathers information about current collaboration projects. Also, the system will offer a group of tools built according to the user perspective, that will allow to train different communities.

"RedCLARA will open great possibilities of collaboration inside Latin America, will make possible the development of research in many areas that today depend on the availability of a fast connection of great band width. It will make possible to the Latin American researchers to interact with the European researchers and from the rest of the world". Fabio Colasanti, General Director of the Information Society of the European Commission. Speech given at the RedCLARA launch ceremony, on November 22, 2004, in the III Latin America and the Caribbean and European Union Ministerial Forum on the information Society: An Alliance for Social Cohesion through Digital Inclusion. Rio de Janeiro, Brazil. Visit: http://www.redclara.net/doc/Fabio_Colasanti_LanzaRedCLARA_eng.pdf.



6 Development and consolidation of a sustainable model

A strong organization, correctly managed, participative and self sustainable, with a strong shaping model.

“ALICE has created a firm foundation for research and education in Latin America and demonstrated the benefits that close collaboration provide for global and regional development, benefiting the wider community through initiatives such as monitoring climate change, telemedicine and e-learning. We see this work as a reference model for those beginning to build research communities in other geographical regions”. Antonio Crespo, @lis Programme Co-ordinator, European Commission. Quoted from the article generated by The Works of DANTE, “Latin American Research Growth Extended through new EU agreement until 2008”, published on May 3rd 2007

e-CienciAL Project approved for a second term

The improvement of academics and researchers capabilities, the construction of an information system and the collaboration for e-Science are some of the objectives to be fulfilled on this new stage.

Tania Altamirano y Renata Victal

The E-CienciAL Project “Encouraging Advanced Networking Use in Latin America for Science, Technology and Innovation Development”, financed by the Organization of American States (OAS), through the Special Multilateral CIDI Fund (FEMCIDI) and executed by CLARA, has been extended for two more years, until 2010.

“The utilization and a better use of the telecommunications infrastructure developed by CLARA is allowing the region’s scientific community to join the e-Science stream, increasing the use and the potential of the advanced networking, making possible the articulation and dialogue between researchers”, signals the project coordinator, Ana Cecilia Osorio.

According to Osorio, in the next two years of the e-CienciAL project execution, the work that has been on the last stage, which defined four products with objectives focused on researchers interconnection in the region, will keep going.

The first of them is the set up of the Strategic Agenda for e-Science, which guides and coordinates the different countries efforts on science, technology, and innovation and has the goal of increasing the number of National Research and Education Networks (NREN) that will include such tool in their work plans.

The second product is about increasing the number of research groups on science and

technology through the NRENs. On this stage, the objective is to increase the number of work groups and their participants. Also, the creation of specific websites for each group will be encouraged.

The increase of the scientific community skills to identify, formulate and execute competitive projects through Advanced Academic Networks represents the third product, where a training plan for researchers that expects to reach 30 percent of approval will be executed. It is expected that they, according to what the project coordinator explains, will count at the end with a competitive level project, capable of applying to regional and international funding.

On what refers to information and collaboration systems for science and technology (the fourth product), at the end of the project the expectations are to reach an approximate number of 150 institutions registered in the information and collaboration system, other than programs, funds and calls, which provide information on financing lines for research and international and regional innovation.

The e-CienciAL project already counts with a Strategic Agenda, result of Lima Workshop, celebrated on November 2008, where researchers, politicians and government representatives from all the continent participated. Also, on that opportunity, human networks on five working areas were conformed.

Area 1 refers to astronomy, astrophysics and high-energy physics. 2: sciences of Earth and ocean as ecology, oceanography, vulcanology and climatology. Area 3 is dedicated to health and includes molecular biology, parasitology, tropical diseases and epidemics. Area 4 dedicates to education and projects are oriented to digital libraries, mathematics and distance education. Area 5 is about nanoscience and nanotechnology.

Next step, explains Ana Cecilia, will be the qualification of formation tools through advanced networks for each of these five areas. With the job already done, the researchers and academics capabilities on competitive projects involving the advanced network formulation are improving. "We hope that with this improvement, the number of people applying to regional and international funding increases", says.

In order to facilitate the networks communication and coordination, a system of information for collaboration and Latin American e-Science, was built, the web platform will be available for the scientific community on this year's second semester.

Skipping barriers

According to the e-CienciAL project coordinator, the obstacles the projects researchers find are many, but the most typical one is the lack of time to connect with their colleagues.

"Communities are diverse on their development and progress. Some are very solid and consolidated and use the advanced network on a very familiar way, others, are still discovering the networks real potential. To deal with both of these scenarios is quite complex", explains Ana Cecilia.

According to Osorio, the Strategic Agenda valuation at government, regional and international levels, is one of the main challenges, because its adoption as a work instrument depends on political decisions that the project cannot assume itself. It requires the active participation and compromise of the academic networks and, specially, the definition of government politics in each country.

"The information and collaboration system must improve and advance until becoming a regional reference as CORDIS is to Europe. This is a challenge to CLARA that goes beyond the e-CienciAL project, but that has established its base on this first approach", concludes Osorio.

Further information at:

: http://www.redclara.net/index.php?option=com_content&task=view&id=128&Itemid=259



An opportunity to establish new contacts and to create connections



The activity, organized by the e-Infrastructure Unit from the European Commission, GLOBAL Project and CLARA, took place over the Internet on Tuesday June 23. Academics, scientists and researchers from the National Research and Education Networks from Latin America, Caribbean, North America and Europe participated through Isabel Plaza.

Daniel Márquez

The "GLOBAL e-Infrastructure Networking Event I" took place on Tuesday June 23 in the Global Virtual Auditorium. Academics, scientists and researchers from the National Research

and Education Networks (NRENs) from Latin America, Europe and North America presented ideas and made proposals to the development of the Seventh Framework Programme (FP7) of the European Commission.

The activity was promoted by the European Commission, and organized by the GLOBAL Project, on which CLARA participates (www.global-project.eu). Its purpose was to offer an introduction to the "e-Infrastructure" area, from the FP7, emphasizing on Call 7 to present ideas and projects proposals, the same way it has been happening the last years in the "Information days".

On 2007, the European Community began with his Seventh Framework Programme, related to investigative and technological development. Better known as FP7, it includes among its

principal guidelines the support to new and already existing research infrastructures and the development of policies and programs implementation.

FP7 will last until 2013 and, every certain time, calls for proposals. The next one, the seventh, will begin on July and will last until November.

From the distance

Carmen Mena Abela, from Bruselas, and Juan Quemada, from Madrid, conducted the event, which started punctually on Isabel Plaza and was also possible to follow by video streaming.

On the first part, different experts from the European Commission detailed the different call for proposals fields. Kostas Glinos made an overview of the e-Infrastructure Programme; Monika Kacik talked about distributed computing infrastructure and Ioannis Sagias about simulation software and services. Bernhard Fabianek spoke about virtual research communities; Carmela Asero referred to coordination action, conferences and studies supporting policy development including international cooperation for

e-Infrastructures; Hughes Crutzen about FP7-Infrastructures-2010-1 and Isabella Saini about the Legal and financial aspects of the participation in the FP7 calls for proposals.

Then different institutions presented their related projects. The participants had previously sent ideas and projects proposals related to the area of e-Infrastructures on two slides documents. Each one had four minutes to talk about the initiative.

Rocío Cos, CLARA Project Manager, made the first presentation, related to the projects that have been done on that country, such as CLARA's improvement and strengthen, e-Science development, telemedicine politics and the project of creating scientific documentation depositories in Latin America. Salma Jalife, from CUDI, the Mexican NREN, focused on their projects involving Grids and scientific laboratories. Iván Armuelles, from Panama University, talked about connectivity projects and advanced networking access based on mobile infrastructures.

Michelle Savoie, from the Communication Research Center, CRC, on Canada, presented virtual health projects, involving connecting hospitals with research organizations. In a joint presentation, which took place in Athens and Sao Paulo, Eleni Toli, from Athens University, and Edison Spina, from the Polytechnic School from Sao Paulo University, shared the BELIEF Symposium (Bringing Europe e-Infrastructures to expanding frontiers), an activity that will take place from July 16th to 17th, in Brazil.

Jorge Guerra, from San Marcos University in Perú, talked about their implementation proposal of cloud computing, known as "Phuyu Project", which seeks to integrate infrastructures in order to benefit small and medium economy, a unique project in Latin America. Additionally, he talked about the use of satellite images for the early drought and desertification detection in Northern Peru, a project in which Chiclayo University is also involved. This last project also called the attention of a Venezuelan expert, involved with similar initiatives.

Finally, José Castro Mora, from Costa Rica Technological Institute, shared the projects about microelectronics, Microsystems and Cluster GRIDs for the public universities system they have been working on. Besides, he outlined the research initiatives on cognitive models for distance education and the genealogical database they are interest to develop, in order to develop genetic analysis, they are working on.

"The GLOBAL e-Infrastructure Networking Event I" was an excellent opportunity for the institutions to create new contacts with academics, scientists and institutions from other countries, in order to develop joint projects for the next calls on FP7.

A second edition of the event will take place on July 1 and will be directed to Middle East, Africa, Asia and Europe.

Follow the track

Full information about the event, including videos and slides, are available at:

http://isabel.dit.upm.es/mediawiki/index.php/GLOBAL_e-Infrastructure_Networking_Event_I

ALICE2 seeks to include Honduras

Members of the Latin American Cooperation on Advanced Networking (CLARA) visited Honduras to promote the creation of a National Research and Education Network (NREN) that permits this country to be included in the entity. The effort is part of ALICE2's Work Package 8, related to the inclusion of more countries in CLARA.

Ixchel Pérez

The Honduran Network of Universities with Advanced Telecommunications (RHUTA) was created on April 25, 2005. The event was a good reason to celebrate: it promised to enforce research in Honduras and also meant the first step in order to include Honduras into the Latin American Cooperation on Advanced Networking (CLARA). Nevertheless, time passed and there were no big advances. The dream of Honduras joining the regional effort began to vanish.

