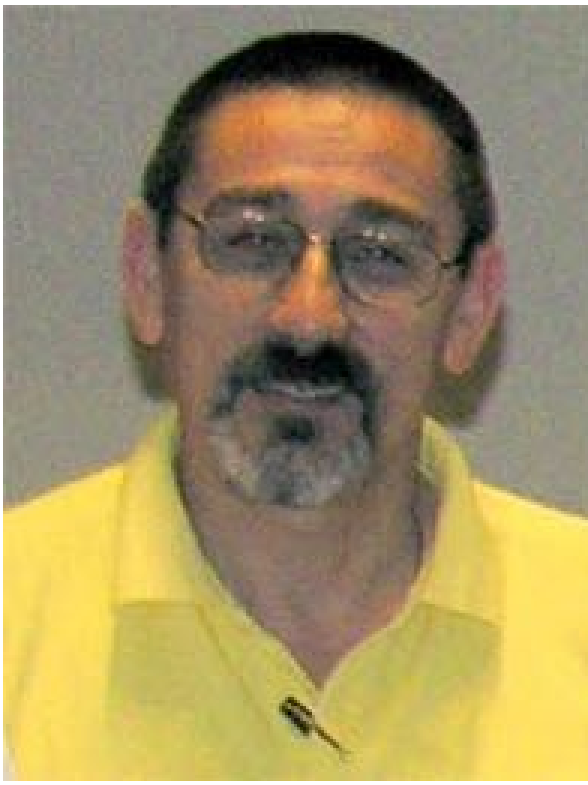
January 2007, Bimonthly Bulletin, Year 3 - Nº 11.

deCLARA

Editorial



Florecio Utreras
Executive Director of CLARA

The beginning of the year has always been a time for analysis and projections. And what is true for the entire institution is now a necessity for CLARA. The present year will certainly be a year in which we will have to show our institutional maturity.

Let us begin by drawing up a balance of 2006, a year clearly marked by the notoriety of the ALICE and CLARA Project during the EU-LAC Forum on the Information Society, where representatives from both continents unanimously agreed upon "the importance of maintaining the political and financial support for the initiatives that consolidate a scientific collaboration space supported by ICT, such as RedCLARA and its connection to GÈANT, in order to guarantee its operational continuity and extend it to the Caribbean region". This wide consensus, determinedly supported by the "Information Society Plan for Latin America and

the Caribbean (eLAC2007)" will allow us not only to obtain the longed-for financial contribution from the European Commission which will help consolidate this research infrastructure, but also to strengthen national networks within the region, which is a fundamental requirement to ensure that the network reaches all scientific, technological, educational and innovation institutions.

Although we have no doubts about the support the European Commission will give to this financial continuity in its next budget period, we must acknowledge that it was not possible to increase the ALICE resources for 2007. This poses a difficult challenge: to continue operating the network and, if possible, to develop it by making use of the carry-over from the ALICE Project and the resources from other sources such as CIEMAT (Research Centre for Energy, Environment and Technology), a leading institution in the EELA Project, and LAUREN –a North American non-profit organization devoted to promoting the use of advanced networks in Latin America- as well as the contributions from CLARA's own members. The management of financial resources will be in great part the responsibility of CLARA, which will have to sign several telecommunications contracts and manage an enormous quantity of resources. This will entail, in turn, a strong pressure on its cash-flow. Not only the success for the 2007-2008 period, but also CLARA's whole future will greatly depend on its members' appropriate response towards this pressure: this will be the decisive test of the partners' commitment towards the infrastructure and the organisation we have created.

We are optimistic, we know that it will be a difficult period, but thanks to the support from DANTE and the ALICE Project, from CLARA's partners and the new contributors and also thanks to the creativity we have shown in finding novel solutions such as the installation of a Satellite Node of the Panama Node and the potential for agreements in relation to access to dark fiber in certain areas of the region, we are certain that CLARA will be stronger and will focus on its mission of linking researchers and academics with their peers within Latin America, and also with peers in the rest of the world.

2004 – 2006:

RedCLARA Chronology

The following time line shows each one of the milestones that RedCLARA has had since its creation.

11 - December - 2006
Established BGP peering with GEMnet via Pacific Wave.

08 - December - 2006
Argentinean NREN (RETINA) disconnected from RedCLARA.

28 - November - 2006
Established IPv6 peering and Multicast with RAICES.

21 - November - 2006
Established BGP peering with TWAREN via Pacific Wave.

13-17 - November - 2006
Implementation of MPLS Traffic Engineering.

06-10 - November - 2006
Global Routing Policy implementation with the use of BGP communities.

23-27 - October - 2006
Established BGP peering with ESNet, NISN, PNWGP, AARNet and NLR via Pacific Wave.

19 - October - 2006
Established direct BGP peering with Abilene (IPv4, IPv6 and Multicast v4) in the Pacific Wave exchange facility.

12 - October - 2006
Completed the configuration for the Pacific Wave extension.

08 - August - 2006
Established BGP peering with AMPATH.

07 - August - 2006
Finalized the layer-2 connectivity between Miami (MI) and Sao Paulo (SP).

23 - June - 2006
Established MSDP peering with CEDIA.

31 - May - 2006
Established IPv6 peering with RedCyT.

29 - May - 2006
Established IPv6 peering with RAGIE (NREN from Guatemala).

08 - May - 2006
Established MSDP peering with REACCIUN.

03 - May - 2006
Established IPv6 peering with CEDIA.

26 - April - 2006
Established IPv6 peering with REACCIUN (NREN from Venezuela).

24 - April - 2006
Established MSDP peering with CalREN.

24 - March - 2006
Established BGP peering with RENATA (NREN from Colombia).

22 - March - 2006
Established IPv6 peering with RENIA.

20 - March - 2006
Established BGP peering with RENIA (NREN from Nicaragua).

24 - February - 2006
Established direct BGP peer between RedCLARA and CR2Net.

21 - February - 2006
Completed the transport network in Central America with the installation of the PE router in Nicaragua and VC configuration.

18 - January - 2006
Established BGP peering with CEDIA (NREN from Ecuador).

14 - December - 2005
Established BGP peering with RAGIE (NREN from Guatemala) and RAICES (NREN from El Salvador).

13 - December - 2005
Established the transport network (EoMPLS configuration) for the connections in Central America.

12 - September - 2005
Established provisional peering between CR2Net (NREN from Costa Rica) and CUDI, who is announcing the prefix to RedCLARA.

09 - September - 2005
Established the BGP peering with RedCyT (NREN from Panama).

22-24 - August - 2005
Established IPv6 peering with REUNA, RNP and GEANT.

09-12 - August - 2005
Established IPv6 peering with RETINA, CUDI and CalREN.

09 - August - 2005
Implemented native IPv6 in the backbone of RedCLARA.

22 - July - 2005
Established temporary multihop-ebgp peering with Abilene through the TJ-SD link.

11 - July - 2005
Established the TJ-SD link and peering with CalREN.

