

"To provide professional and efficient distribution of Internet number resources to the African Internet community, to support Internet technology usage and development across the continent and strengthen self Internet governance in Africa by encouraging participative policy development."

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Upcoming Events

Event	Date	Location
RIPE 54	7-11 May 2007	Tallinn, Estonia
LACNIC X	22-25 May 2007	Isla Margarita, Venezuela
ICANN	25-29 June 2007	San Juan Puerto Rico
IETF69	22-27 July 2007	Chicago, USA
APNIC-24	29Jul-7Aug 2007	New Delhi, India
AfriNIC-7	26-28Sep 2007	Durban, S. Africa

Dear Colleagues and Members,

In this 6th edition of AfriNICNews, we will try again to inform you on recent issues about the Internet Protocol and number resource management.

In our region, things are picking up slowly but steadily. I'm very curious about the trend of adoption of mobile technologies in this part of the world both for voice and data. Looking at how things are moving, it won't be wrong to say that the information era in our region will be on mobile devices. From means of payment to education and welfare, mobile devices will be used everywhere. Mobile phones are becoming more and more sophisticated and information process oriented. This raises a question in my mind: shall we not focus our research today on how we can use this technology and these devices to enhance access to the Internet? Several mobile phone operators are slowly readjusting their strategy around IP based networks to enhance their ability to provide integrated services. This is maybe the right time for content developers also to adjust their strategy toward this kind of media. But what does it mean for AfriNIC? Probably a lot, as we are talking here about IP – hence, these emerging services will require unique identifiers to be connected. We have noticed an increase of memberships and address allocation in that area and are expecting this to continue in the coming years. At the same time, we are exploring ways of reinforcing our relationship with this "new generation" of Internet Service Providers that are coming from the voice business in most of the cases. Several activities will be planned in this regard and we hope that our region will seize this unique opportunity to bring electronic information closer to the population at large.

Another issue which has some linkage with the above topic and the expected growth in devices connected to the IP network is the IPv4 address consumption. In this release of AfriNICnews, we are trying to analyze the situation from the AfriNIC view point and to open the way for reflection and discussion on the matter within the community.

Good reading.

Adiel A. Akplogan

The AAU and Research and Education Networking in Africa

By Boubakar Barry,

Coordinator, Research and Education Networking Unit African Association of Universities

The AAU REN Unit

The Research and Education Networking Unit has been established at the Association of African Universities Secretariat to coordinate actions related to research and education networking, as well as to other ICT initiatives in Africa.

The establishment of the Unit is the result of several consultations and meetings held in the past 2 years in which the African Higher Education community, donor organizations as well as other stakeholders have participated. It has been made possible through funding from the Partnership for Higher Education in Africa (PHE), the International Development Research Centre (IDRC), and, later, the African Capacity Building Foundation (ACBF).

The REN Unit focus on the promotion of the establishment of Research and Education Networks (NRENs) for accessing more bandwidth at affordable prices, as per the strong mandate received by the AAU from its members at the 11th General Conference in January 2005, to assume a focal point role in initiatives aimed at enhancing access and effective utilisation of ICT and the Internet.

This mandate has been then endorsed by the participants of the conference on African R&E networking held in Tunis in November 2005, as parallel event of the WSIS Conference.

Other fields of action of the Unit include advocacy and lobbying, development of ICT policy guides, capacity enhancement, and building of partnerships at regional, continental and international levels.

Why Research and Education Networks?

National Research and Education Networks (NRENs) are national networks used by and dedicated to the research and education (R&E) community of a country; they have been established mainly for the reason that the -high demanding- R&E community has specific needs in terms of advanced services that are not addressed by Internet Service Providers (ISPs) in their general public service offers. NREN users are generally highly demanding and progressive users who want to go beyond what is offered to general network users.

In addition, research teams are generally physically distant from each other, and often work on shared projects, with the need of sharing results almost instantaneously at a reasonable cost.

It is a matter of fact that the R&E community is much more receptive to innovative solutions and services, and thus needs its own infrastructure, used for both operational purpose and as test bed for new applications and services. In this regard, the history of RENs throughout the world has shown that R&E networking has significantly contributed in technology improvements that have then been made commercially available to the general public by private companies.