After ALICE's success creating CLARA and connecting the different National Research and Education Networks (NRENs) to RedCLARA, ALICE2 keeps with the effort, struggling to accomplish projects as the one with Honduras. The main objective of this project's new phase is to connect more countries and there is a team exclusively dedicated to this mission: Work Package 8.

The WP8, right now conducted by Rafael Ibarra, from El Salvador, member of CLARA fiscal commission and director of the Advanced National Salvadorian Research Science and Education Network (RAICES), consists on representatives of different countries, gathered around ALICE2 and CLARA.

"WP8 is trying to attract new members to CLARA and to the connection with RedCLARA, understanding as members the countries' NREN; in the region, the ones left are Honduras, Nicaragua, Bolivia, Paraguay and Cuba", says Ibarra.

RAICES's director explained that the majority of those countries do not have yet a created NREN and the ones who have one, haven't consolidated

it yet. "We are trying to include them in CLARA; if that means to strength their own network, we will help them too", concludes.

As part of this support and of WP8's efforts, CLARA's representatives met with the authorities of the main Honduran Universities and Honduran Council on Science and Technology (COHCIT)'s authorities on March 19, 2009 on Tegucigalpa, Honduras.

"The objective of the meetings in Honduras was to create the need of having an active NREN, to expose its benefits and to share the experience of what it's been done in near countries, that is the reason why we, the directors of the NRENs from Guatemala and El Salvador, were there", explained Ibarra.

The president of CLARA and director of the Mexican Education Network CUDI, Carlos Casasús; the member of CLARA directory and director of the Guatemalan NREN RAGIE, Luis Furlan; and the leader of WP8, Rafael Ibarra, gathered with Honduras Science and Technology Minister, Myriam Mejía, and exposed the advantages of the advanced networks, as the convenience of organizing a NREN and the perspectives of joining RedCLARA.

"The Technology Minister showed enthusiasm and recognized that is important for Honduras not to stay behind in the advanced networking subject", detailed Ibarra.

Besides, the specialists imparted conferences about CLARA to more than 20 representatives from different research and education institutions, as the Technologic University

(UNITEC), the Politechnic University, the Zamorano Panamerican Agrarian School and the United Nations Development Programme (UNDP).

In the course of the conferences, they exposed the benefits of CLARA, such as permitting the countries' universities to be connected with other research centers and universities in the world through a fast way (RedCLARA) and the opportunity of signing agreements with other institutions.

According to RAICES director, the first step Honduras must take, just as the other countries not yet connected to RedCLARA, is to organize the internal network. Ibarra uses as an example the case of El Salvador, that created an Non-governmental Organization.

"In Honduras, many universities showed interest in conforming their own network, it does not matter if it's called RHUTA o however they want to call it, the important is to take the step", emphasizes.



Members of the government and from education institutions participated in the meetings.



Rafael Ibarra, director of RAICES, explained the experience of El Salvador in advanced networking and the advantages this resource could bring to Honduras.

ALICE2 had its place in TNC2009

The TERENA Networking Conference 2009 (TNC2009) was carried out from 8 to 11 June and hosted by the University of Malaga (Málaga, Spain) and RedIRIS, the Spanish National Research and Education Network (NREN). During the second day of the activity that gathered the research networking community, Florencio Utreras, CLARA's Executive Director, had the opportunity to introduce the ALICE2 project in the course of the "Implications & Benefits of Connectivity Beyond Europe" session.

Throughout the four days of the Conference some members of the CLARA staff had the chance to interact with outstanding researchers and NRENs leaders.

María José López Pourailly

TNC2009 was the perfect scenery to share experiences, knowledge and hopes. Yes, hopes, because one of the best things of this particular event was that it served as a forum to share visions about future connectivity projects (e.g. the FEAST study for Africa) and new network developments as the GÉANT3 and RedCLARA2 networks.

In fact, the importance of the e-Infrastructures development was a key message of the European Commission (EC) and this was established during the Opening Session through the presentation given by Kostas Glinos, who leads the Géant & e-Infrastructures Unit of the Directorate General



Kostas Glinos

for Information Society and Media at the EC. In his presentation Glinos stated that “the Commission will continue providing support to GÉANT to reinforce its capacity and global perspective”, moreover he clarified that this means that GÉANT is the path that will lead Europe’s development.

“e-Infrastructures need to embrace new paradigms and include richer functionalities ... to support multi-disciplinary teams to transform bits, bytes & flops into scientific discoveries & engineered products”, with this declaration the EC representative highlighted what will be the main challenge to reinforce research and development in Europe, and of course, in all the extra European regions that are benefited from the different EC support and development actions, meaning Latin America, the Caribbean and Africa, among other relevant areas.

In what is referred to Latin America, there was a big “window” to show the Europeans and the rest of the world which are the developments that have been possible thanks to the RedCLARA network that was the main result of the ALICE project (co funded by the EC @LIS Programme) and that will be enhanced and empowered thanks to the ALICE2 project which is co funded by the EC @LIS2 Programme.

Luiz Ary Messina had the chance to present the Brazilian Telemedicine University Network – RUTE and to explain how Brazil is improving medical and health education, diagnosis and treatment by connecting resources within their own country and overseas, through the RUTE/RNP link to RedCLARA which is linked to GÉANT2 and Internet2. This session had the special component of the transatlantic connection (GÉANT2 – RedCLARA) and the trans-Mediterranean one (EUMEDCONNECT) that made possible the participation of Marcus Terena who is a native of the Amazonian region (the name of his culture is Terena) that has been part of the RUTE initiative. Terena talked about the way that natives have started to relate with new technology: “The indigenous leaders must explain to our spiritual leaders how these technologies can help our people, and it is very difficult because in some way this trespass the limits of our ancestral tradition”.



Luiz Ari Messina



Marcus Terena



Florencio Utreras

Regarding the ALICE2 project, which was part of the second day session devoted to Implications & Benefits of Connectivity Beyond Europe, Florencio Utreras, the CLARA Executive Director, stated that this project -which is co funded by the EC- it is not only about enhancing the RedCLARA network capability but more important about inclusion, meaning that the main efforts will be conducted in order to connect to RedCLARA those Latin American countries that are not connected yet (Bolivia, Cuba, Honduras, Nicaragua and Paraguay) and to empower technicians and researchers through training activities and by fostering the creation of regional research communities focused on solving Millennium Development Goals related issues as well as other high science topics of common interest between Europe and Latin America.

This session also had interactive participation by means of the Isabel platform of the GLOBAL Project. In fact, thanks to this platform the President of the CLARA Board, Carlos Casasús, had the opportunity to transmit the trust that the CLARA community has in the success of the ALICE2 project and to salute the session attendees.

The FEAST study and the Ubuntu Alliance had also the chance to present their advances and to transmit the relevance that the challenge of the future connection of Africa has not only for that continent, but also for the global research and development community.

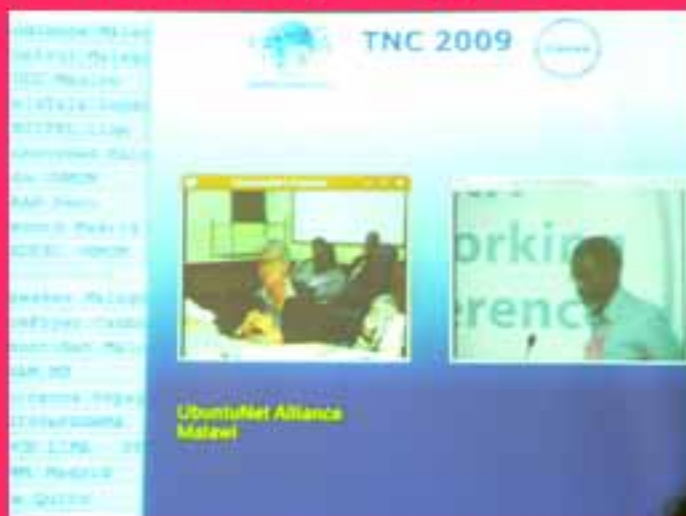
In order to get more information and to download all the presentations here referred (and of the whole TNC2009 event), please visit : <http://tnc2009.terena.org/>.



John Dyer (TERENA), Florencio Utreras (CLARA), Juan Quemada (GLOBAL)



Carlos Casasús (CLARA) via Isabel



Malawi (via Isabel), F.F. Tusubira

FEAST, more than a feasibility study for the African research and education communities' connectivity - a real chance for making a better world

The African territory has 30,321,130 km², which is more than the sum of the total land mass that Argentina, China, Europe, India, New Zealand and the United States of America occupies in the world's map. A huge continent that lacks of connectivity, an serious number of researchers and scientists that cannot collaborate with the rest of the world in finding solutions for real problems that are –as we all know- affecting the African population. The FEAST study is analyzing the feasibility of interconnecting existing and emerging sub Saharan African research and education networking infrastructures and connecting them to the European backbone network, GÉANT.

María José López Pourailly

There's no need to explain why is so important to integrate Africa to the Advanced Networks fabric , at least not to the community gathered in CLARA and the ALICE2 project, because Latin America knows about the benefits of connectivity thanks to the ALICE project that created the RedCLARA network that is currently connecting 13 Latin-American countries. Latin America knows how important this is, that is the reason behind pursuing the connection of Bolivia, Cuba, Honduras, Nicaragua and Paraguay; we cannot grow as a region if a part of it does not share that growth process. We cannot globally grow if a continent is not sharing that growth process..

FEAST (Feasibility Study for African – European Research and Education Network Interconnection) has been made possible by funding from the European Commission Information Society and Media Directorate General. This ten-month feasibility study (it should finalize in October 2009) is carried out by a partnership of DANTE, TERENA and the Swedish Royal Institute of Technology, KTH, which is the main contractor. Several European NRENs have pledged their support to the project. The initiative, co-funded by the Africa-EU Partnership Agreement, will support the establishment of sustainable and extensible regional backbone networks dedicated to the interconnection of Africa



Gerti Foest y Cathrin Stöver.