24 - June - 2005
Tested the connection with RedCyT (NREN from Panama) - BGP peering session is down until clearance from the executive directorate (administrative issues pending).

07 - June - 2005
Completed the connection with RAU (NREN from Uruguay).

13 - April - 2005
Completed the connection with RAAP (NREN from Peru).

10 - February - 2005
Completed the connection with RETINA (NREN from Argentina).

13 - January - 2005
RedCLARA ring conclusion with the Panama router activation.

24 - November - 2004
Completed the connection with CUDI (NREN from Mexico).

15 - November - 2004
Installation of the Cisco 12006 router in the PoP of Tijuana.

27 - October - 2004
Installation of the Cisco 12006 router in Argentina and no more by-pass in the rack.

11 - October - 2004

Completed the connection with REACCIUN2 (NREN from Venezuela).

05 - October - 2004

Installation of the Cisco 12006 in the PoP of Sao Paulo and migration from the provisional to the original planned backbone, using the Cisco routers from Santiago and Sao Paulo and removing the rented Juniper. Still using the by-pass in Argentina.

20 - September - 2004

Installation of the second Cisco 12006 router in the city of Panama (PA), and connection establishment between RNP and RedCLARA.

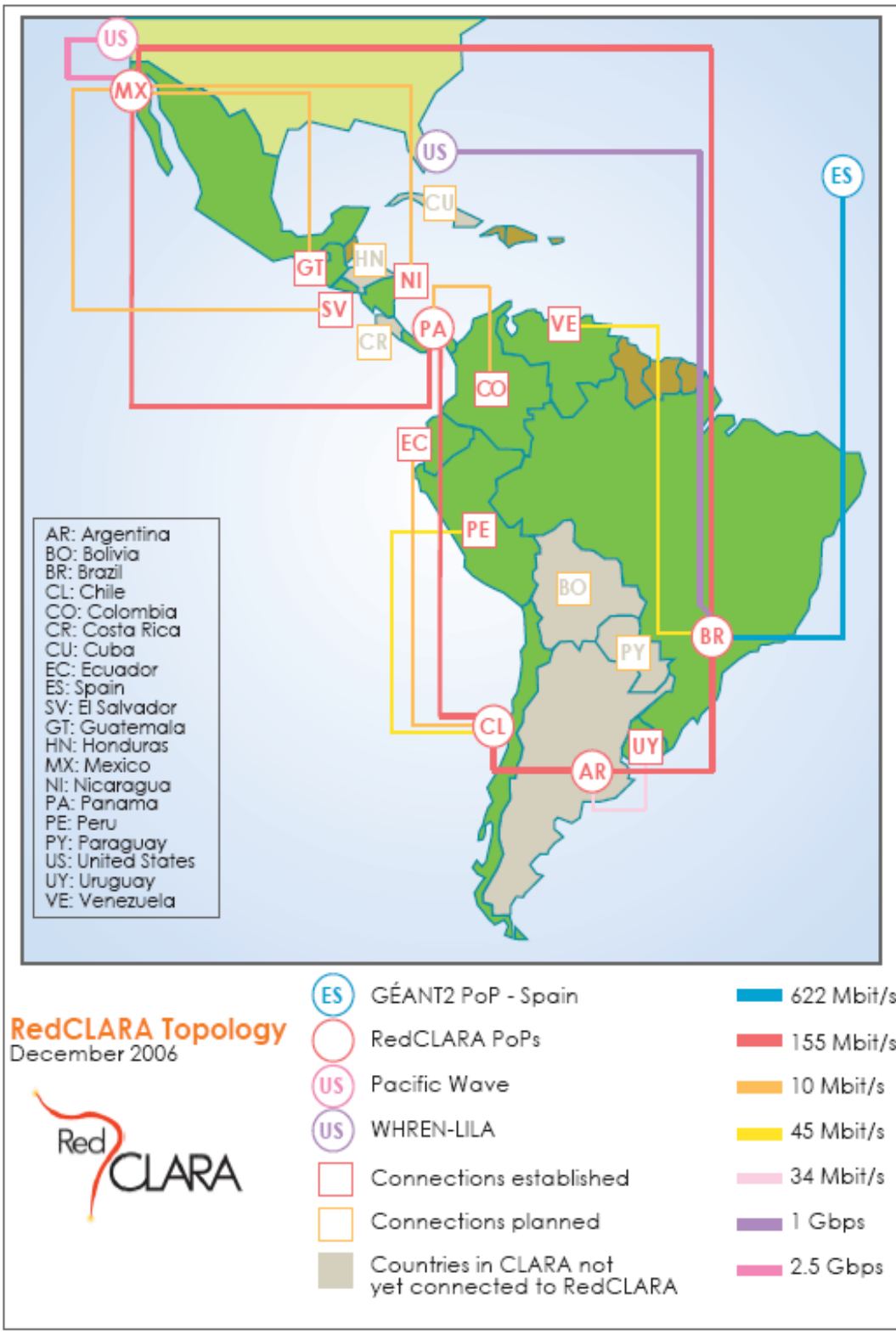
17 - September - 2004

Installation of the first Cisco 12006 router (donated by Cisco) in the city of Santiago (CL).

31 - August - 2004

Provisional backbone activation with a connection from REUNA (NREN from Chile) to the RedCLARA router (Juniper rented) in Sao Paulo, and a connection to GEANT (European network) through the international link of 622 Mbps. Connection enabled through a cross-connect in the PoP of Buenos Aires (AR).

Topology of Troncal, at decenber 8, 2006.



One of the Newest Networks in the Region Fights to be on the Same Level

Roberto Blandino, Executive Director of the Nicaraguan Network of Advanced Internet, told us about the projects RENIA is developing in order to be on the same level as the more successful networks in the region. He also told us about the advantages and disadvantages of this network, and how CLARA and CUDI, for instance, have served as a bridge and an example for its development.

One of RENIA's advantages mentioned by Blandino is the creation of a novel initiative called National Point of Exchange between this network and the private sector, which enables them to offer low interconnection costs to its network.

Roberto Blandino, RENIA Executive Director

RENIA is one of the newest networks in Latin America. It got access to RedCLARA in March 2006 and although Nicaragua has had Internet since 1987, starting from the "ni" node and the "ni" domain, the network is still under adjustment so as to be on the same level as the other advanced networks in the region.

This network defines itself as an organism for technical cooperation constituted by member Internet university networks, which promotes the improvement of the capacity and quality of Advanced Internet services for its members; the inclusion of Nicaragua; access to the world advanced network; and the bridging of the digital divide.

Because of this late incorporation RENIA has been able to make good use of the experience of other national networks in their development process. At present, in terms of organization, infrastructure and staff it has the necessary conditions to provide the advanced network services demanded by the Nicaraguan academic sector.