In this regard, the R&E community that is generally a quite large group of users can play a major role in promoting competitiveness at the network carrier and service levels, especially in the context of liberalisation.

Thus, a major strategy issue for RENs is to systematically adopt and use open standards.

In the African context where resources are even scarcer as elsewhere, the aspect of sharing both bandwidth and knowledge through R&E networks is the most significant and visible benefit of R&E networking.

State of Research and Education Networking in Africa

With more than 400 universities in 53 countries, there are less than a dozen active NRENs in Africa; the existing ones are mainly located in Northern, Southern and Eastern Africa:

- MARWAN (Morocco), EUN (Egypt), RNU (Tunisia), CERIST (Algeria) in North Africa;
- TENET (South Africa), KENET (Kenya), MAREN (Malawi) in Southern and Eastern Africa.

However, several NRENs are presently in formation in all African sub-regions (Mozambique, Tanzania, Uganda, Nigeria, Cameroon, Ghana, Senegal, etc.).

This situation is mainly due -but not limited to- the following facts:

- Africa is the least connected continent in the world;
- In most of the countries, incumbent telecommunication companies rule over the telecommunications market;
- Poor infrastructure except in few countries;
- Resources concentrated in major urban areas;
- Absence of or no implementation of ICT policies;
- Predominance of copper infrastructure on national backbones;
- Very few Internet Exchange Points (IXPs), leading to inefficient use of international bandwidth and waste of financial resources through transit traffic charges paid to telecommunications majors in Europe and the US;
- Absence or weakness of regulatory bodies; etc.

However, there are some signs of positive changes.

• The SAT3 cable that runs from Europe to Asia via the African west coast and southern Africa has been launched 5 years ago. Unfortunately, the consortium owning the cable is practicing prohibitive prices; less than half of the available capacity is being used, due to this pricing policy.

• Fortunately, the monopoly of the national incumbent telcos that are members of the consortium is being to end in June 2007, opening new opportunities for wider access to the cable at reasonable prices.

• The EASSy cable project that aims to link countries in Eastern and Southern Africa, by also servicing land-locked hinterland countries. The project has been endorsed by the New Partnership for African Development (NEPAD) that try to impose an open access policy in order to avoid the bad experience with SAT3. Unfortunately, some of the stakeholders (mainly incumbent telecommunications companies) are against this orientation, and the project which was supposed to have started by now is still in a negotiation phase and some of the stakeholders have recently decided to go for their own separate projects.

Technology options

For establishing NRENs, there are presently 4 major technology options:

- Satellite (VSAT): this is the most versatile option as it allows reaching difficult to access regions. However, satellite connections are quite expensive and require either licenses or license exemptions to operate;
- Leased lines: these are generally copper pairs from public telephone networks; as they are owned by incumbent telecommunications companies, leased lines are also quite expensive;

- **Wireless:** wireless connections are very convenient for NREN deployment, especially at campus level. They are very easy and quick to install and operate; however, there is here more concern on security issues, due to the fact that any wireless-enabled equipment within the served area can receive the signals. Wireless equipments have become very cheap these last years and this option constitutes a very useful interim solution for building campus networks, or even larger sections of NRENs.

- **Optical fibre:** fibre connections are the most advanced and powerful solutions for networking. Although fibre has become very cheap today, the costs of installation and termination equipments are still high. However, in the long term, fibre is today the most powerful, reliable and advantageous solution.

Studies have shown that there is a substantial amount of unused fibre capacity in Africa; not only the above-mentioned unused capacity of the SAT3 cable, but also from infrastructures belonging to power companies, railways companies, etc. Generally, these companies lay fibre along their infrastructure, but use only small amounts of the cable capacity. Unused fibre pairs are generally known as "dark fibre". It is very important, especially in Africa where such waste shouldn't be tolerated, to investigate where those capacities exist and to lobby for their release at reasonable prices to the R&E community.