NRENs (sub-Saharan region) to each other and to the world via the pan-European GÉANT Network.

Gerti Foest, of DFN in Germany, is in charge of the NREN Coordination and Applications of the study. She has been deeply involved in FEAST and certainly has a clear vision of the African situation and of the meaning of collaboration. We spoke with Gerti about FEAST, the conversation started during the TERENA Conference held in Malaga - Spain (TNC2009) in June 8th to 11th, and continued through the net a few days after the meeting. The following interview is the result of that conversation and it certainly shows the importance of FEAST and what the communities connected to RedCLARA can do to contribute to the future African Connection.

Many countries compose the sub-Saharan region, is FEAST aiming to reach all those countries or just some of them?

The FEAST study concentrates on a number of East African countries, mainly those which are organized in the UBUNTUNet Alliance

You are carrying out a survey in order to perform your feasibility study. How many different stakeholders/countries answers do you envision would be a good sample in terms of representing the reality of the sub-Saharan region?

Of course we envision to get as many answers as possible from all countries targeted in the study. However, this has shown to be a difficult task and I don't think it is possible to set a number here. The situation in the countries differ extremely so in my opinion it is not possible to draw a general picture of the sub-Sahara region.

Africa is a huge continent with huge problems to solve: hunger, poverty, health, basic education, major social-political-economic conflicts and differences that many times are traduced into wars, among others. Each African country government has to manage to solve these problems, how does FEAST partners envision to put the issue of bridging the digital divide into those governments agendas?

This can only be done by the African partners in their respective governments. In some countries (e.g. Kenia, Rwanda, Malawi) there is already quite an awareness in the governments. The establishment of NRENs which show that a cooperative approach is much more effective than individual approaches helps to convince governments to acknowledge the importance activities to overcome the digital divide.

Currently there are just a few NRENs in the sub-Saharan region, 10 of them gathered in the UbuntuNet Alliance. How has been perceived the FEAST study in those countries that don't have an NREN, do they value positively the idea of counting with a regional backbone interconnected to GÉANT in the future or are they reluctant? Do they see the importance of having this kind of connection? Which are their main doubts and needs?

As the FEAST study deliberately covers countries that either have already established an NREN or are in the process of doing so, I cannot really answer this question. I think the best way to convince governments and other stakeholders who are still hesitant is to demonstrate the importance by “success stories” in a similar way as CLARA is doing in Latin America.

In terms of applications, your area, which would you say are currently the applications that are more needed?

What we need are applications that have a visible impact on the development of the most problematic areas in these countries which are education, health, agriculture and the environment. Applications that help researchers to cooperate with researchers in Europe and other parts of the world in these areas are most important.

Do you think that the broad international community -not only Europe- has something to do in order to help Africa in this process of advanced connection?

Definitely: Yes. As FEAST is a European funded project the main focus is of course on cooperation and collaboration between Europe and Africa. But it is most important – and even requested – that also other continents are getting involved. Especially those that have experienced similar problems and can therefore contribute even better than Europe.

What could Latin America, the community gathered in CLARA and in the ALICE2 project, do in order to contribute to the FEAST activities?

I think there are a lot of similarities between the experience made in the ALICE projects and CLARA and the activities planned in FEAST. The establishment of personal contacts between people involved in CLARA, ALICE, EELA, etc, and people involved in the FEAST activities would in my opinion be the best way to contribute. This kind of contribution has already started e.g. with holding a Grid-workshop in Malawi in November 2008

and could be extended by various kinds of cooperation between application activities in the area of, health, climate research and others.

What do you think has the rest of the world has to learn from the experience that you have had in FEAST?

This is a very broad question but I think what the world can learn from activities like FEAST, ALICE and others is that even though it is sometimes very difficult to put individual interests aside, it is worth to try hard to come together, cooperate and work together. It is eventually for the benefit of all.

For more information about FEAST, please visit <http://www.feast-project.org/>.

Recovering those sounds that times gone by erased from our historical memory

Some years ago a friend asked me what my personal soundtrack was in that particular moment of my life; I instantaneously answered him “the ‘Love theme’ that Ennio Morricone created for Cinema Paradiso”. Many years have passed since that and today, when I’m trying to figure out the best way to transmit you and all the DeCLARA readers the extremely emotive, wonderful and totally astonishing experience that I lived when I heard the Epigonion played by maestro Francesco De Mattia in a key-board during the Gala Dinner of the Terena Conference 2009, and I matched that beautiful sound with his look (eyes closed and such a calmed expression of joy in his face) and the big smile in Domenico Vicinanza’s face, the only image and sound that comes to my mind is that of the emotion that I felt when I saw the last scene of Cinema Paradiso and the music of Morricone made me cry and smile at the very same time (personal digression: Cinema Paradiso, last scene, after many years the secret is revealed, “Love theme”: <http://www.youtube.com/watch?v=wEFugVbzsSo>).

No, of course this will not be a clean report, probably it won’t be objective but for sure it will be honest, cause in all honesty I must say that I totally fell in love with the wonderful sounds that the curious marriage between engineering, archaeology, history, music and advanced networks, brought to life (relevant digression: enough of my words, you need to check out this video in order to start understanding what I’m writing about: <http://www.astraproject.org/files/concertdemo.mov>).

María José López Pourailly

Real data:

<http://www.astraproject.org/>

The ASTRA (Ancient instrument Sound/Timbre Reconstruction Application) project is reconstructing the sound of ancient (not currently existing) instruments using archaeological data as fragments from excavations, written descriptions, pictures, etc. By applying physical modelling synthesis -a complex digital audio rendering technique which allows modelling the time-domain physics of an instrument-, the

experts that are carrying out the project are recreating models of some musical instruments that were lost for ages (hundreds and hundreds of years) and reproducing their sounds by simulating their behaviours as mechanical systems. The application produces sounds corresponding to different configurations of each one of the instruments, meaning the different notes.

The application runs over a grid that operates over the GÉANT network. The reason for



Domenico Vicinanza y Francesco De Mattia.

applying a grid is given in the homepage of the ASTRA project website: "Physical modelling is a really computing intensive technique since the complex models of the musical instruments are solved by integrating numerical coupled differential equations. To have an idea of the needed time for simulation, on a Pentium IV1.6 Ghz, 512MB RAM. Personal Computer to correctly reproduce a sound lasting for 30 seconds it could be required more than 4 hours."

The *maestros*: Domenico Vicinanza and Francesco De Mattia

(Third digression: I cannot divide the fantastic perception of risky craziness and creativity that I perceive from Domenico and Francesco from the wonderful voice of the Polaco Goyeneche singing "Balada para un Loco": <http://www.youtube.com/watch?v=0DBmUoy6Q2c>).


Domenico Vicinanza is a network engineer, musician and researcher. He received his MSc and PhD degrees in Physics from University of Salerno (Italy) and studied piano, percussion and composition. His PhD work involved computer simulation and database design of a LHC experiment detector at CERN. He joined DANTE Operations in January 2008, working in

the field of multi domain network monitoring.

He worked for seven years as a Research Associate at the University of Salerno and at Roma Tre and as Scientific Associate at CERN. He also taught Sound Synthesis and Computer Music at Conservatory of Music of Salerno. His activities during this time included LCG sites administration, grid computing, services support and teaching. He worked in the Operations and Support section of IT department at CERN, working on the EUMEDGRID project that involved the service support for site administrators and the Service Availability Monitoring package documentation, and participated in training activities.

Domenico chairs the ASTRA project for the reconstruction of musical instruments by means of computer models on GÉANT2 and EUMEDCONNECT and he is the technical coordinator of the Lost Sound Orchestra project.

As a composer and researcher his focus was always on the richness of the information coming from the Nature. He first introduced the sonification of seismic signals (in particular coming from active volcanoes) as a scientific tool, co-working with geophysicists and



volcanologists. His experiences include the application of grid technologies for music and visual arts and as a composer he took part to several concerts, festivals and webcast.

Domenico's other interests include (aside with music) Argentine Tango and watercolors.

Francesco De Mattia is a harpsichordist and composer, mainly working with baroque compositions as a continuist and reviser. Deputy maestro at Naples' S. Carlo Theatre, he has presented his work in theatres all around the globe. He collaborates with publishing companies like Ricordi – for whom he has done the critical review of more than 60 works from the unpublished repertoire of the Neapolitan 1700's-, Universal, McGraw-Hill, Prentice Hall, Pearson Education, Oxford University Press. As a member of the "R.M. Capocelli" Computer Science and Applications department at the University of Salerno, he has achieved significant results on the issue of digitalising musical manuscripts and the multimedia configuration for such documents –their revision and electronic recording- and of the musical and musicologist arguments; he has collaborated with the digitalisation of the S. Pietro a Majella Conservatory's Virtual Library in Naples.

Francesco is artistic coordinator for the ASTRA project and the Lost Sounds Orchestra, an orchestra –the only one of this kind worldwide- which works with sounds from instruments recovered by means of the techniques developed as part of ASTRA.

The De Mattia maestro has taught Harmony from 1981 to 2009 at the G Martucci Conservatory in Salerno, an institution where he was Vice Chancellor from the year 2000 and, Director from July 2006 to February 2009. Today he is a senior lecturer of Harmony at the A Boito

Conservatory in Parma, where he also deals with issues related to the conservatory's connection to the GARR network (Italian National Research and Education Network).

The interviews: All about knowledge sharing, passion... life

(Fourth digression: While I'm writing I hear Caruso in the voice of Lucio Dalla:<http://www.youtube.com/watch?v=r461Aa5ZDCM>)

Potenza della lirica: Talking with Domenico

How did the ASTRA project started? Which was the initial idea and which were the contributions that you envisioned for both the technical and artistic-social sciences areas?