RENIA today

According to Roberto Blandino, Executive Director of RENIA, when comparing the Nicaraguan network to other networks, it becomes evident that there's still a lot to be done to be on the same level as the most successful ones. However, the executive points out that advances

RENIA-TEC Team

in certain areas have led them to believe that they will have the same advances as other successful networks in the region.

"As for the national infrastructure for the interconnection of universities within the country, RENIA has shown its capacity for connecting any university by making use of the private interconnection network existing in the country, which facilitates access for any educational or research institution that requests connection to RENIA. As for the network's administrative aspects, we have to face several challenges, such as having full-time staff, improving the equipments for the administration of each member's bandwidth, being able to provide hired bandwidths, and also enabling a devoted monitoring of the services provided by the network", explains Blandino.

In relation to the use of advanced network applications, RENIA has to face a great challenge, considering that it has been operating for less than a year. According to Blandino, it is important to focus on informing researchers about RENIA's potential for research, particularly research teams in the area of information and communications technologies (ICT). This would simplify the use of the network for those scientific disciplines which require advanced network applications, but which lack the expertise in using its tools and applications.

Roberto, what are the advantages of RENIA compared to its Latin American peers, and what are its disadvantages?

A great advantage is that with the private sector we have jointly created the National Access Point (NAP), which allows for low interconnection costs. Another advantage is that our staff is very young, and they make a personal effort to develop both the level of services and the experiments in the area of connectivity and services. Another advantage is that most member universities have a high-speed Intranet, which positively affects the network's capacity in terms of the provision of its services to the final users.
As for the disadvantages, one of the most important ones is the budget for investments and the network's operation. This poses a lot of restrictions to improve the quality of our services. Another disadvantage is researchers' low demand for using applications. This represents a significant disadvantage to justify the aforementioned budget allocation, and is an issue we must address in the next months.

CLARA's intervention

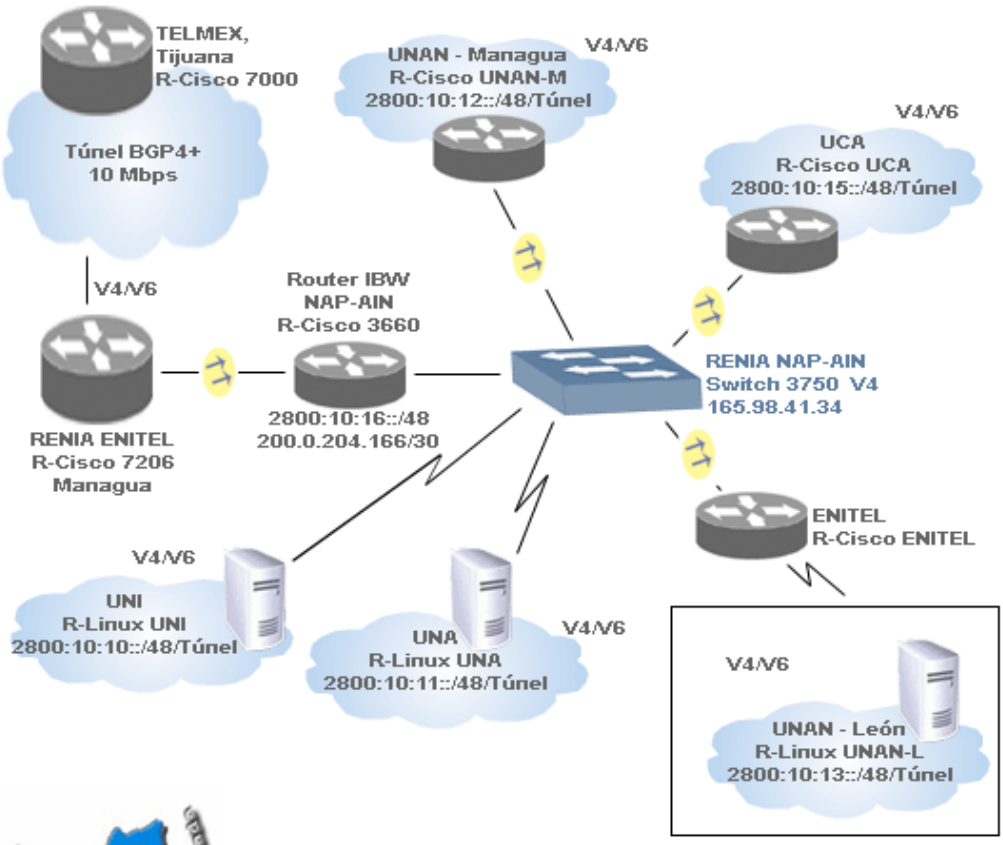
According to RENIA's Executive Director, the state of advanced networks in the region has changed a lot in the span of two years. "Before the beginning of the collaboration around RedCLARA, things were quite uncertain and the challenge seemed impossible to be solved because of the isolated work that each country was doing to address and solve the issue", states the Nicaraguan executive.

Blandino tells us that this is why we can now observe a very good range of experiences in several areas of advanced networks such as each network's organizational aspects, their interconnection infrastructure, aspects related to training of the staff that operates these networks and to the attention given to member networks and users, as well as aspects related to the sustainability of national networks and of CLARA. "Apart from all these, we must add the knowledge about the regional connectivity market, one of our main achievements, because we have joined efforts to face the challenge

of making the market understand that it must offers academic prices. This allows us to be sustainable in the face of the limitations of education in Latin America", he says.

What is in your opinion the importance of CLARA in the development of Latin American networks?

In the case of RENIA, it has been extremely important because it is the tool that RENIA has to link itself to other networks in the region and the rest of the world, thus enabling us to grow as an advanced network by sharing the same challenges with other Latin American networks and receiving the support (which we have received throughout) to keep on strengthening the social function we have within the context of the development towards the Knowledge Society.



What is RENIA currently doing to profit from RedCLARA? What are the activities you are currently developing?

We are currently focusing on the following tasks:

- Permanent training of RedRENIA staff.
- The constant construction of advanced network services in each of RENIA's member university networks.
- Experimenting with various transition methods for IPv6.
- Setting up Videoconference rooms in member universities by making use of the ISABEL programme.
- Project development: FRIDA, arranCA.

RENIA in Nicaragua and the Digital Divide

In Nicaragua there are several sectors involved RENIA's development. Universities (management and users / state and private), are one of them. Another sector is the Governmental (politicians and technicians) and there is also a local Information and Communications Technologies (ICT) community (company owners, technicians, developers, etc).

The first sector sees RENIA as a means to learn about Internet2 concepts and the practices to administrate this network, greatly appreciating its potential for academic use. This view is shared by state universities, not by private ones. Furthermore, we can identify the social responsibility they have in the country since this novel technology has to be incorporated by the academia to be then transferred to those companies which will use it, offering thus value added services. The public sector, particularly the science and technology sector, sees RENIA as the leading sector for IT development in the country and perceives it as a natural ally to take over the role of universities in the development of the

Information Society. The third sector regards RENIA's strengthening as strategic since it allows them to update their staff technology for the future. This is why they have determinedly supported RENIA's operation to such an extent that they have given away spaces in the local NAP for the university network's interconnection", explains Blandino.

