

*"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
<b>APNIC-23</b>	26 feb - 1 Mar 2007	Bali, Indonesia
<b>ICANN</b>	26 - 30 Mar 2007	Europe
<b>AfNOG 2007</b>	23 - 30 Apr 2007	Abuja, Nigeria
<b>AfriNIC-6</b>	1 - 2 May 2007	Abuja, Nigeria
<b>RIPE 54</b>	7 - 11 May 2007	Tallinn, Estonia
<b>LACNIC X</b>	22 - 25 May 2007	Isla Margarita, Venezuela

## Dear Colleagues and Members,

It is my pleasure again in this last quarter of the year to be in touch with you through AfriNICnews. At this period of the year, many people are more or less focused on the holiday season and their plans to finally take a break to spend time with their families, while some are still busy completing their 2007 Budget. For the Internet community, in addition to these preoccupations, there are several important events which require our attention: The First Internet Governance Forum (IGF) in Athens, the ITU plenipotentiary meeting in Altaya, the AfriNIC-5 meeting of course, the third ICANN meeting of the year and the Telecom-World expo in Taiwan. Will these events have any impact on the Internet next year? Is something changing in the way the Internet is managed?

Having been well involved in the preparation of the IGF in Athens and also participating in this first forum, I can say that a tremendous progress is on the way in terms of collaboration and cooperation in a Multi-stakeholder fashion. In Athens, different stakeholders have shown a very high level of willingness to exchange views on different issues and to work together towards finding a common approach to addressing issues. In my view, this first meeting definitely paved the way to further cooperation/dialogue in the years to come. But one very positive aspect for us during this first IGF was the presence of Africa; there was a dynamic start in Athens in which Africans took an active part. As mentioned by His Excellency Dr. Tarek Kamel, the ICT minister of Egypt in his opening address, AfriNIC's multi-stakeholder approach in Africa can be replicated in many other aspects of the Internet Governance related issue in our region.

The dialog that started in Athens must continue locally and regionally. We at AfriNIC fully endorse the initiative to have a regional forum in Africa. AfriNIC will put a valuable effort in this initiative to make it a success towards the next meeting planned in Rio de Janeiro in November next year. Well, in the short term, AfriNIC is having its fifth Public Policy Meeting and this gives us again the opportunity to review our IP address management policies. IPv6 and resource Certification will be the key issues discussed during the meeting. I wish this event success and look forward to a very active participation during this 5-day event.

**Adiel A. Akplogan**  
CEO, AfriNIC

## AFTLD for a better management of ccTLDs in Africa

By Michuki Mwangi

Administrative Manager, KeNIC

Domain names form part of the core components of the Internet infrastructure with ICANN playing an oversight role in their management. ICANN recognizes 54 Country Code Top Level Domains (ccTLDs) in Africa based on the United Nations Statistics Division's current classifications of "Countries or areas, codes and abbreviations". Africa Top Level Domain (AFTLD) is a not-for-profit association for the African ccTLDs Registries. AFTLD provides a platform for African ccTLDs to discuss technical and policy matters related to the domain name constituency. In promoting the interests of the African ccTLDs, AFTLD facilitates communication and representation at the global fora.

The Domain Name System (DNS) is one of the core technical elements of the Internet, yet the African region participation in the global technical and policy development processes has been dismal. This can be partly attributed to the lack of driving factors like well managed ccTLDs and technical expertise. Indeed there are other factors that attribute to this. However, case studies experienced in South Africa, Senegal, Malawi and Kenya indicate that a functional ccTLD has stimulated national growth and participation from these regions at both local and international fora.

Since its establishment in December 2002, AFTLD has facilitated several technical hands-on trainings, workshops and conferences in the region aimed at publicizing the importance of operational stability of national ccTLDs. These were supported and held in collaboration with other regional and international organizations like AfriNIC, AfNOG NSRC, ISOC and Francophonie. The most recent of these events was the General Assembly meeting held in Marrakech, Morocco during the ICANN meetings in June 2006. As a result the assembly elected an executive committee (ExCom) and its president.

The Excom is focused on promoting active participation of African ccTLD managers in various technical and policy development activities. To achieve this, AFTLD will require support and collaboration from the African ccTLD community through memberships and outreach events. Notably some African ccTLDs are undergoing re-delegations while others have recently completed the re-delegation process successfully. In this respect, AFTLD intends to document these experiences and successes as best practices for the benefit of the ccTLD community in handling the re-delegation process more efficiently. Further, AFTLD members will have opportunities to share their experiences, understand the success behind various ccTLD models, learn how to implement best practices and be appraised on emerging technologies like DNS Security and IPv6.