The ASTRA project started thanks to the passion of a group of volunteer researchers and musicians, with the idea of investigating and possibly recreating lost sounds of the past. In that framework, recreating an Ancient Greek instrument which no longer physically exists, was a wonderful challenge for historians, archaeologists, physicists, engineers and computer scientists. Four years ago, driven by the exciting idea of recovering an entire sound world, I launched the project with the help of a group of researchers in Italy (Salerno, Catania, Parma) and Switzerland, aiming at using pure computation and modelling, to recreate ancient sounds and ancient music.

Using computers to generate sounds is not absolutely new in the history of science. Ever since the first computers appeared at research centres, universities and radio stations, they have drawn the attention of musicians towards new ways of writing music, of creating sounds. When networks started to link computers together, the possibilities became wider and even more fascinating: thousands of PCs spread around the world could work together to generate sounds, to create music.

The calculations used to recreate the Epigonion require reliable access to high bandwidth and this is why we have to use research networks and not the normal internet. Another main advantage

was to bringing experiences and knowledge together. Imagine having an archaeologist working in Greece with many interesting relics and findings, a group of engineers in Italy, a software developer in Mexico, an historian in Philippines: using the network within our project ASTRA, they have the possibility to interact and co-operate, adding experiences and creating something unique.

Finally, using such a powerful network has another big advantage in that the results can be made available to a large community of users immediately.

How did you choose the first instruments that you decided to work with in order to recover their sounds?

The first instrument we reconstructed was the Monochord, an ancient musical instrument played by Pythagoras. The word "monochord" comes from the Greek and means literally "one string." In the monochord, a single string is stretched over a sound box. The string is fixed at both ends while a moveable bridge alters the pitch. We built a real monochord in our labs (the monochord is quite easy to build, this is the reason we have chosen it) and we checked that the model correctly reproduced the sound of the physical instrument. After a whole year of software improvements we moved to more complex instruments like the Epigonion.

The Epigonion was then the first real, complex instrument we managed to reconstruct. The ancient Epigonion, no longer exists as it was conceived (the sound was a little weak and sometimes unstable), but many modern string instruments, like the harp, the harpsichord and the psaltery have evolved from it. We had the first set of Epigonion sounds ready in September 2008 (<http://www.geant2.net/server/show/ConWebDoc.2867>)

In your own words which is the central importance of this project?

In one single word: sharing. Sharing, putting in common experiences, melodies, backgrounds, enthusiasm, passion, feelings. Many times we have been asked why don't we just



physically make the instruments, if we know the shape and materials. The main reason is to share its sounds with the largest number of people. Reconstructing the instrument using a virtual model has the advantage of making it easy to build sound libraries that students, researchers and museums can easily access and use. In this way we can allow everybody to load the sounds onto a PC, plug in a keyboard and play. Reconstructing just one Epigonion would have meant that just one instrument was available for studying purposes.

How EUMEDCONNECT2 does support ASTRA?

EUMEDCONNECT was the first research network to host the ASTRA software in 2006. EUMEDCONNECT2 is allowing us to continue and extend the achievements. To bring together sufficient power and to share information among the people involved in project, we are using the GILDA (<https://gilda.ct.infn.it>) and EUMEDGRID

The Epigonion was an ancient stringed instrument mentioned in Athenaeus (183 A.D.), and was a bit like a modern harp or a psaltery. The epigonion was invented, or at least introduced into Greece, by Epigonus of Ambracia, a Greek musician of Ambracia in Epirus, who was granted citizenship at Sicyon in recognition of his great musical ability and because he was the first to pluck the strings with his fingers, instead of using a plectrum. The instrument, which Epigonus named after himself, had forty strings.

Juba II, king of Mauretania, who reigned from 30 BC, said (Ap. Athen. l.c.) that Epigonus (who was himself a skilled player) brought the instrument from Alexandria and played it with the fingers of both hands, not only using it as an accompaniment to the voice, but introducing chromatic passages, and a chorus of other stringed instruments, probably citharas, to accompany it.

(www.eumedgrid.eu) computing infrastructure, which link computing resources across the Mediterranean at high speed (up to 2.5 Gbps) through the GÉANT2 (www.geant2.net) and EUMEDCONNECT2 (www.eumedconnect.net) research networks. The physical modelling process needs, in fact, extreme amounts of computing power taking about four hours for a high powered computer to correctly reproduce a sound lasting only 30 seconds.

Are you interested in continuing recovering lost sounds of ancient instruments?

Yes, absolutely! We are currently modelling other instruments, focusing in particular on other string instruments like the barbiton (a bass guitar of the past), the chitarra, the pan flute and brass instrument (like an ancient trumpet called Salpinx and an ancient oboe called Aulos).

Many instruments of the past have been lost for many reasons, possibly that the instruments are too complex or too difficult to play or are too difficult to build and use today. Our aim is to bring them to life and we are happy to announce that all these instruments will be played by a special ensemble: the Lost Sound Orchestra (www.lostsoundsorchestra.org), the ASTRA project orchestra.

It is a unique orchestra created by reconstructed ancient instruments from our research activities. It is the first orchestra in the world composed of only reconstructed instruments. Listening to it will be like jumping into history and hearing a completely new sound. The purpose of the orchestra will be also to organize cultural activities, seminars about the ancient instrument and the ancient music and performances. Among those activities there will be a special

project devoted to Domenico Scarlatti's music. The "Scarlatti Project" will aim at offering to musicians from all over the world (in particular those coming from developing countries and those without any financial support) the possibility of playing the Epigonion using the network and recording a sonata staying at home, just plugging a MIDI keyboard in their laptop. The final result will be something special: the network will be the tool to bring together people with different experiences, different background but "speaking music" as a common language. News about the project will be soon available on the Lost Sounds Orchestra website.

Why an engineer does get involved in such a different world –the fine arts world– and how do you explain to your colleagues this particular interest?

I always loved the idea of using technology to support arts and humanities. I am musician as well and being in touch with engineers and artists I realised that there is a huge gap between people creating new technologies and those who are using them. This is the why together with Francesco and other musicians we decided to bring our results in the conservatories involve students and set up a real orchestra to make music. Bringing the technology and its results where the people can really use them, do really need them, not just in a conference centre on among a small selected community of scientists.

Do you think that Latin America could contribute in some way to your initiatives? How?

We would love working on ancient instruments in Latin America, like traditional instruments of the past and instruments belonging to the Incas, pre-Inca and Mayas, instruments of the Andean tradition. Latin America is extremely rich of

musical instruments and it developed a musical system quite different from the European and North American one. Its rhythms, its melodies have significantly influenced the history of music and it will be wonderful for us collaborating with partners there (musicians, instrumentalists, researchers, museums, libraries, ...)

You have performed with Francesco and some other musicians in some very important events, for example for the Gala Dinner of TNC2009. How is your work appreciated for those that are part of the advanced networks community?

The Gala Dinner concert at TNC2009 was something magic. It was the first time the Epigonion performed alongside with a real string quartet with a repertoire spanning from the Baroque music to modern pop music (we played some Frank Sinatra for example), from Renaissance suites to Argentine tango. It was also an example of how a local musical community (the quartet from the Orquesta Sinfónica Provincial de Málaga) could interact seamlessly with our project which has deep scientific and technological roots (yet with artistic leaves...).

Music is a wonderful language, it allows to communicate in a straight way, without translations. The network community is extremely interested in how the technology and networks could provide artists and performers with new tools to collaborate, communicate and share their cultural experiences.

The ASTRA project uses archaeological data as an input to build a virtual model of the instrument. This model is checked and validated by engineers and historians (to verify that it actually represents that particular instrument), describing materials, geometry, string profiles. It is translated in a software programme running on hundreds of computers in Europe and in the lower Mediterranean area, generating the actual sound of the instrument. This advanced physical modelling synthesis creates a really accurate virtual model of the instrument and reproduces the sound that the instrument might have made by simulating its behaviour as a mechanical system.

Sent il dolore [amore] nella musica: Talking with Francesco

Coming from a world that it is usually perceived as very distant from technical engineering stuff (not sounds engineering, of course), how did you get involved in ASTRA?

Over the course of my life I have had the fortune of being able to cultivate, at the same time and in the same way, my two greatest passions: music and computer science. The post of Director of Salerno's Music Conservatory has allowed me to celebrate the marriage between these two interests which can seem very different, but which I have always felt as interdependent. ASTRA is the son born out of this marriage.

Were you reluctant to get involved in an endeavour that required your constant involvement with very technical aspects?

Absolutely no. As I said, for me it has been an invitation to celebrate a wedding: finally the opportunity to "combine" the eternal, the music, with the contemporary, the technology; a dualism which is like day and night is, I believe, the bases for the balance of the world and the human mind.

What took you to decide to actively participate in ASTRA?

I have been Conservatory Professor and "all-terrain" musician for decades, and now I was able to bring together everything and do what I dreamt. When I was appointed as Director of the Conservatory, I had the chance to "open" new horizons for the Conservatory. It was always my aspiration, but the statist nature of the Italian academic institution, or maybe more precisely, of the ideas of the Directors that preceded me, did not allow this to happen before. But once I became the "pilot"... I did not hesitate for one second and opened music to new technologies. This led to the establishment of an academic course on Sound Synthesis, which drove Domenico Vicinanza to work at the Conservatory under my direction: the affinity of interests and the mutual consideration and friendship have done the rest. Everything has happened in a very natural way. Now I am continuing this work in Parma, in a more structured way, also looking for links with the university and connecting to GÉANT through GARR, so we are ready to collaborate with musicians and researchers from all over the world.



When the sounds recovery of the Epigonion was completed and you were able to play the instrument, the first human being able to play it after hundreds of years... What were your feelings? Have those feelings changed as time goes by?