Roberto, you mentioned that the creation of advanced networks represents a contribution to bridge the digital divide; do you think this divide is being bridged?

I think that the divide is being bridged in the case of our country and especially for the academic sector which then transmits and/or radiates the knowledge gained towards society.

What is still necessary to bridge the divide? What initiatives do you regard as important to level out all Latin American countries?

In the case of Nicaragua, it is necessary to develop a greater connection infrastructure for underwater cables, which allows for a greater competition and a reduction of connectivity costs. The same thing has to be done within the country. Specifically, we need to develop an optical fiber infrastructure that allows us to increase the number of users in the country, thus making the market grow and consequently making the network more sustainable.

Finally, is there any institution or activity that you would like to highlight because of its importance and positive influence on the issue of advanced networks?

Apart from CLARA, I'd say CUDI. This network has had a significant influence on RENIA, since it helps us visualize RedRenia's eventual potential for the academia and provides us with lots of ideas about what to do in order to offer a fine level of advanced network services to the academia.

More information on RENIA's website:
http://www.renia.net.ni/

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RAGIE and RAICES:

The New Members of the Official Clan

With only two days difference, the Guatemalan Advanced Network for Research and Education, RAGIE, and the Salvadorian Advanced Network for Research, Science and Education, RAICES, officially launched their networks in November 2006.

After waiting for several months, RAGIE had its official launch party. An event with important personalities gave the finishing touch to this Network which has grown out of sheer strength and which after a year of being connected to RedCLARA already has several scheduled projects and convenient offers.

The official launch of RAICES took place on 24 November 2006. The event was attended by representatives from CLARA's member national networks, as well as its President and Executive Director. The Salvadorian Deputy Minister of Education also attended the ceremony and he highlighted the importance of RAICES for the country's educational policies.

María Paz Mirosevic

RAGIE's launch: at long last.

After some failed attempts, the Guatemalan Advanced Network for Research and Education, RAGIE, officially launched its Network on 27 November 2006 at 6:30 pm at the Princess Hotel in the capital city.

Several personalities from the Guatemalan society and from abroad attended the event and although neither the President nor the Vice President of the country attended, several members of the diplomatic body were present, as well as authorities from Guatemalan universities and some special guests such as Nelson Simões, Executive Director of RNP and president of CLARA, Carlos Casasús, Executive Director of CUDI and Lito Ibarra, Executive Director of RAICES.

The event's master of ceremony was Engineer Héctor Centeno from the Guatemalan National Committee for Science and Technology, who introduced one of the protagonists of this story: Luis Furlán, Executive Director of RAGIE. Then, CLARA's President, Nelson Simões, said a few words, which were followed by National Commissioner for Science and Technology. The ceremony continued with a Videoconference with Ecuador, where Enrique Peláez participated and ended with the words of Florencio Utreras.

"Although less people than expected attended the ceremony, I think those who came were gladly surprised, since they did not know much about advanced networks and what they do", Luis Furlán told us, proud after the outcome of the long-awaited event.

In the tenth issue of DeCLARA (November 2006) we included an article on RAGIE and at that time, after interviewing Luis Furlán, it was clear that the creation process of the Guatemalan Network, as well as that of many others in the region, had been a difficult one. However, Furlán admitted that they have been able to make a rapid progress and they have managed to serve as an example for other networks in issues such as the traditional networks' "coexistence" with the advanced network and the implementation of the IPv6 protocol.

Despite RAGIE's lack of a physical office and full-time staff, the Executive Director of this institution points up to some important advantages that have been very useful for the Guatemalan network such as the fact that its operation depends exclusively on its members' funding.

IInvitation to RAGIE's Launch Ceremony.

The network does not receive any contributions from the government or any external entities and this makes them be more careful when making any move, investment and when determining their needs' priorities.

Another advantage that Furlán identifies is that they have been able to raise the network with low-cost technology. In fact, the router connected to RedCLARA is a Linux "box". This experience has been a positive one, according to Furlán, since they have had the chance to learn and get a thorough knowledge about networks management.

Two months after being launched and one year after its incorporation to CLARA, RAGIE already has plenty of reasons to celebrate. Apart from the extensive media coverage, the day after the launch ceremony the Guatemalan National Committee for Science and Technology called them to schedule an urgent meeting with the aim of discussing possible research projects, as well as the of the National Committee for Science and Technology's (CONCyT in Spanish) immediate incorporation to RAGIE.

RAICES was launched by a Presiding Committee

In a ceremony attended by around 50 people, including a significant amount of international guests from CLARA's member networks, and a Presiding Committee, the Salvadorian Advanced Network for Research, Science and Education, RAICES, was officially launched on Friday 24 November 2006, almost three years after its creation.

The ceremony was held at the Mesón de Goya restaurant and started at 8 pm with the guests' arrival. Among these guests there were several rectors, authorities and representatives from Salvadorian institutions which belong to RAICES, as well as representatives from the Latin American National Networks that make up CLARA and representatives from the ALICE project.

The first speaker was RAICES's President, Rafael Ibarra, who welcomed the guests and introduced CLARA's Executive Director, Florencio Utreras. Utreras spoke about the role CLARA plays in Latin America. Later on, CLARA's President, Nelson Simões, gave a speech about the importance of National Networks for research and education in the countries in the region.

The official launch of RAICES was carried out by the Salvadorian Deputy Minister of Education, José Luis Guzmán, who gave an improvised speech about the importance of RAICES' launch ceremony, an event he named as "the sowing of RAICES" (raíces means 'roots' in Spanish) which will germinate and yield fruit in the advance of national educational policies and of El Salvador's 2021 Plan, whose name refers to the year of El Salvador's independence bicentenary.

At the end of the ceremony, Rafael Ibarra invited the guests to make a toast to celebrate this important occasion.

In its September 2006 issue, DeCLARA featured an in-depth article on RAICES. At that time, we showed the

relationship of El Salvador with advanced networks and, of course, we included an interview with its President, Rafael Lito Ibarra, who told us that the creation of RAICES stems from the direct incentive of the CLARA and ALICE projects, and although this happened a long time ago, this network is still undergoing an internal consolidation process.

Today the Salvadorian network is trying to find the way to make good use of the collaboration and communications tools within the context of research projects; and the way of attracting researchers, scientists and academics from all disciplines to incorporate the collaborative work modality.

Ibarra highlighted some initiatives that are being developed in El Salvador. One of them is RAICES participation in the Presidential Commission for the Information Society, which officially sworn in January 2007 and which is related, for instance, to the Puebla Panama Plan (PPP). This Plan includes the optical fiber infrastructure which will link the eight PPP member countries and which could eventually has RedCLARA among its users, specifically in the national networks of these eight countries.