Bandwidth consortia

Bandwidth consortia are without any doubt the best way for African universities to access more bandwidth at lower cost. In this regard, the initiative of the Partnership of Higher Education in Africa for establishing a consortium for "whole sale" is a good showcase of how groupings of institutions can succeed in getting better prices when they purchase bandwidth as a group.

However, this initiative focuses on satellite bandwidth sharing. Although it is true that more than 50% African countries rely on satellite for more than 80% of their international voice and data communications, it is necessary to explore other alternatives.

While universities with satellite connections as only alternative have to be supported to build/join satellite based bandwidth consortia, institutions in countries with other alternatives such as fibre connections should be encouraged to go that more promising way, in terms of performance and cost. Of course, it is realistic to advocate for a 100% fibre solution right now; fibre backbones supplemented by other solutions such as leased lines and wireless connections are likely to be the most successful options in the near future.

Challenges and Opportunities

The most important challenge is the sensitization of decision makers in the universities. At the operational level (that of IT managers), a great level of awareness and commitment has been noticed for years. Unfortunately, despite good will declarations, there are very little efforts from African universities leaders to invest in ICT in general and in R&E networking in particular. A massive awareness raising and advocacy campaign has to be initiated in order to dramatically change this situation.

Fortunately, there are a number of champions within the African university leaders' community one can count on to advocate the better consideration of ICT and R&E networking. These leaders should be approached individually in order to mobilise them to actively advocate for ICT and R&E networking.

In recent meetings dealing with ICT and networking in Africa, it has been noticed that international donor organisations as well as private companies are interested in contributing to a better access of African R&E institutions to more bandwidth at reasonable cost. There is indeed a momentum the African R&E community shouldn't miss. There is a real opportunity here to build a strong group of African R&E supporters, including traditional partners as well as new ones, especially from the private sector. Clear signals have been sent these last months by a number of private companies that have shown their interest in contributing to the efforts of building an African R&E network.

Strategy

The vision of AAU in regard of R&E networking in Africa can be declined in the following:

- Building/enhancing capacity at campus level. Campus networks are the pillars of R&E; particular attention has to be given to them. Without well designed, strong campus networks, there will be no viable R&E networks;
- Promoting strong, viable campus networks FIRST;
- Promoting national dialogue towards R&E networks;
- Promoting sub-regional cooperation and interconnection: this approach is important as it will make future interconnection of sub-regional networks easier to realise. Most African sub-regions have regulatory bodies' associations that make it easier to interconnect countries in the same sub-region.
- Promoting the interconnection of all sub-regional networks, thus establishing an African research and education network (AfREN);
- Promoting international cooperation (connection with other pair networks).

It is crucial to focus on campus networks, and to initiate debates at national and regional levels for the establishment of national and regional networks.

Partnership

In its coordination and facilitation role for the African higher education community, AAU is building strong partnerships with the R&E IT community, donor organisations, the private sector, as well as with organizations like AfriNIC and AfNOG. In this context, the AAU, AfriNIC and AfNOG have signed a memorandum of understanding in which they agreed to work together to promote the establishment of research and education networks at campus, national, regional and continental levels. Specifically, AfriNIC and AfNOG will help in building capacity for African Higher Education Institutions, and in mobilizing resources to support the process of building R&E networks.

New Staff at AfriNIC

Yaovi Ahadjitse joined us in February 2007 as Database Manager and Software Developer. He holds a Master's Degree in Computer Science From I.A.E.C. - Lome.

Kiran Cunniah joined us in February 2007 as Executive Assistant. She holds a B.A in Law and Management from the University of Mauritius.

AfriNIC: A Tool for ICT Development in Africa?

By Pierre Dandjinou

Overview of ICT infrastructure in Africa

Recent advances in information and communication technologies (ICT), namely computers, electronic networks and Internet based applications have raised increasing expectations in many developing countries as a means to empower poor people, enhance skills, increase productivity, improve participatory decision making processes, bring about institutional changes, coordinate development efforts, improve governance at all levels and provide timely delivery of government services. However, the progress in ICT based applications has been uneven and slow in many developing countries including Africa due to the following constraints:

- Low levels or no computer literacy;
- Lack of locally relevant content in local languages;
- Unreliable, intermittent or no power;
- Limited or no connectivity;
- Low affordability; and
- Low or no priority for investments in ICT aimed at poverty reduction as there are more pressing needs to be met.