It has been like a dream coming true. My background and my skills are mainly as a harpsichordist and reviser of the Neapolitan 1700's – I have edited more than 60 works with BMG Ricordi for the most prestigious theatres and festivals worldwide, and I still edit for Oxford University Press, Prentice Hall, Pearson Education, McGraw-Hill. These works originated in my mind the idea of recreating the sound of ancient instruments. The materialization of the sound recovery of these instruments has been the suitable ending of something that had been being incubated for a long time; only the collaboration with Domenico was missing. It has been an unforgettable sensation and a great satisfaction: the idea was precise. The ancient and the modern were able to coexist and the actually did so. It has been like riding on a time machine: to find yourself as if by magic in ancient Greece and be able to play. These feelings never change, but certainly they have an evolution which I regard as completely natural and which encourages me to keep along this track.

Do you think that this project actually is contributing to the fine arts world? What else could be done?

Yes, I think ASTRA is doing an important contribution to the fine arts world. The possibility of hearing again, after thousands of years, the sound of an instrument that until now we could only see in images in pottery and other utensils, already seems to me a noteworthy contribution. But this is only the tip of the iceberg. I think the real contribution is another one, and it is more hidden. I have a double role in ASTRA, as a researcher and musician. As part of the latter, I am also an "exploiter" of the network, and contrary to what normally happens, I have created the Epigonion chords from my house, through the GENIUS portal. Without going into technical descriptions, it is the first time that a musician uses the product of an academic network with artistic purposes, and this is done without having to write complex commands on the keyboard. Therefore, according to my point of view, ASTRA's most important contribution to the fine arts world –to music in this case– is the possibility of driving developers towards a policy for simple and ergonomic access to the vast computing resources of the computer grid.

Domenico Scarlatti was an Italian composer, born in Naples, Kingdom of Naples, in 1685 and who spent much of his life in the service of the Portuguese and Spanish royal families. He is classified as a Baroque composer chronologically, although his music was influential in the development of the Classical style. Scarlatti wrote 555 influential sonatas most of them never recorded and/or almost unknown. (Two of them can be listened to here: <http://www.geant.net/upload/wav/ScarlattiSonataDMinor.wav> and <http://www.geant.net/upload/wav/ScarlattiSonataGMajor.wav>).

I guess that after the great achievement with the Epigonion you probably have in mind very new ideas to explore the ways in which the technical networking engineering can help or work with music, could you share with the readers of the DeCLARA bulletin those ideas?

Yes, absolutely, I have many ideas. Apart from the reconstruction of other instruments not only from cultures from the Mediterranean basin, I have brought to life the LOST SOUND ORCHESTRA, which is a workshop where all instruments reconstructed as part of the ASTRA project will be brought back to life. Besides, I can tell you that the project is about to record with the Epigonion all the Sonatas from harpsichord by Domenico Scarlatti, using the MIDloverIP protocol, which actually offers the possibility for performers all over the world to take a look at this international window and be able as well to share their experiences with famous musicians, all of this in a remote way.

I believe the systematic use of network technologies can also lead towards an innovative didactics or the study of music, for example in the use of DVTS for concert-classes, musical scores' analysis, the generalized description of musical

theory and the true exchange of reciprocal experiences, in a global-type laboratory. To this end I am leading the connectivity of Parma's Music Conservatory, where I currently give one of the lectures in Harmony.

Musical movement: Acciacatura
The public response: Massive applause

(Final digression: Play it again, Francesco: <http://www.geant2.net/upload/mov/concertdemo.mov>)

There's no need to add more words or adjectives to celebrate the results of the ASTRA project or the alchemy that results from the collaboration and friendship between Domenico and Francesco. But at this point you will be probably wondering how to contact them in order to learn from their experience in ASTRA and the Lost Sounds Orchestra and, perhaps, to establish a new collaboration. If this is your case, then please send an email to maria-jose.lopez@redclara.net and you will receive the proper information.



Costa Rica on-Line

Costa Rican universities will have a better connectivity and will achieve a greater Exchange of scientific and academic information with their Latin American and European peers thanks to the country's connection to RedCLARA. EELA-2 has already established a collaborative bond with the country.

Ixchel Pérez

More than 200 research units and over 1,200 Costa Rican researchers will benefit from the Costa Rica's direct link to RedCLARA, the connection infrastructure of the Latin American Cooperation of Advanced Networks (CLARA).

According to the information published by Costa Rica's Ministry of Science and Technology (MICIT), the incorporation of RedCLARA provides the country with the direct link between Latin America and Europe and, thus, opens the doors to its participation in research projects and encourages scientific development in important areas like high energy physics, astronomy and medicine.

The article published by the MICIT adds that RedCLARA also facilitates the use of modern technology in order to meet certain basic requirements in areas like health and education.

The official announcement of Costa Rica's agreement for its connection to advanced networks was made at the Annual Forum of the Information Society, held in Rio de Janeiro, Brazil, from 22 to 26 November 2008. In this event, Alejandro Cruz, General Director of Costa Rica's National Centre for High Technology (CENAT), dependent on the National Council of University Vice Chancellors (CONARE), signed the country's connection to RedCLARA at 155 mbps.

After a series of tests the connection was materialised and launched at the end of May, with the conduction of a seminar-workshop on the use and applications of advanced networks in research and scientific development. The event was organised by CENAT and CONARE and

featured the participation of renowned experts and members of the EELA-2 Project and CLARA, who reported on the project.

"What drives us to do this?, the need to have Costa Rica and our universities connected at the highest possible level currently available in the world. Precisely in March, there were a series of tests which were concluded in April; some adjustments were made to improve this tool and we expect to after this workshop our researchers and professors will take advantage of this tool made available through CONARE and CENAT", explained Rodrigo Arias, president of CONARE and Vice Chancellor of the Remote State University (UNED).

The connection to RedCLARA was promoted by MICIT, CONARE, the National Science Foundation (ANC), the National Institute for Electricity (ICE) and the Costa Rican Social Insurance Thrust (CCSS). The MICIT website indicates that Costa Rica participates in the initiative through the Directing Council of the Advanced Research National Network (CR2Net), created via Executive Decree N. 31531 on 16th December 2003.

"In CONARE we were worried that Costa Rica could be left behind in the connection to advanced networks for research and education, since we were foregoing a unique opportunity and we did not want the country to stay behind; this is why we made the decision to promote the country's integration to these advanced networks. This agreement is the one that finally leads us to materialise Costa Rica's incorporation into RedCLARA, thus providing our researchers and educators with access to research centres,

collaborative projects, data bases and high-level scientific instruments which are available through these networks” added Arias.

Although it was not connected to RedCLARA, Costa Rica was already a member of CLARA, an entity which has been working since 2003 and which connects 14 countries and more than 700 universities and research centres across Latin America. In the region, the countries still pending to be connected are Cuba, Honduras, Paraguay, Bolivia and Nicaragua.

For some time, Costa Rica was connected to advanced networks, but the costs and the limited bandwidth forced the country to abandon the project, pointed out Alvaro de la Ossa, interim director of CENAT. In that first effort, “the MICIT, the CCSS, CONARE and the National Meteorology Institute (IMN) participated, among other public institutions”, he said.

Luis Furlan, director of Guatemala’s National Research and Education Network, who was present at the seminar carried out to launch the materialisation of Costa Rica’s connection, commented that the problem for the integration of some countries is the cost, although the European Community funds 67% of the project.

“For countries this is a strong investment, particularly if there are not many higher education or research institutions, as it happens in Guatemala for instance, where six universities are participating, and they have to share the 33% of the funding, which represents an expenditure of around 13,000 Euros per month”, he pointed out.

Experts meeting, the participation of EELA-2

The seminar-workshop on the use and applications of advanced networks, held on May 29th, featured the participation of international experts who discussed details of the CLARA and GLOBAL projects, and also went into detail about the Grid topic.

“The main objective of this activity was to promote the existence of the RedCLARA connection in CONARE and to extend the connection to four universities because what we are interested in is that there is a substantial use of the connection, since a big investment is being made by university vice chancellors and we need to justify that cost in the use of the Network, mainly with research and education projects”, said Alvaro de la Ossa.

Herbert Hoeger, associate professor at the School of Systems Engineering of the Faculty of Engineering of the University of Los Andes (ULA) and an indefatigable researcher on the Grid topic, gave two important presentations: “General Grid Concepts: what it is and how it differs from clusters” and “The EELA-2 Project, examples of some applications”.

In the first presentation, Hoeger explained that Grid Computing is distributed computing but taken to a multi-organisation and multi-system level. It operates with different operative systems and connects many local systems, which are managed by different organizations which are cooperating.

Furthermore, Hoeger explained that the development of Grid is currently feasible thanks to the fact that we have global connectivity, availability and reliability in terms of bandwidth and the networks’ speed is doubled every nine months. Grid makes it possible to turn the Internet into a computing services platform, and not only a source of information, he added.

The researcher stated that the Grid offers services in an extended (many resources in many places), constant, reliable, simple, transparent and economic way.

“To have resources available in any place, at any time, in a reliable and secure way; to make the



Herbert Hoeger

location of processes and data transparent for the user, and that the Grid is easy to use are goals on which we are still working hard”, concluded Hoeger.

In his second presentation, the expert explained all the details about EELA-2 (E-science grid facility for Europe and Latin America), which began in April 2008 and will be concluded in March 2010, and in which CLARA is actively participating.

Hoeger stated that the objectives of EELA-2 are to promote an empowering of Grid facilities with applications; to ensure the quality of services; to ensure the sustainability of the e-Infrastructure in the long term, beyond the conclusion of the project; and to expand the EELA-2 e-Infrastructure to new communities.

Furthermore, he indicated how to participate in the EELA-2 project and talked about the resources that it provides for researchers.

The researcher from the supercomputing department at Mexico’s Autonomous University (UNAM), José Luis Gordillo, gave further details on the subject by talking about the Metropolitan Delta Project for Supercomputing in Mexico City, as well as about the Mexican groups in EELA-2.

Claudia Córdova, representative from RedCLARA in the area of training and member of Peru’s Advanced Academic Network, provided more details on the Global project, while Luis Furlán talked about CLARA.