Another initiative has to do with El Salvador's institutional restructuring of science, technology, quality and innovation systems. This could lead to a new attitude towards issues related to research, academic networks and regional collaborative work, Lito commented, although he does not know for sure when they will see the first outcomes: "Traditionally, there has been a poor culture of research and internal technological development. Because of this, and as opposed to other countries, our take-off may take a bit longer".

Official Participants, RAICES launch, from left to right: Nelson Simões, President of CLARA and Executive Director of RNP, José Guzmán, Deputy Minister of Education of El Salvador, Rafael "Lito" Ibarra, Executive Director of RAICES and Florencio Utreras, Executive Director of CLARA.

FP7 Finally Opened its Calls

The biggest funding programme for research and technological development in the history of the European Union (EU), the Seventh Research Framework Programme –FP7- was officially launched on 1 January. The process did not lack debate and controversy in its evaluation and approval period, and those responsible for this Programme have already toured Europe giving presentations about it. The process will be extended for a few more months in order to elucidate all the doubts that those who are interested may have in relation to the different calls for papers.

The programme was approved by the EU Council on 18 December 2006 when obstacles related to FP7's total budget for the 2007-2013 period were overcome (the consensus of Heads of State and Government is necessary). Other obstacles had to do with ethical questions in relation to funding for stem cell research with human embryos, the structure of the European Research Council (ERC) and the shared risks that the Programme's funding entails.

The EU Council took ten months to reach an agreement that gave way to the development of the Seventh Framework Programme; the European Commission (EC) had sent its proposals on FP7 in April 2005 (for detailed information of the entire process, from the first proposal sent to its final approval, go to: http://cordis.europa.eu/fp7/flowchart_en.html).

Now that the agreements have been reached and the Programme has been launched, it is the time to go over its focus of attention. FP7 will build up on the achievements of the previous research framework programme and will be executed through four specific programmes. The "Cooperation" programme will support joint research in a series of specific thematic areas. "Ideas" will fund research conducted by researchers through the recently created European Research Council. The "People" programme will support the professional training and development of researchers, while "Capacities" will support the coordination and development of research infrastructures, of regional research groups and international collaboration, as well as enhancing the links between science and society.

The calls for papers for those who are interested in participating in FP7 have been published in the programme's website. This includes, as already mentioned, topics related to Cooperation, Ideas, People and Capacities, as well as another one related to Euratom, the European Atomic Energy Community, which is aimed at nuclear energy research and training activities (funding for this item only comprises the 2007-2011 period). To access each call for papers related to these five thematical areas, you just need to go to http://cordis.europa.eu/fp7/dc/index.cfm?fuseaction=UserSite.FP7CallsPage. This page contains details about available funding, deadlines, restrictions and application procedures.

In rough terms, in FP7 most of the budget has been allocated to Information and Communications Technologies, with € 9.110 million; the sum is seconded by the funds allocated to Health (€ 6.050 million), Transport (€ 4.180 million), Nanotechnology (€ 3.500 million), Energy (€ 2.300 million), and the Food, Agriculture and Biotechnology area (€ 1935 million). Other budget areas include Environmental Research (€ 1.800 million), Space (€ 1.430 million), Security (€ 1.350 million) and Socioeconomic Sciences and Humanities (€ 610 million).

Helsinki was the stage for launch in line with ICT

The Information Society Technology Conference 2006 (IST 2006: http://europa.eu.int/information_society/istevent/2006/conference/index_en.htm), held in Helsinki between 21-23 November 2006, was the kick-off for the launch of FP7 in terms of the procedures established by the Information and Communications Technology (ICT) Programme.

IST 2006 contributed to this pre-launch by carrying out a cycle aimed at ICT research and innovations and their socioeconomic benefits.

The event lasted three days in which several meetings were held:

Tuesday 21 November: After the open plenary sessions and the opening ceremony exhibitions, there was a debate on how governments and public policies can contribute to European ICT innovations. Additionally, there were short presentations on the research's needs from four different points of view: academic, large EU companies, Small and Medium-sized Enterprises (SME), and international companies. This was followed by a presentation on FP7 which served as an introduction to the second day of the event.

Wednesday 22 November: This was the day devoted to FP7. There were 20 sessions about the research content of ICT projects for FP7, and there was also a special session on how to submit a proposal for application to FP7.

Thursday 23 November: There was a meeting devoted to showing the most important aspects about research, innovation and activities associated with the IST programme.

During the Conference, Florencio Utreras, Executive Director of CLARA, gave a presentation on the Latin American Cooperation of Advanced Networks titled: ALICE/CLARA: An opportunity for collaboration with Latin America (http://ec.europa.eu/information_society/istevent/2006/cf/document.cfm?doc_id=2280)

More information at:
·FP7: http://cordis.europa.eu/fp7/ict/
·FP7 Fact Sheets: http://ec.europa.eu/research/fp7/understanding/index.html

A landmark for the Grid community:

World Map of Grid Computing was revealed at the end of 2006

María Paz Mirosevic

One of the most surprising events of 2006 for the Grid community was the creation of the World Map of Grid Computing. This technology is one of the first ways of showing the global scene in the area of development for e-Science.

The interactive map shows nine large computing Grids distributed throughout the world. In order to materialize this map, the developers of this technology, Gidon Moont from GridPP and Laurence Field from the European EGEE project (Enabling Grids for E-sciencE), used the Google Earth application to highlight the Grids sites in all continents, thus showing the existence of more than 300.

The world map of Grid computing was released for the public in mid November 2006 during the Supercomputing 2006 event, in Tampa, Florida (USA). On that occasion, the participants could see for the first time the portrait of the Grid world, which could be perfectly regarded as the world x-ray photograph of e-Science.

Laurence Field, who led the work on the map, explained at the event that: "Today, there is a significant number of Grids production used by science, and many of these have a strong regional presence. Many of them make use of different middleware, which could impose artificial limitations on collaboration. The Grids shown on the map are taking part in the Grids Open Forum of the Grid Interoperation Now (GIN) group, who are trying to bridge the differences and thus allow the interoperation among the different infrastructures".

Gidon Moont from Imperial College London was in charge of developing the interface with Google Earth. This was then adapted by the GIN group and presented at the CERN and UK e-Science stands during Supercomputing 2006. According to Moont, "this is the most exciting thing that has happened to us, for the first time we can see all Grids together on one single map. Interoperation will be a key area for the future of Grids and the map will show its growth".