Current telecommunication infrastructure in Africa consists of a combination of radio relay links, open wire lines, radiotelephone stations, fixed local loop installations and substantial mobile cellular networks. In some African countries, mobile cellular networks have increased significantly over the past few years to match or even surpass the number of fixed lines. For inter-state communications, satellite and micro wave links are mostly used. Two African organizations administer these networks: the regional African satellite Communication Organization (RASCUM) and the pan African telecommunication Union (PATU). However, despite the existence of these authorities, about 90% of African traffic is routed through Europe or North America. Consequently, African states disburse an average of \$400 million every year to have calls to other African countries routed through foreign networks.

Internet usage has only begun in most of Africa recently and is currently concentrated in large cities. One notes a large number of shared accounts and a high usage of public services such as Internet cafes. The average internet penetration is estimated at an average of 1.8% by 2005, with a few countries (South Africa and most of Northern Africa) dominating this average. The low Internet usage is mainly affected by the inadequate and poor quality of telecommunications infrastructure and the high cost of Internet services, mostly through dial up charged per minute. Only a very small percentage of Internet access is broadband or high speed, mostly through asymmetric digital subscriber lines (ADSL) and broadband wireless.

Computer usage in Africa is still low for lack of an endogenous industry and of innovative measures for lowering ICT unit costs. To the pervasive computer illiteracy one could add lack of massive software industry which caters for local need and consider advantages from open source software packages. But the biggest gap in up taking the ICT is lack of rich and adapted contents.

Challenges facing Africa in realizing its information society were best summarised by President Alpha Oumar Konare on the launch of the African ICT week in 2005: these are:

- Availability of appropriate policies: most countries lack of these strategies that could facilitate harnessing ICT and therefore regulations are still rigid and telecommunication tariffs and import duties on ICT equipment are high.
- High telecommunication costs
- Unclear sector regulation
- Inadequate infrastructure: telecommunication and electricity infrastructure in many parts of the continent is poorly developed and though satellite and wireless technologies are coming up, these are mostly concentrated within urban areas.
- Lack of local content and language barriers
- Lack of a critical mass of professionals
- Poor and unequal ICT infrastructure developments with lack of IXPs
- Poor management and dissemination of ccTLDs

It should be noted that ICT related initiatives abound in Africa with many e-government, e-health and e-learning programmes/projects being implemented. Furthermore, there is a growing awareness from all parties on the importance of investing in ICT to further African development. Finally, the growth of the mobile telephony in Africa has been tremendous and is likely to push towards a wider development of ICT in the region. It is against this backdrop that AfriNIC, the fifth accredited Internet registry of ICANN has been operating since 2005 from its headquarters in Mauritius and its other decentralized outfits in South Africa, Egypt and Ghana.

AfriNIC: an instrument for ICT development in Africa

AfriNIC, the African Internet registry is in the business of IP numbers and ASN allocation. AfriNIC is a non-government, not-for-profit membership based organization, based in Mauritius to serve African Internet Community. Its members are network operators and Internet professionals. AfriNIC is the Regional Registry for Internet Number Resources for Africa. Like the other registries, AfriNIC basically does the following: Internet resource allocations and registration services; policy development activities; training; research and analysis; and partnership coordination. Most RIRs have also earmarked some resources for special projects, depending on regional demands and in the view of advancing the Internet, mainly through information and educational outreach.