Searching for the super potato

Since 2006, the International Potato Center, connected to RedCLARA through the Peruvian National Research and Education Network RAAP and thanks to La Molina National University, uses grid technology to develop bioinformatics projects. The objective is to discover the potato's genome code to generate high productivity, plague resistant and tasty species.

Verónica Uribe



The potato among other tuber has been fundamental for the development of the human race. In the empire, after the hunger in Europe or contributing to the increased of the Chinese population, potato has had an important role in the maintenance and development of the civilization and communities. Latin-American, as the region that conserves the biggest amount and variety of this product, must pay attention to the initiatives that look forward to optimize and protect this fundamental natural resource. These are determinant for the maintenance of our ecosystem y, why not, our economy.

The International Potato Center (CIP – www.cipotato.org) aims to reduce poverty, improve health and develop sustainable systems to support rural and urban agriculture. Besides, this institution intends to improve the access to new benefits and technologies, purpose that has accomplish with the support of RAAP (www.raap.org.pe), RedCLARA and the EELA-2 Project (www.eu-eela.eu), among others. Celebrating the day of this usefully tuber

(May 30th) we present one of the more important CIP's projects, which uses grid technologies to support genetic works.

Better species

Since 2005 the Consulting Group for International Agricola Research (CGIAR) has develop a cluster's grid system that connects the clusters of four Agricola Research Centers located in India, Kenya, Philippines and Peru. Alltogether, these organizations constitute an advance global bioinformatics research platform supported by the Generation Challenge Program (GCP) from CGIAR. In Peru, the CIP cluster works trough RedCLARA an use the EELA-2 infrastructure, among others, for resources exchange , all this on behalf of the bioinformatics.

But, what does bioinformatics means? What for is it applied? Anthony Collins, head of the CIP's Information and Technology Unit explains that bioinformatics is advance computing at the biology



Grupo de trabajo CIP

service. “It’s basically use in genetics problems. We are talking about discovering and manipulating the code of the potato genome. For this, a great amount of computing power is required. That’s when we need the grid technology”.

The purpose of this project is to generate more resistant and productive species of potatoes

in order to reduce poverty and help farmers. “It may be a species resistant to the plagues, other to the dry. Other species may be more productive and be the tastiest one. Trough genetic analysis it is possible to make properties crosses with the best qualities of each species. The final result is a ‘super potato’ with high productivity, plagues resistances and tasty. The knowledge of the potato genome

allows us to create better species. The goal of this project is to analyze the less known species (at the moment the CIP has over 5000 potato species) and use their best properties in the more familiar species”, states Anthony Collins.

A CLARA relationship

In addition to this project, the CIP uses RedCLARA to make videoconferences and to use the Access Grid system. “This is a radical system in the use of advanced networks. Access Grid allows an involving communication with a complete interaction for the user. The multiple screens, microphones, speakers and gadgets allow the user to work and project the information from the control console”, asseverated Roberto del Villar, CIP’s Technology and Information Unit server administrator. The CIP has a pilot station, comparable to the one in the International Rice Research Institution (IRRI) in Filipinas.

Union makes us stronger

Did you know that the CIP and the Universidad Agraria La Molina (UNALM) have worked together for over 35 years? That’s right. Both institutions not only share interests and objectives, but also work together in many projects. One of them is the development of the bioinformatics project. The UNALM provides the e-infrastructure and the CIP contributes developing the investigation.

Cochacochayoc: The Andean experience in genetics: At 2003 the worst potato plant disease, the Late Blight, destroyed a whole crop in the community of Cochacochayoc, in the highlands of Peru. More than 40 hectares were devastated in a matter of days.

The Late Blight is a fungus, whose spores develop in the plant leaves. These spores multiply when temperatures are above 10°C and the humidity is over 75% during two or more days. The rain spreads the spores in the ground, where the young tubers are finally infected. All this weather characteristics were present in the Cochacochayoc case.

The population, worried about losing its main economic incoming, recurred to the International Potato Center, searching for a tuber variety resistant to

the Late Blight. The CIP gave them 20 advanced potato clones. These clones, resistant to the fungus, had the genetic base of the native potato *Solanum tuberosum* subspecies (B1), one species that already was grown in the community, but upgraded. The potato was now resistant to the fungus and kept its original characteristics.

The clones given to the Cochacochayoc farmers are the result of the work of the CIP scientist and researchers. This work started at the 90’s and followed a strategy of Late Blight tolerance accumulation in recombined grown cycles, allowing the discovery of the perfect combination of the fungus resistance and the original characteristics of the potato.



A high level technological fair

Organized by the City Council, the “First Fair of Information Technologies and the Official Declaration of Internet Day in La Paz Municipality”, took place between May 15th and 17th and included the participation of Florencio Utreras, CLARA’s Executive Director, who gave a videoconference on advanced networking.

Verónica Uribe

Celebrated on the fair camp of Següencoma in La Paz, Bolivia, the “First Fair of Information Technologies and the Official Declaration of Internet Day in the Municipality” took place from May 15th to 17th, in order to enhance, spread and promote Communications and Information Technologies (ICT) in the Municipality, and to generate a space of participation and interaction between citizens and different software, hardware and communications suppliers.

“We want to spread and promote the use of the ICTs, in particular the use of Internet, among La Paz people and help to make the Net more and more accessible for those who are part of this Municipality and lack of connection and feel excluded”, signaled Luis Sergio Valle, La Paz Government Organizational Development and Information Technologies director (DDO-TI).

Inaugurated by Juan del Granada, Municipality mayor, one of the main activities in the fair was the videoconference about RedCLARA and advanced networking, given by Florencio Utreras, Executive Director of CLARA. According to Luis Sergio Valle, this activity permitted to introduce RedCLARA as a fundamental tool for the research processes that the Academic Network from La Paz is carrying out, understanding this network as a space that promotes the articulation, access and exchange of national and international information through ICTs application and use, in

order to improve the scientific and technological research in Bolivia.

Also, on Sunday May 17th, day of the event’s closure, the official declaration of Internet’s Day at municipal level was carried out. This was an initiative presented by the United Nations Organization in 2005, in order to encourage and expand the benefits of this important communications and research tool that has revolutionized the way we relate and inform.

With five activities areas (Internet, Digital Inclusion, Training and Contests and Cultural and recreation), this first information technologies fair and the official declaration of Internet Day mean an important step for information society, that now on has in La Paz Municipality, in Bolivia, a new ally in the spreading and promotion of technology, knowledge and development in the region.

The creation of a Grid in El Salvador moves forward

A project by the Don Bosco University intends to be the seed for the creation on the first grid in El Salvador.

Ixchel Pérez

Quando When a researcher needs to make a very complex mathematical calculus, for instance to solve a system of non-linear equations of multiple variables (200 or 300 variables), to develop it in one single work station may take many hours, even days. Using one single computer can turn into a disincentive for fundamental initiatives and projects.

In the search to open up an alternative for those who need a great capacity of computing systems for research and education, the Don Bosco University (UDB) from El Salvador launched a project for distributed computing in October 2008.

The “Research for the Development and Implementation of Supercomputing Models” project, also known as the “Legion” project, was born with the aim of developing a scalable and efficient model to recycle computers which could be used in parallel processing infrastructures of high performance and high availability, using dedicated strategies such as clusters or non-dedicated ones such as Grids, as defined in the UDB website.

Carlos Bran, Director of the Centre for Information and Communication Technologies of the Don Bosco University (CTIC), explains that the idea was to set up an experimental laboratory with three distributed computing models: high performance computing model, high availability computing model and Grid.

“The main objective was to find a mechanism to make use of the processing power of computers working in a cluster environment, where several computers could develop or use their processing power to solve a particular problem”, states Bran, responsible for the project at UDB and technical representative from the Salvadorean Advanced Network for Research, Science and Education

(RAICES), an active CLARA partner. “The project was organized through the possibility of using advanced networks to make the synergy process in the use of stations and computers” he adds.

The high performance computing model is ready, although it was necessary to overcome many obstacles such as the lack of researchers willing to get involved and the creation of simple applications for its installation. Legion has managed to bring together in the cluster a total of 48 stations, which are connected by means of a LAN network, with a combined processing power of 52 processors and a combined memory of 4 terabytes RAM.

“The purpose is that I can make it extensible to all the stations in the University, to eventually have 300 stations which can be working in a given moment; certainly to use them in a night environment, where the station is left active and is used by researchers and students” indicates Bran.

“Legion” has required a \$60,000 investment, of which 75% was funded by El Salvador’s Ministry of Education (through its Research Fund for Higher Education, FIES), and 25% by the Don Bosco University.

“The main project was to set up the platform. The development and set up of the infrastructure took between 4 to 5 months. One of the ideas of the project was to develop applications which could make it simple, and this is what took longer”, states Bran.

The UDB developed those applications, which turn into a facilitating element so that the project can be replicated in other educational institutions and, thus, a Grid can be developed. “The installations have been made. They will be made available to RAICES”, says Bran.

During the last months of the project, which is expected to be concluded in September, it will seek to create a portal for RAICES members to have access to the cluster's resources.

With the laboratory up and running, the UDB expects to make the project extensible to the other universities in order to create the Grid. "In the Grid we want to engage RAICES members. We are about to begin to perform tests in the Centro American University José Simeón Cañas (UCA) in order to start setting up the Grid" points out Bran.

The idea is that all RAICES users get to share their resources and that, later on, papers can put up in the Grid from any of the universities, using advanced networks.

Once the rest of the universities are involved, the Grid will be one more resource available for RAICES researchers" concludes Bran.

Carlos Bran

"The Grid was the state of the art"

Was the idea of creating the Grid in El Salvador part of the project's initial idea?

Yes, it was. That was the state of the art, the most complicated part that we wanted to try, because it was something we had never done before. In fact, on the part of CLARA there was a lot of work with the Grid, but we only knew that it was an element of distributed computing, but we didn't know anything else. We started to evaluate it and to learn how it worked. In the country nobody had played with Grid until now that we have the laboratory and we expect to extend it.