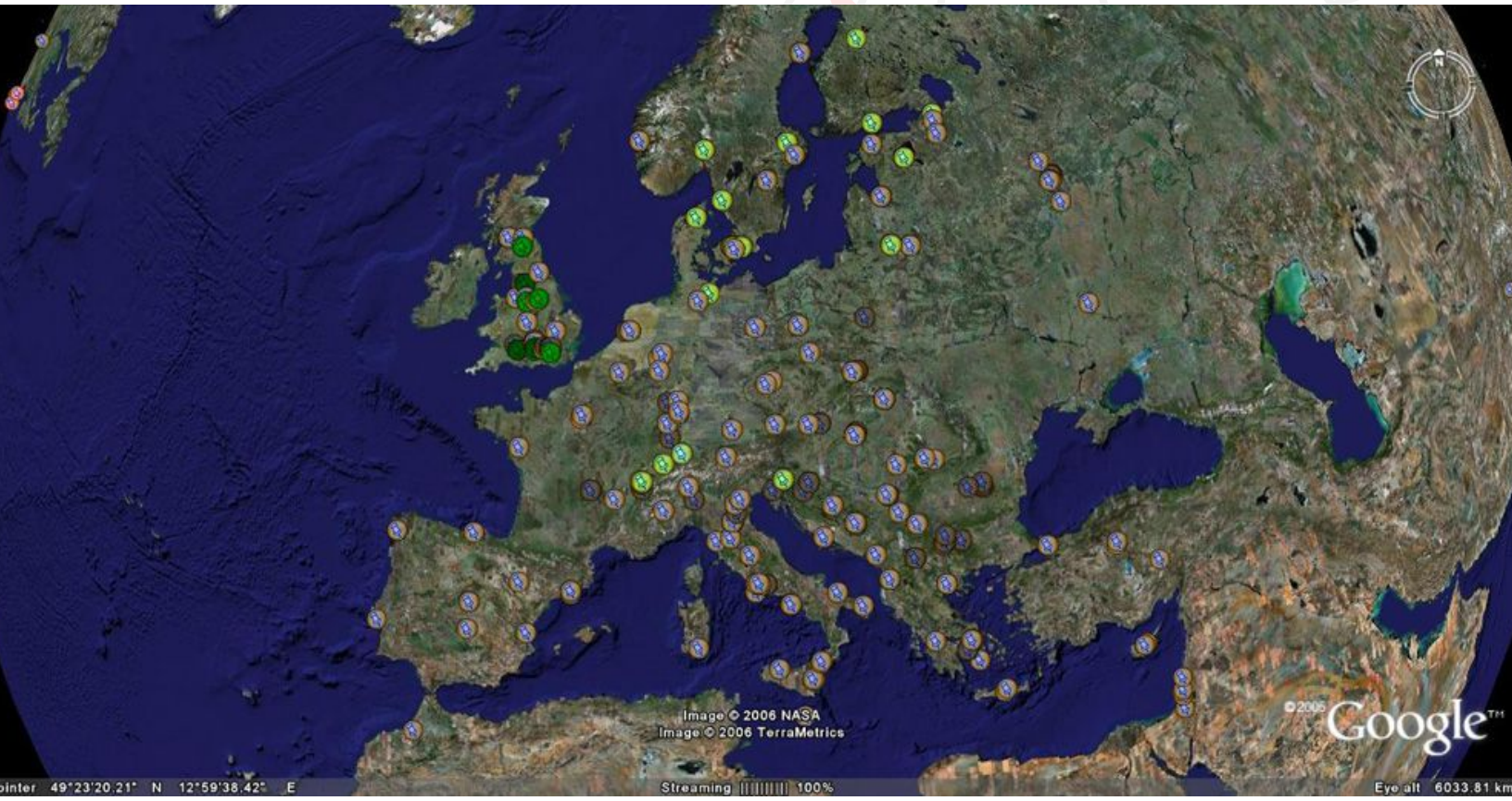
The Grids points are presented in Google Earth by means of a KML file. By opening it in Google Earth, the grid's locations are added onto the Google map. A click on a place displays the points' name and location, as well as information about the Grid they belong to.

The map looks up a database with information about places from the following Grids:

· Enabling Grids for E-sciencE (extended throughout the world, http://www.eu-egee.org)
· Open Science Grid (mainly in the USA, http://www.opensciencegrid.org/)
· Nordic Data Grid Facility (mainly in Scandinavia, http://www.ndgf.org/)
· NAREGI (Japan, http://www.naregi.org/index_e.html)
· TeraGrid (USA, http://www.teragrid.org/)
· PRAGMA (Pacific Rim, http://www.pragma-grid.net/)
· Distributed European Infrastructure for Supercomputing Applications (Europe, http://www.deisa.org/)
· National Grid Service (United Kingdom, http://www.grid-support.ac.uk/)
· Australian Partnership for Advanced Computing (Australia, http://www.apac.edu.au/)

The file with the Google Earth Grid points and the installation instructions are available at http://www.gridpp.ac.uk/demos/gin_monitor.html

Pictures of the World Map of Grids, with a close-up on Europe.



RedCLARA Next Step

AtlanticWave

Aiming to improve the international research collaboration, the AtlanticWave (AW) service, was officially launched, in November of 2006, by the Southeastern Universities Research Association (SURA) and a group of collaborating not-for-profit organizations. AW is a distributed international research network exchange and peering facility by the side of the Atlantic coast of North and South America. It's main objective is to ease research and education (R&E) collaborations between U.S. and Latin American institutions. And this goal will be achieved pretty soon, just when the connection of RedCLARA to it turn into a reality.

María José López Pourailly

DThe AtlanticWave services are for existing networks that currently interconnect at key exchange points along the Atlantic Coast of North and South America, including MAN LAN in New York City, MAX GigaPOP and NGIX-East in Washington D.C., SoX GigaPOP in Atlanta, AMPATH in Miami, and the São Paulo, Brazil exchange point operated by the Academic Network of São Paulo (ANSP). It is from the Brazilian exchanging point, that RedCLARA will be connected to the AW facility.

AtlanticWave supports the GLIF (Global Lambda Integrated Facility - www.glif.is) Open Lightpath Exchange (GOLE) model.

The organizations collaborating in establishing and operating AtlanticWave include SURA, FIU, FLR, Southern Light Rail (SLR), MAX, Internet2, and the International Educational Equal Access Foundation (IEEAF).

Jerry Draayer, President and CEO of SURA (a U.S. non-profit organization that fosters collaborations in science and engineering among its more than 60 member universities), declared at the launching event that the "AtlanticWave promises to expand our international efforts in scientific discovery. Our mission is to enhance the research capacity of our members, the region and our nation, and extends to international collaborations. With the creation of AtlanticWave enabling enhanced research partnerships with our Latin American colleagues, our research universities should be positioned better to continue advancing world class research and education."

As a matter of fact, networks already connected to AW exchange points can automatically begin using the service to establish peering relationships with international networks.

For the CLARA Community the future connection to AW, plus the already existing connection to Pacific Wave and, of course, to GÉANT2 in Europe, enhances enormously the network capacity and therefore what the NRENs connected to RedCLARA can obtain from these connections it is a new horizon for their collaborative projects and applications development.

More information about AtlanticWave at: http://www.atlanticwave.net

NChile puts a G to end 2006

GREUNA, the new REUNA network

During 2006 the Chilean network REUNA worked very hard. With the aim of increasing and improving its network in order to provide a better service to its member institutions, REUNA increased its bandwidth to 1 Gbps, and adopted the name GREUNA, which replaces the previous version REUNA2.