To date, AfriNIC has proven itself as an efficient tool for allocating Internet resources in the region, as exemplified by its commendable results from its three years of operation. While it was able to increase its user community, it managed to establish a business that can now self sustain; it has been involved in a dynamic programme of training and awareness rising whereby more and more professionals are now being exposed to registry operation, policy development as regards IP and ASN allocation. Also, AfriNIC has been ensuring the African participation into the global foras on Internet related activities and many perceive it today as one success story to be show cased. AfriNIC has also engaged in rounds of consultations with other regional groupings such as AfrISPA, AfTLD and AfREN with MoUs signed with each of them. These achievements militate for an accrued responsibility for AfriNIC on the African Internet scene. Hence, for AfriNIC to be a tool at the disposal of Africa, it needs to integrate the following components in its overall delivery package:

ICT development fund

One possible means for fast tracking Internet development in Africa could be an ICT development fund to be contributed by all concerned entities. An overall objective of such a fund could be creation of conditions for capacity development in three components that are accessibility and affordability of the infrastructure, provision of adapted content and human resource development. As one of few regional Internet resources allocation authority, AfriNIC could contribute its share by initiating a consortium which could form the ICT development fund. AfriNIC could thus reinvest surpluses in socio-technological advancement initiatives relevant to the Pan-African Internet community;

Research and Education

The integration of ICT into teaching, learning, research, information dissemination and management activities has been a priority issue in African higher education for many years. Consequently, the African Association of Universities established a Research and Education Networking Unit to act as a focal point in relation to the many initiatives in relation to Information and Communications Technologies (ICT) in education and research networking, currently under way in Africa. The AAU's Unit has now launched the African research and education network to facilitate inter alia, national research and education networking, and support collective action, especially in relation to increased access to cheaper connectivity. With the signing of an MoU with AfriNIC, considerations should be given for facilitating research and university access to IP resources through special pricing schemes, while AfriNIC altogether could be instrumental for incepting training programmes on cutting-edge technologies such network aggregations and IPv6 deployment within African institutions of higher education and research.

Training

AfriNIC's regular training programme encompass capacity development of its clients, namely on issues related to IP and ASN resource allocation; in that regards, it has already rolled out a few regional and national workshops including its current technical and political sessions on IPv6 adoption. AfriNIC has also signed an MoU with AfNOg and somehow contributes to formation of network operators. It is likely that AfriNIC's assistance in that field should increase in the future so that it contributes to formation of the critical masses that are needed to better manage African networks on the one hand, and contribute to technical for a such as the IETF.

The African Internet industry

Africa is yet to organize its Internet industry. One example is the mobile telephony, where African telcos have to react either to price pressure from the grey market or newly legal VoIP service providers. Many operators are seeking to remain competitive by simply offering cheaper prices to their customers, either through a specific VoIP service offering or to all customers. But VoIP is the precursor of much larger changes for operators and they need to create new strategies to remain in the game in more competitive markets. AfriNIC could contribute to these new strategies by exposing mobile operators to sound management of their IP addresses. As operators grapple with the integrated infrastructure environment (voice and data, but also fixed and mobile service, communication and broadcasting convergence), they will have to deal with triple play and Quadruple Play services, and offer bundled service of broadband Internet, Tv and telephone. Because all of these will be achieved through the development of All-IP based system capable of supporting different mobile networks on a single IP core network, AfriNIC will have an accrued role to play.

While the current situation of Internet development in Africa demonstrates the need for a concerted efforts of all concerned, - i.e. Governments, business and users- it also shows that special niches are available that could fast track the development. AfriNIC is one of those niches whose primary role is the allocation of Internet resources and the spill over effect of which could boost the African Internet industry and contribute to capacity development in many regards.

Outcome of the 5th AfriNIC Public Policy Meeting – Maritim Hotel, Balaclava, 29 November to 1st December 2006

AfriNIC, held its 5th public policy meeting in Mauritius from the 29th of November to the 1st of December 2006. This meeting held along with the second African IPv6 conference exposed the latest works being carried out on the IPv6 as well as Internet Governance and IP number resources allocation policy in Africa. In his opening remarks, the Minister of IT and Telecommunications of Mauritius called for greater participation of all stakeholders in Africa with regards to Internet Governance.

It was a great opportunity for networking and sharing of best practices among the stakeholders in the African region. It also gave the opportunity to see how several countries (Sudan, Senegal and Egypt) in Africa are working to implement IPv6 in their network and one of the highlights of the meeting was the fact that Mauritius, through Mauritius Telecom & Telecom Plus, became the first country in Africa to have a native IPv6 connection.