How will it work?

The Grid will be the extension of the cluster; it will no longer be restricted to geographical environments. We will share the cluster in a Grid environment with academic purposes. Now we have tried it out locally at UDB; we have not yet extended it.

Which obstacles did you face for the development of the project?

One of the main problems was the lack of research culture. This is why many researchers did not want to participate in the project, out of fear, even though they were offered the double for their salaries as academics.



Carlos Bran

Which challenges do you envision in the construction of the Grid?

To start to create applications that we can make in El Salvador and which can run over the Grid environment. Let us say that 80% of the infrastructure has already been sorted out; there is a remaining 20% in involving other institutions. But once we have solved that the question is "what about the applications?". The Grid will be one more tool available for researchers, academics, mathematicians we have in RAICES. We will offer a few conferences to encourage teachers and students, telling them "Here's a Ferrari with thousands of processors, are you going to use it by pulling it with a rope or driving at 200 km per hour? This no longer depends on me.

And will it be easy to use?

We are making it very easy so that people cannot say for instance: "I can't programme". It is not necessary to be able to programme, we will simply install some applications. For example, this can serve to use electronic simulators and not real ones, when testing a wall's resistance.

RedCLARA's antiviral connection

Three months later the first case was detected, the disease was declared a pandemic. As a better way to control the virus, world organizations pointed towards the need for better information and education. CLARA answered the world's need for solutions through videoconferences, forums and vaccine research.

Tania Altamirano, Verónica Uribe

For the first time in 40 years, one disease has kept the world sneezing and feverish. Three months later the first case was confirmed in Mexico, the World Health Organization (WHO) decided to raise the level of influenza pandemic alert from phase 5 to phase 6.

"I have conferred with leading influenza experts, virologists, and public health officials. In line with procedures set out in the International Health Regulations, I have sought guidance and advice from an Emergency Committee established for this purpose," pointed Dr. Margaret Chan, General Director of the WHO during her press conference.

According to Dr. Chan, until the date of her statement, 30,000 cases had been confirmed in 74 countries.

To face this scenario, applying preemptive measures and adequate communications are crucial steps in stopping the pandemic. In Latin America many organizations connected to RedCLARA, through their own National Research and Educational Networks (NREN), have dedicated themselves to the hard task of communicating measures to prevent and fight this influenza within each of their countries.

Peru Preventative Efforts

In Peru there are already more than 140 registered cases of influenza A(H1N1). The first case appeared in Lima (a young girl traveling back from New York City to Lima, reported on May 15th) but the last ones have been reported in the Huanuco region and Arequipa.

Besides the Health Ministry and the media efforts to inform the public about the WHO's recommendations, the universities in Peru have played a key role in the spreading of reliable information.

Academic institutions members of the RAAP, such as the Peruvian Catholic Pontific University (PUCP) and the San Marco Mayor National University (UNMSM), have begun campaigns providing information and prevention methods within the university campus and through their respective web pages. Alternatively, the Cayetano Heredia Peruvian University (UPCH) organized a special seminar on influenza A(H1N1) and its origin.

Through these and other initiatives, they are hoping to help control the spread of the virus within the country, as well as, to inform the public of the measures that need to be taken in case of contagious the disease.

Mexico Explores Possible Cure

Since Mexico is considered the epicenter of the disease, Aztec authorities, academics and researchers have acted quickly and vigorously in managing and controlling the virus. In this context, the answer of the Health Community of the Mexican NREN, CUDI (from the Spanish, Corporacion Universitaria para el Desarrollo de Internet, University Corporation for the Internet Development) has also been active and energetic. One of its members, the Autonomous University of Mexico (UNAM), has developed a series of conferences related to the subject. "Influenza", "Influenza: scientific response", "Knowledge and

Communication about Influenza”, “What is Beyond Influenza?” are some of the topics that have been developed in the UNAM with the purpose to encourage the adoption of sanitary practices that will slow the spread of Influenza within schools and universities.

With regards to influenza A(H1N1) it has been informed that the UNAM has been working on the development of a vaccine. According to statements made by the Dean, Jose Narro Robles, to a Mexican newspaper, Reforma, the UNAM is working on different strains of the influenza virus, setting up and testing different techniques in hopes of developing a vaccine against the virus. “In collaboration with a national corporation and Birmex, a government majority owned company, they are working in developing a vaccine against influenza A,” said the UNAM’s top authority.

On may 28th, thanks to the connection provided by CUDI through RedCLARA, there was a live broadcast of the conference “Influenza Aviar, Porcina y A(H1N1)”, organized by CUDI and the La Salle University. The conference took place in the medical school of the university and included lectures from Dr. Ivan Sanchez Betancour, swine flu (epidemiology and physiopathology); Dr. Gary Garcia, bird flu (epidemiology and physiopathology); and Dr. Ma. Magdalena Reyes Castro, who presented a lecture on autopsies.

As stated in the CUDI Health Community website, “In today’s world medicine and health are fields that go beyond theory, schools, doctor offices and operating rooms. Medical informatics has become an instrument in connecting the world and telemedicine has become the corner stone in providing assistance to research and teaching the public, going beyond physical borders and being divulged to all reaches of the planet.

Venezuela and Columbia: Timely information for all via RedCLARA

On may 5th the Columbian NREN, RENATA (Academic national Network for Advance Technologies from the Spanish Red Nacional Academica de Tecnologia Avanzada) put their MCU (Multipoint



Control Unit for videoconferences) to service the community in junction with the ALICE2, eCienciaI y EELA-2 projects, all operating on RedCLARA, allowing the development of the videoconference “How to Face the Swine Flu Pandemic”. The person in charge of this videoconference was Dr. Jaime Torres, coordinator of the New Diseases Committee of the Pan-American Infectology Association and coordinator of the Latin American List of Epidemiological Information ProMED-esp. The conference was organized by the Universidad de Los Andes (Venezuela) and RENATA responded to their request for cooperation by providing equipment for the conference.

In the conference, where universities from Central and South America participated, a variety of topics on the pandemic were developed, which included some of the following: What do we know about the swine flu virus, Transmission, Risk of Bodily Contact, Individual Steps for Protection, Available Treatments and their Effectiveness. Other topics that were tackled in the conference included the cases that resulted in fatalities, the challenges in developing a vaccine and the steps taken by Latin American countries to fight the pandemic.

International Outlook: The Evolution of the Virus

Ana Lucia Da Costa, member of HealthGrid and who previously worked in the French National Center for Scientific Research (CNRS), wrote an article for the International Science Grid This Week (<http://www.isgtw.org/?pid=1001866>) where she

explained some of the initiatives that are being developed through European and Asian networks.

“The emergence of a new influenza epidemic such as this is an opportunity for the grid to contribute to international public health response. Grid technology is particularly well fitted to improving global response to emerging diseases, at different levels”, stated Da Costa in the article.

Based on the expertise obtained from previous experiences through WISDOM data (an initiative oriented for the development of pharmaceuticals against new diseases through the network) developed through the infrastructure provided by the EGE project (Enabling Grids for E-science), the French National Center for Scientific Research in collaboration with the Health Grid Association from France and the Korean and Vietnamese research laboratories have begun to explore different paths of investigations.

According to Da Costa, Considering that there are already a large number of antiviral drugs, such as Tamiflu, that are active against Swine Flu, our priority was not on the search for new drugs but instead focused upon developing tools for monitoring virus evolution.

The idea is to dynamically analyze the molecular biological data available on public databases (such as the Influenza Virus Resource from the National Center for Biotechnology Information, the Influenza Virus Database from the Beijing Institute of Genomics, or EpiFlu from the Centers for Disease Control and Prevention), and use the computing, storage and automatic updating services offered by grid technology. Bioinformatics methods of sequence alignment will highlight mutations on the virus genome that could impact the transmission mechanism, pathogenicity (ability to cause disease) or drug sensibility”, explains the investigator.

In addition, analyses will characterize swine flu’s evolutionary history on the genetic tree of life—key to understanding the geographic and molecular source of this outbreak. Work is in progress for database management and deployment of a workflow for these analyses on the grid using the WISDOM production environment.

Early Stages of the Virus

On April 11 the first case of influenza A(H1N1) was confirmed in Veracruz, Mexico. This was a whole new virus, highly contagious and easily spread.

Days later, in a press conference the public was informed about two previous cases from the United States that were detected at the end of March.

During the months of April and May, the then called “swine flu” spread through the American continent reaching Europe and Australia. On April 29, just two weeks after the first case was registered in Mexico, the World Health Organization (WHO) raised the pandemic alert level to 5 (the second to last in the scale), indicating that the pandemic was “imminent”.

On June 11, after consulting the 8 nations most affected by the virus (Canada, United States, Mexico, Chile, United Kingdom, Spain, Japan and Australia) the World Health Organization (WHO) raised the alert level -Phase 6 and declared it a pandemic.

“Reducing the delay to produce a quick diagnosis may influence very significantly the quality of early data made available to health policy makers. The grid has not really had any impact on the monitoring of the present influenza A pandemics. Our goal is to be ready to have an impact for the next”, concludes Da Costa.

Network Resources

According to Ana Lucia Da Costa, member of HealthGrid and who previously worked in the French National Center for Scientific Research(CNRS), grid technology is particularly well fitted to improving global response to emerging diseases because it provides:

- A collaborative environment for reliable and secure distributed data management — a key point to solving international threats.
- The necessary computing resources on demand in case of emergency, allowing us to virtually screen large quantities of new potential drugs (“high-throughput drug discovery”) and design new DNA chips for rapid diagnosis.
- A means to dynamically process the constant flux of new information collected when an epidemic propagates around the world, thus offering online monitoring of a virus’s evolution, propagation and mutation.