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GREUNA is better than the previous version, REUNA2, thanks to the network's increase and improvement, which enables the Chilean academic network to provide a better service to the institutions that are part of it. Properly completed at the end of 2006, the effort to implement GREUNA was complemented by the purchase and installation of new equipment that are suitable for supporting the network's new 1 Gbps bandwidth, which is suggested by the initial G in its name.

GREUNA is the third version of Chilean research and education network that follows REUNA and REUNA2. Defined as a "technological highway" endowed with Gbps capacity from the northern end southern end of the country, GREUNA offers advanced services such as QoS (Quality of Service), Multicast and IPv6, among others.

GREUNA's Implementation

The transition from REUNA2 to GREUNA (from an ATM to a Gbps network) was made possible by updating the existing equipment throughout the network: with the support of the MECESUP Programme AUS307 ("Improving the Quality and Technological Services to Support Teaching", 2004-2006), the core Cisco LS1010 Switches ATM were replaced by Cisco 7606 equipment and the devices to access the backbone (Cisco 7204) were replaced by Cisco 6503 machines.

The new equipment is of Layer 2 and Layer 3 type, and is characterized by its high performance and availability. In the case of access equipment, the processing capacity was increased by 150 times. While the former 7204 equipment supported 100 kpps, the new 6503 one supports a minimum of 15 Mbps, about 15 million packets per second.

The new devices present a great potential, since they incorporate QoS by hardware, P2P traffic control and DoS (denial of service) control, among others. Additionally, they possess the necessary configuration to support an increase of the network towards a Gbps network, whenever this is needed.

As a way of complementing the above, new support equipments were added. They will allow for a better-quality and better distributed administration of the Chilean national network, especially in terms of applications for diagnoses and measurements, when this is necessary. Furthermore, GREUNA purchased a device that will make it possible to send Multicast or IPv6 traffic towards some segments of internal networks from REUNA's member universities. Through this connection it will also be possible to generate circuits with QoS for certain services which require this technology, such as videoconferences and Grid traffic, among others.

In November 2006, with the intention of implementing a network with Gbps capacity, REUNA formed and strengthened a strategic alliance with Empresa Telefonica Chile S.A. This alliance enables REUNA to take its first step towards an increase of its national academic network. This was reflected in an increase from 1xstm-1 (155Mbps) to 2xstm-1 (310Mbps) in the network's capacity in the Concepción-Santiago and La Serena-Santiago segments. These links arrive in Gigabit Ethernet interfaces to GREUNA's equipments.

This way, in GREUNA the composition in local segments (between its backbone and Telefonica's office) is one of dark fiber links lit up by GEthernet interfaces. As for long-distance transport, Telefonica designates two STM-1 wefts in the indicated GREUNA segments. Therefore, this transport capacity could be simply increased in the long-distance network without having to make any changes in the internal network.

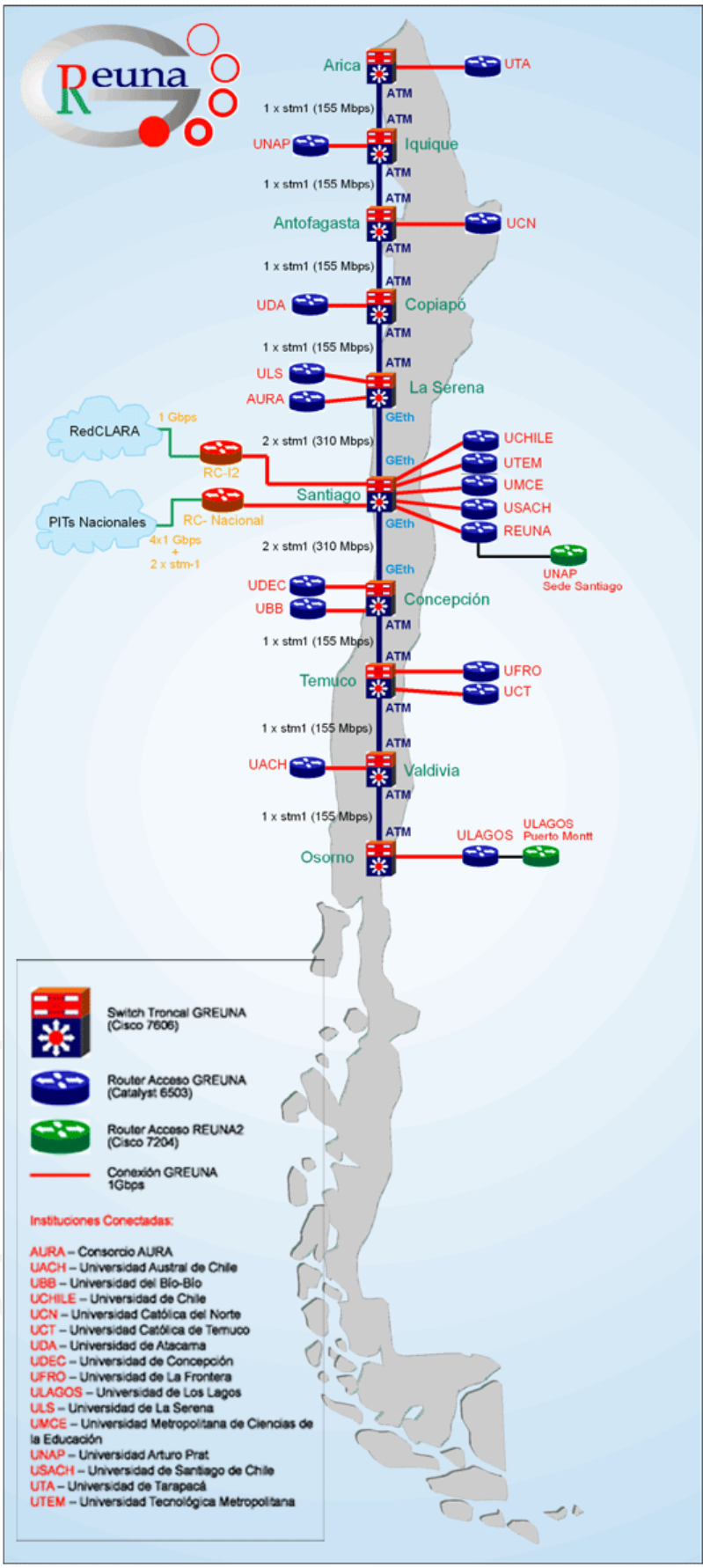
Since all the accesses of REUNA's member universities to the backbone are fiber ones, the change in transport was done in a natural way, just like the capacity increase in these local segments, thus making it possible to go from a ATM STM-1 (155Mbps) connection to a GEthernet (1000Mbps) connection. This made it possible to increase the accesses capacity by 6 times.