One of the numerous outcomes of this meeting will be the setting up of two working groups: the first one on the spam issue to support African operators and policy makers to address in a coordinated way this issue within Africa, and the second one on the 6Mandela Project to raise awareness on IPv6 in Africa.

The INET Africa Regional Conference of the Internet Society which was organised during the same event allowed various issues relating to the role of IETF and AfTLD to be discussed as well as the some best practices for ccTLD Management. African participants to the most recent IETF meeting also gave a report on their participation.

A large proportion of the last day was dedicated to discussions on a proposed policy for IPv6 assignment to End-Users. As there was no consensus on the policy as proposed it was agreed that to continue the discussion on the policy discussion mailing list (policy-wg@afriNIC.net). It was also the opportunity for AfriNIC during that day to give an update of its activities as well as its plan for 2007. This open, bottom-up process is central to the administration and management of the Internet.

The meeting was preceded by two days of hands-on training which was attended by 50 delegates from Mauritius and other African countries. The training, which was provided by Cisco System and Consulintel, covered all aspects of IPv6 deployment. The participants will now have the opportunity to put into practice what they have learned during these two days as more and more allocations of IPv6 resources are being requested and made by AfriNIC.

The meeting was attended by 120 delegates from 35 countries. The largest proportion of attendees were from telecom operators followed by ISPs, giving an indication of the importance that telecommunication operators are now giving to the role of AfriNIC and the Internet Number Resources.

AfriNIC-5 was sponsored by Cisco System, Internet Society and Telecom Plus.

RIR Update: ARIN

ARIN Community Uses New Suggestion Process

In September 2006, ARIN implemented the "ARIN Consultation and Suggestion Process," or ACSP. This process enables communications in an organized, deliberate, and transparent manner and provides a feedback mechanism that allows ARIN to gauge the sense of the community on a specific issue.

The ARIN Board of Trustees or the President uses the consultation process to ask for comments on specific issues relating to ARIN's services and practices. Community members in the ARIN region use the suggestion process to make recommendations regarding existing or potential services and practices at ARIN.

To date, thirteen suggestions have been submitted and confirmed. Several have been referred elsewhere for proper attention – policy-related messages went to the policy development process, and general questions went to the Member Services Department.

Other suggestions so far include clarifying the instructions on how to use the ACSP itself, publishing ACSP suggestions and responses, cross-referencing policies and sections in ARIN's Number Resource Policy Manual, announcing legal activities on the arin-announce mailing list, and reformatting ARIN's online forms.

One suggestion, to remove the limit of 256 results when querying ARIN's WHOIS, has been referred to the consultation process of the ACSP. The ARIN President will soon implement the consultation process in order to request recommendations from the ARIN community. ARIN looks forward to hearing and acting on more suggestions from the ARIN community using its new, formal process. More information is available at http://www.arin.net/about_us/corp_docs/acsp.html

APNIC update

APNIC Open Policy Meetings

The APNIC 23 Open Policy meeting was held recently in Bali, Indonesia, in conjunction with the APRICOT 2007 meeting. This time, although several policy proposals were presented, none reached consensus. Four proposals have been returned to the mailing lists for further discussion: <http://www.apnic.net/policy/proposals>

The next APNIC Open Policy Meeting, APNIC 24, will be held in New Delhi, India, from 29 August to 7 September. Not only will this be the first APNIC meeting held in conjunction with the South Asia network Operators Group (SANOG), but it will also be the first APNIC meeting to be held in South Asia. The local hosts will be the ISP Association of India (ISPAI), who have promised to show all visitors the finest of Indian hospitality for all visitors. All APNIC meetings are open to everyone who wants to participate. For more details, please see: <http://www.apnic.net/meetings/24>

Another first for the South Asian community and ISPAI was the election of ISPA Executive Council member Kusumba Sridhar to the APNIC Executive Council. Mr Sridhar joins Ming-Cheng Liang (TWNIC) and Mao Wei (CNNIC) as new members of the APNIC EC.