Image of the most affected countries, according to the World Health Organization (WHO) web page information on June 19th 2009

Australia	2199	Mexico	7624
Canada	4905	Spain	512
Chile	3125	United Kingdom	1752
Japan	690	USA	17855

e-Infrastructures and sustainable development are given prominence in Brazil

Del 16 al 17 de julio, la Escuela Politécnica de la Universidad de Sao Paulo, Brasil será la sede del 4º Simposio Internacional BELIEF que tendrá como tema central la e-infraestructura y el desarrollo sustentable. El Doctor y profesor Edison Spina, miembro de la Escuela Politécnica de la Universidad de Sao Paulo y coordinador local del proyecto BELIEF, analiza aquí los beneficios y los retos de la e-infraestructura en la región.

Renata Victal

The impacts of the investments on e-Infrastructure, especially in developing countries, are great. The greatest among them is, undoubtedly, the improvement of the quality of living for the population in remote places. The second, though not less important, is the possibility of a joint research, which will be carried out between Latin American centres of excellence and European centres that are among the most advanced in the world, with an economy of individual resources.

Doctor and Professor Edison Spina, member of the Polytechnic School of the University of Sao Paulo and local coordinator for the BELIEF project (Bringing Europe's Electronic Infrastructures to Expanding Frontiers) will participate, together with other renowned researchers, in the 4th BELIEF International Symposium, whose main subject will be e-Infrastructure and sustainable development.

The event will be held at the Polytechnic School of the University of Sao Paulo, Sao Paulo, from 16 to 17 July, and will feature the participation of the GLOBAL project, the Institute of Electrical and Electronics Engineers, IEEE, CLARA and the EELA-2 Project.

During the event, experts from different fields of knowledge (health, education, science) will discuss

the achievements obtained in terms of sustainable development through the incorporation of e-infrastructures. The steps to be followed will also be discussed, taking into account political actors and decision-makers.

"Brazil has got an immense cultural, ethnic, technical and economic diversity and a geographical distribution which does not allow all solutions to be implemented in all places with the same scope and depth. Therefore, the use of e-Infrastructures becomes imperative since it allows for the remote, online and direct application of these solutions", explains Dr Edison Spina.

According to him, the fields of health, education and science have more tools to meet the specific online demands, which allows for a more suitable use of public investments and guarantees the distribution of both technical resources (the availability of a specific machine for a given exam performed remotely from the other end of the country) and human ones (the possibility to talk to a specialist doctor without the need to have him/her physically present).

"Although investments are constant, the challenges are many", points out the researcher. "We have to increase the capacities in communications (both in terms of bandwidth

and capillarity), data processing and storage for specific applications which serve the nation's social and economic development". Spina states that technical development requires resources that are increasingly scarce. Resources which, particularly in the case of countries like Brazil and its Latin American partners, have to be very well used in order to guarantee, above all, the nations' quality of life.

"To rationalise the resources expenditure and to guarantee a suitable use of these in the applications which directly affect the population are pressing needs. The information and communication technologies have provided more solutions to everyday problems and can be applied more directly, regardless of the geographical distribution", points out the BELIEF project coordinator from the Polytechnic School of the University of Sao Paulo.

Two years ago, Rio de Janeiro hosted a similar meeting with discussions focused on the area of application in business. This year, the discussion will focus on areas which are regarded as a priority according to the latest events, such as education, health and science, including social sciences. The participants will include Senator Jefferson Praia, representative from the Amazon state.

"The presence of an authority at this level shows that sustainable development issues, particularly the definitions of investment on e-Infrastructures, have become vital for our country, which has a great diversity in terms of culture and innovation policies", highlights Spina.

For more information on how your institution can participate in the conference, visit <http://www.beliefproject.org> or contact the CONVICCIONES project at +39 050 3871 400 or via email at events@beliefproject.org

Opening Programme: Thursday July 16th

1. Open plenary of political actors and representatives from the main projects/initiatives in e-Infrastructures.
2. Political actors and representatives from the main projects/initiatives in e-Infrastructures.
 - Senator Jefferson Praia – Representative from the Amazon State in the Brazilian Senate.
 - Vahan Agoypan – University of Sao Paulo.
 - Paulo Lopes – European Commission Delegation in Brazil
 - Michael Stanton & Florencio Utreras – RedCLARA
 - Bernard Marèchal – EELA-2 Project Coordinator
3. Round table for Political Actors
4. GLOBAL plaza – collaborating with global e-Infrastructures
5. Key presentations. Invited and accepted presentations.
 - Craig Lee – Grid Open Forum
 - Susana Fiquelievich – National Adviser for Scientific and Technical Research from Argentina
 - Silvio Ernesto Barbin – IEEE
6. Questions & answers / discussion
7. Plenary
 - Johan Eksteen – Microsoft
 - Federico Ruggieri – INFN/EGEE
 - Ioannis Liabotis – GRNET/PRACE
8. Questions & answers / discussion

Mexican expert gave a conference in Central America thanks to RedCLARA

Technology-specialist Fabián Romo Zamudio imparted from Mexico a conference about social networks to students from El Salvador, using RedCLARA's connection.

Ixchel Pérez

With a mask over his face, a requirement and a prevention measure due to the AH1N1 virus, the Mexican expert seemed to have crossed the borders and to be in one of the conference rooms of the Central American Technological Institute (ITCA) in El Salvador. Actually, the specialist Fabián Romo Zamudio was really sitting in one of the Mexico Autonomous University (UNAM) halls and distance had totally vanished for those who were watching.

The students of the Engineering-Specialized School ITCA-FEPADE listened to Romo Zamudio as if they had him right in front of them, thanks to a videoconference of amazing clarity organized by the Salvadorian Advanced Network on Research Science and Education (RAICES), using RedCLARA connection.

Romo Zamudio, deputy director of Technology for Education of the UNAM General Direction of Academic Computing Services, talked to a group of some 50 students, teachers and members of RAICES, about "Social networks in Internet: beginning, evolution and future".

The event was an evidence of how videoconferences have become one of the advanced networking resources most used by the members of the NREN in El Salvador.

"Videoconferences is the main use of the advanced networks, but the access is transparent on the institutions, what makes the use of RedCLARA to



increase; people may not know it, but when they connect from Central American José Simeón Cañas University (UCA), for example, with the site of other institution connected to the network, they are doing it through advanced networks”, explains Rafael Ibarra, RAICES director.

One of the advantages of the videoconference as a resource, according to Ibarra, is that work meetings and training workshops can be done remotely, with far better quality than through the commercial internet resources.

According to Carlos Bran, director of the Center of Information and Communication Technologies (CTIC) of Don Bosco University (UDB), despite many conferences are being done, El Salvador is not fully using at all the whole resources the advanced networks offers. This, according to him, happens due to the lack of a culture of getting involved in new things.

“Two years ago I build up new tools for organizations virtualization and trained personnel, from that it was only possible to use the videoconferences part, but maybe only 20 percent of the trained people took advantage of it, ¿why it is not being used? Simply, the next step is not being taken: I have the tool, now we have to establish contacts to see what I can develop with it or think on a project and work on it”, assures Bran.

Agenda

JULY

1 | Global e-Infrastructure Networking II

Global e-Infrastructure/ Middle East, Africa, Asia, Pacific

http://isabel.dit.upm.es/mediawiki/index.php/GLOBAL_E-Infrastructure_Networking_Event_I#GLOBAL_E-Infrastructure_Networking_Event_I

5-17 | 7th International Summer School on Grid Computing

Summer School, Côte d'Azur, France

<http://www.iceage-eu.org/issgc09/index.cfm>

6-8 | IASTED Modeling and Simulation

Banff, Alberta, Canada

<http://www.iasted.org/conferences/home-670.html>

8 | TERENA Executive Committee

Amsterdam, Netherlands

http://www.terena.org/events/details.php?event_id=1451

10-13 | 2nd Multi 2nd International Multi-Conference on Engineering and Technological Innovation: IMETI 2009

Orlando, FL, USA

<http://www.2009iiisconferences.org/IMETI>

10-13 | The 6th International Conference on Cybernetics and Information Technologies, Systems and Applications | CITSA 2009

Orlando, FL, USA

<http://www.iiis2009.org/imeti/website/default.asp?vc=6>

11-13 | Symposium on High Performance Distributed Computing

Munich, Germany

<http://www.lrz-muenchen.de/hpdc2009/>

13-15 | TERENA, Internet2, GARR, Performing Arts Production Workshop

Trieste, Italy

http://www.terena.org/events/details.php?event_id=1385

15-17 | 15th International Conference Computing in Economics and Finance

Sydney, Australia

<http://www.cef.uts.edu.au/>

16-17 | Simposio BELIEF II

São Paulo, Brazil

<http://www.beliefproject.org/events/4th-belief-international-symposium>

20 | EELA-2 Workshop

Montevideo, Uruguay

<http://indico.eu-eela.eu/conferenceDisplay.py?confId=195>

21 | First EELA-2 Users Forum

Montevideo, Uruguay

<http://indico.eu-eela.eu/conferenceDisplay.py?confId=205>

21-24 | EELA- 2 Tutorial

Montevideo, Uruguay

<http://indico.eu-eela.eu/conferenceDisplay.py?confId=194>

20-23 | 28th APAN Meeting

Kuala Lumpur, Malaysia

<http://www.apan.net/meetings/kualalumpur2009/>

26-29 | International Conference on Software and Data Technologies ICSOFT2009

Sofia, Bulgaria

<http://www.icsoft.org/>

Agenda

AUGUST

12-14 | 17 Geoinformatics 2009

Fairfax, VA, USA

<http://www.geoinformatics2009.org/>

25 | 4th Workshop on Virtualization in High-Performance Cloud Computing (VHPC '09)

Delft, Netherlands

<http://vhpc.org/>

25 | UNICORE Summit

Delft, Netherlands

<http://www.unicore.eu/summit/2009/>

25-29 | Grid Computing: A new tool for Science and Innovation
ECSAC09

Veli Lošinj, Croatia

<http://www.isgtw.org/?pid=1001854>

31-4 Sept | Cluster 2009

New Orleans, LA, USA

<http://www.cluster2009.org/>





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