GREUNA's Future

After the implementation of GREUNA, REUNA Tec wants to send Multicast and IPv6 traffic towards one or more segments in universities' internal networks. The aim is, above all, to provide support for the management of internal networks of universities in areas such as: Security, at applications and final nodes level; Traffic Control, with the aim of strengthening the work done by internal networks teams and in order to keep a better global control in a peripheral way and thus attain a better use of new equipment and provide a better distribution and segmentation of universities' internal networks.

Additionally, RENA is already working on the design of schemes and procedures for the network's administration in order to take full advantage of the existing equipment. The idea is to develop a measurement procedure from end-to-end, in any segment of the backbone, which enables a university to know what the performance of the network is like in a specific segment and thus be able to sort out traffic problems or other similar problems.

GREUNA Topology



REUNA - Red Universitaria Nacional - Diciembre 2008

Learning Objects:

LACLO makes an invitation to join its community.

After the I Latin American Congress on Learning Objects, held in Guayaquil, Ecuador, between 23-27 October 2006, the Latin American Community for Learning Objects –of which CLARA is an active member and member of its Committee- launched its Internet address in order to promote its missions and tasks, as well as to invite all people and institutions in the Latin American education sector with an interest in research, development and application of technologies related to Learning Objects (LO) to join its community.

María José López Pourailly

LACLO's main mission is to help articulate the various efforts which are generated within the Latin American region to promote the advances and benefits of LO technology so as to enable Latin America to face the great educational challenge of this century: be able to offer personalized and high-quality educational services to any person, at any time and in any place. This implies acknowledging that LO technology favours more efficient and personalised educational processes.

Nowadays there are various initiatives devoted to experimenting with LO technology throughout the world, including Latin America. However, in our region this development is at an early stage and still there isn't an institution that brings together the efforts made in different countries. Moreover, Latin America lacks favourable forums for the discussion of LO advances in the region and nothing has been done to promote this technology, its advantages and opportunities for the educational development of our countries.

Summing up, we can say that Latin America does not have an initiative that makes it possible to share and optimise the use of LO and, until now, institutions related to this issue hadn't found a way to overcome these difficulties. But well, just like in any good story, there is a happy ending. An ending that is a beginning at the same time: we are talking about the LACLO community, which was established not only to solve these problems, but also to consolidate in Latin America a development that is consistent with the global evolution of LO and its uses.

In its website, LACLO not only provides access to relevant documentation on the matter (Guayaquil Declaration –Creation and Objectives of the Community-, initial list of members, articles presented during the LACLO Conference 2006, projects on which LACLO is currently working, etc.), but also makes way –by means of forums- for discussion on such relevant matters as training, repositories and intellectual property, among others.

Get to know more about LACLO and join its community at: http://www.laclo.espol.edu.ec

e-Challenges 2006:

More international delegates each year

The 17th version of the e-Challenges Conference was attended by more than 640 delegates and included exhibitions from several European countries.

The e-Challenges Conference 2006 was held on 25-27 October 2006 in Barcelona, Spain. This event attracted more than 640 delegates from 53 countries. Among the delegates there were representatives from the governmental sector, from industry, technology and SME's, and mostly from academic, research and education organizations. The event also included exhibitions from 17 countries.

The 2006 version of e-Challenges included more than 300 presentations from 46 countries in all continents. These presentations featured speakers from countries like Belgium, the Netherlands, Romania, Spain and Switzerland. They shared the challenges posed by current ICT applications in areas such as government, business and research.

The general trend of this event has been an increase of international participation in the e-Chellenges community. In fact, in the 2006 event 8% of speakers and 8% of delegates came from non-European countries.

It is widely known that e-Challenges offer a unique opportunity to get a better appreciation in relation to some of the cultural, technological and practical issues that have an impact on global e-Adoption.

Apart from the scheduled activities, the e-2006 conference developed several previous events, of which the most outstanding are:

- The Second International ELeGI Conference on Technological Advance for Enhanced Learning.
- A workshop on Semantic Services in Web Practices: the INFRAWEBS Experience.
- Presentation on the First FP7-IST call for papers.

Award for the best e-Challenges of 2006

The tradition of e-Challenges events includes giving each year an award for the Best Submitted Paper. In this opportunity the winner was "Using Onion Routing to secure Peer to Peer Supported Business Collaboration" by Fabian Stäber, Udo Bartlang and Jörg Müller, from Siemens AG, Germany.

Another traditional award is the one given to the stand with the best exhibition, and this year the winner was the stand of Smartmatic/Sequoia Voting Systems from Venezuela, and the finalist for the same award was presented by Attentianet from Alcatel Spain.

Announcements for e-Chalenges 2007

At the end of the event, it was announced that the next version of e-Challenges, which is scheduled for October 2007, will be held in The Hague, in the Netherlands. This will be the 17th version of this event, which is supported by the European Commission.

The thematic areas for the 2007 version include ICT for entrepreneurial networks, e-Government, e-Democracy, security and identity management, and ICT skills.

Those who are interested in submitting papers and workshop proposals have to do so by 28 February 2007. The people interested in participating can register as of 15 January.

For more information visit:
http://www.echallenges.org/e2007/default.asp

A G E N D A

JANUARY

19th Open Grid Forum - OGF19
January 29 - February 2
Chapel Hill, USA
http://www.ogf.org/OGF19/events_ogf19.php

FEBRUARY

2nd @Health Brokerage Seminar
8-9 February
Madrid, Spain
http://138.4.10.197:8080/athealthworkshop/es/index.html

12th Convention and International Informatics Fair 2007
12-16 February
Havana, Cuba
http://www.informaticahabana.com/?q=es

MARCH

Spanish Conference on e-Science Grid Computing
1-2 March
Madrid, Spain
http://webrt.ciemat.es:8000/e-science/index.html

CUDI announces its Spring Meeting 2007
21-23 March,
Torreón, Coah, México
http://www.cudi.edu.mx/primavera_2007/index.html

7th Congress of the Colombian Automatics Association
21-23 March
Cali, Colombia
http://www.aca-automatica.org/eventos.htm

SETIT Conference 2007
25-29 March,
Hammamet, Tunisia
http://www.setit.rnu.tn/

APRIL

Nova Educa Congress 2007 at Nova South-eastern University
2-4 April
Miami, USA
http:// www.SchoolofEd.nova.edu/novaeduca

2nd International Workshop on Distributed Cooperative Laboratories: Instrumenting the Grid
16-18 April 2007
Santa Margarita Ligure, Portofino, Italy
http://www.ingrid.cnit.it/

V CEISAL European Congress of Latin Americanists: "Triangular relations between Europe and the Americas in the 21st Century: expectations and challenges"
11-14 April, Brussels
www.ulb.ac.be/soco/cercal/accueil.html

Spring 2007 Internet2 Member Meeting
23-25 April
Arlington, Virginia, USA
http://events.internet2.edu/2007/spring-mm/calls.html

HealthGrid Conference 2007
24-27 April
Geneva, Switzerland
http://geneva2007.healthgrid.org/