Details of the discussion at APNIC 23 are available here: <http://www.apnic.net/meetings/23/programme/sigs/policy.html>

Apstats

APNIC has also recently released "Apstats", an online statistical report generator on the APNIC web site. Apstats draws from live APNIC registry data and allows any user to extract and present a wide range of data on address resources and membership status. Apstats is based LACNIC's model with interactive features and an intuitive interface for creating live charts and spreadsheets. Apstats is available here: <http://www.apnic.net/apstats>

RIPE NCC Update

RIPE NCC Regional Meetings

In 2006, the RIPE NCC held two Regional Meetings. The first was held in Moscow, Russia on 18-19 September. The second took place in Manama, Bahrain on 14-15 November. Both meetings were well attended, with the Manama meeting attracting around 90 attendees from 14 countries and the Moscow meeting attracting 155 attendees from 10 countries. More details about past RIPE NCC Regional Meetings are available at: <http://www.ripe.net/meetings/regional/>

RIPE Meetings

The RIPE 53 Meeting took place from 2 - 6 October, 2006 at the Grand Krasnapolsky Hotel in Amsterdam, the Netherlands. The meeting attracted 315 attendees from 36 countries. A highlight of the meeting was the launch of the RIPE Certification Task Force. The purpose of this Task Force is to provide input and feedback on the issues involved with the certification of IP resources in the RIPE NCC service region. The Task Force held its first meeting in February 2007 and will provide an update to the RIPE community at RIPE 54.

The RIPE 54 Meeting will be held 7 - 11 May 2007 at the Sokos Viru Hotel in Tallinn, Estonia. More information about RIPE 54 is available at: <http://www.ripe.net/ripe/meetings/ripe-54/index.html>

First Middle East Network Operators Group (MENOG)

The RIPE NCC is proud to support the launch of the first Middle East Network Operators Group (MENOG). MENOG I will be held between 3 - 4 April 2007, at the Diplomat Radisson SAS Hotel in Bahrain. MENOG I will be modelled on meetings held by NANOG (North American Network Operators Group) in North America, and SANOG (South Asian Network Operators Group) in the South Asian region. More information is available at: <http://www.ripe.net/meetings/menog/>

LACNIC Update

On 31 October 2006, LACNIC celebrated its fourth anniversary as a Regional Internet Registry (RIR). In four years the organization has made important progress. This is demonstrated by the fact that during this period our staff has increased from three to fifteen, our budget has increased from 150,000 USD to 1,500,000 USD and our membership has increased from 100 organizations to over 500.

This growth was reflected in the opening of our new headquarters. The opening ceremony took place on 11 December 2006, with a reception where LACNIC staff were accompanied by representatives of regional and international Internet organizations as well as Civil Society representatives, LACNIC members and friends of the regional Internet community. AFRINIC was represented there by two of the Board Members Kenny Yitong y Alan Barret. At LACNIC we are extremely proud of this achievement, one that will help us continue to provide quality services to our community. You will find more information at the webpage we created especially for this important event: <http://lacnic.net/en/nueva-sede/>

In addition, together with the CNTI (National Center for Information Technology) we inaugurated a new root server in Caracas Venezuela within the framework of the +Raices project. This server represents the third version implemented under the agreement with the ISC for the deployment of F root server anycast copies in Latin America. During 2007, we expect to implement copies in Panama, Ecuador and a Caribbean country.

Finally, I would like to extend to you an invitation to participate in our next meeting, LACNIC X, which will be held on 21 - 25 May 2007, in Isla Margarita, Venezuela.

Mobile IP and Next Generation Mobile Services

By Jordi Palet Martinez

The integration of wired and wireless communications is quickly maturing and providing new interesting paths for next generation mobile services, at the same time as mobility becomes more relevant in our daily life.

Service providers need to start looking at this integration of fixed and mobile technologies as a way of increasing revenues, adding new applications to their “convergent” networks.

For example, once technologies such as WiFi and WiMAX are becoming more globally deployed, is easy to find cellular handsets that use those technologies in addition to 3G. We are then able to find operators that allow the seamless hand-off of calls among those technologies, providing a transparent customer experience, while keeping the user more time in the operator network (even if this is done in some cases via roaming agreements).

Towards this, most of the solutions are based in Session Initiation Protocol (SIP), an IETF (Internet Engineering Task Force) standard for delivering telephony features and enhanced services over convergent networks. SIP also provides the path to allow the support of IP Multimedia Subsystem (IMS), key for mobility services in 3G.

Both consumer and corporate users benefit from services that simplify and enhance communications, increasing the productivity and lowering the cost of mobility. This is “per se” a good business driver for mobile operators, which can generate new recurrent revenues, once technology made it possible already. Moreover, this is especially interesting also for wired network providers, as the customers tend to use more cellular and wireless services, even at a more expensive price. The avenue of convergence and all-IP networks definitively helps wired network providers to take advantage of mobility to be able to cooperate with wireless-only operators and even compete with them to some extent.

For example, triple play services, which offer data, voice and video over a single all-IP network, provide one possible path for this cooperation and competition with mobile services, allowing voice and video services to keep working, with no interruption, when moving from the in-home network, where the triple play service is located, to outside that environment, even on the road.

On the other way around, mobile operators can extend their mobility services when the user is moving from their network into an in-home network. The cost of a communication in a wired or triple-play infrastructure is considerably lower than the same communication in a cellular network, so providing this mobility services helps mobile operators to reduce their costs.

Across this document, when we talk about an in-home network, it is referring not only to residential customer networks, but also enterprise networks, where the usage of VoIP is already increasing.

The references to mobility in this context are generic references to Mobile IP (MIP), protocols developed by IETF. MIP (for both IPv4 and IPv6) provides the routing support that allows a mobile node (MN) to roam between different points of attachment to the Internet while continuing to use its home address, thereby keeping transparency of the mobility to layers above IP.

What makes the difference when using mobility with IPv4 or IPv6? Mobile IPv6 has many advantages versus Mobile IPv4. In fact, not that many networks in the world have successfully deployed mobile IPv4, which requires that both the home network and the visited network offer the service, which is not typically the case.

Instead, with mobile IPv6 is enough to have the support at the home network (typically as an added value service offered by the home service provider). For example, with mobile IPv4 you may need actually to check if the hotel that you are using during a business trip offers the service and consequently being restricted to those hotels, which may be not available in the location where you’re traveling. Not a good idea, right?

Moreover, the wide deployment of NAT, in IPv4 and the usage of private networks, don’t facilitate the usage of mobility with IPv4, which means that even if a mobility service is available at the visited network, it may imply extra round trips, more overall bandwidth utilization, and consequently a lower “user perceived” quality of service.

Our previous examples are mainly referring to VoIP, but it should be understood that other kind of communications and applications, such as those based on video, are also taking advantage of mobility and allowing cost saving and increase on revenues.

From a technical perspective, it is evident that an increasing number of IETF working groups are dealing with mobility aspects. We could make a quick classification of those activities as host mobility, network mobility and ad-hoc networks, meaning that many new adventures, much more complex than the basic services described in this article, are being made available for wide deployment.

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Policies currently under discussion in the AfriNIC service region

Policies are very important documents. IP addresses and AS numbers are shared resources, available for use by anyone who needs them, and policies ensure that these resources are distributed fairly and consistently across the AfriNIC service region. The policies that AfriNIC uses to manage the allocation and assignment of Internet number resources under our custodianship are developed by the membership and the broader Internet community at large through a bottom-up process of consultation and consensus. This process is available on the policy page of the AfriNIC website.

Currently, there are several proposals under discussion that will be presented at AfriNIC-6 in Nigeria for discussions and possible consensus from the community:

Date	Proposed by:	Proposal
20070130	Vincent Ngundi Alain Aina	IPv6 Provider Independent (PI) Assignments for End-Sites
20070330	Adiel Akplogan	Change to the IPv6 HD ratio from 0.8 to 0.94
20070401	Jordi Martinez	IPv6 ULA-central
20060602	Frank Habicht	IPv6 PI assignments for critical infrastructure
20060604	Jordi Martinez	Modification to (the existing) IPv6 Allocation Policy
20061122	Adiel Akplogan	Proposal to change the allocation and assignment period to 12 months