It's envisioned that the success of AFTLD should have a positive impact as experienced by CENTR (the European ccTLD association that is home to some of the largest ccTLDs i.e. German (.de) and UK (.uk) registries). Initially, AFTLD seeks to ensure that all African ccTLDs are run in the best interests of its local Internet community. Thereafter, the primary objective will be to improve the competitiveness of African ccTLDs, and hopefully represent some of the globe's largest ccTLDs in the near future. For more details please visit <http://www.aftld.org>

## MyAfriNIC Project Update

By Frank Nnebe

Software & Engineering Department Manager

MyAfriNIC is designed to provide a user-friendly web-based, graphical front-end for members to manage their resources and information online. The MyAfriNIC portal will allow members to:

- maintain up-to-date information on their organisation and points of contacts and seamlessly update their information in the Whois database.
- view their billing history.
- securely pay outstanding invoices online.
- view their IPv4, IPv6 and AS number resource holdings.
- create and manage sub-allocations, assignments, reverse delegations of IPv4, IPv6 resources in the Whois database.
- Request new resources from AfriNIC.
- Track the workflow of open requests for support
- view upcoming events and quickly access AfriNIC policies and FAQs. We launched a demo version of MyAfriNIC in July 2006 and asked our members and colleagues at other RIRs for feedback. Overall the view of the portal was positive and all comments made on functionality have been incorporated into the final version.

We plan to deploy MyAfriNIC for a limited set of our members before the end of 2006 as a real-world test and then roll out the final version for all LIR members in the first few months of 2007.

### AfriNIC attended the following meeting and forums

ITU African Regulators forum (Yaounde 7 - 8 June 2006) Stakeholders from the telecommunications industry in Africa got together to discuss the challenges of IP Networks and related services to the African Regulators including the Voice over IP (VoIP). For more information see: <http://www.itu.int/ITU-D/afr/events/FTRA/Yaounde-2006/index.html> <http://www.itu.int/ITU-D/afr/events/FTRA/Yaounde-2006/pdf/finalcommunique.pdf> The presentation by AfriNIC is mentioned in the final communiqué (point 8).

CIPACO: GOUVERNANCE TIC ET STRATEGIES POST-SMSI EN AFRIQUE DE L'OUEST ET DU CENTRE (Dakar, 7 - 8 July 2006). AfriNIC attended the above forum to discuss issues related to the participation of Africa in Internet Governance. More information can be found on: [http://www.cipaco.org/article.php3?id\\_article=883](http://www.cipaco.org/article.php3?id_article=883)

iWeek South Africa (Johannesburg, 4-7 September 2006) AfriNIC attended this three day series of presentations, workshops and social events in Johannesburg on Internet. More information available on: <http://www.ispa.org.za/iweek/2006/index.shtml>

IPv6 Forum Senegal (Dakar 23 October 2006) AfriNIC also attended the IPv6 forum in Senegal. For more information, see: <http://www.ipv6forum.sn/>

Internet Governance Forum 2006 (Athens, 30 October - 2 November 2006) The CEO of AfriNIC has been actively involved in the meeting organisation as member of the Meeting Advisory Group setup by the UN Secretary General. See the following links for more information: <http://www.intgovforum.org/> [http://www.intgovforum.org/ADG\\_members.htm](http://www.intgovforum.org/ADG_members.htm)

The RIRs and the NRO have contributed to several workshops and round table during even itself. See <http://www.nro.net/governance/igf-participation-info.html> for more information.

## Internet Numbers Resource Certification

By Adiel A. Akplogan

IP address management and allocation has over time evolved with the development of the Internet. From a very simple management system by John Postel to the RIR system, the management has always intended to fulfill among others the necessity of uniqueness (the other needs being aggregation and conservation). The growth of the Internet today and the common goal of securing the routing table and proving a more robust way to assert the validity of Internet resources in use is becoming an issue for Network Operators. In addition, the scarcity of IPv4 addresses will push scrutinizing more carefully the right to use or transfer and/or reallocate resources.

Besides ensuring the uniqueness, as RIRs, we must be able to ensure in a global and irrevocable manner the "right" for a party to use and announce an IP block on the Internet. In today's system, this can be checked on spot using solely the publicly available WHOIS and Internet Routing Registries (IRR) databases. From time to time, RIRs get questions on how Resources have been allocated to a party or how they have been transferred between two parties. It becomes clear that the availability of an electronic and verifiable equivalent of today's paper Membership/Registration Service Agreement and its validity for the community to be able to transparently check the legitimacy of resource usage will be an enhancement for our Registry System and will certainly contribute to further secure Internet routing (by enforcing routing of only certified resources - using protocols such as secure BGP). In June 2004, some work done by C. Lynn, S. Kent and K. Seo resulted into RFC 3779 which defined a standard for an extension of the X.509 protocol to add IP addresses and AS numbers, binding them to the subject of a certificate. Since 2004, the RIR community is looking closely into the possibility to take advantage of these extensions to bind their legal and contractual relations with their members and Internet resource holders to an electronic certificate.

Today, the discussions and trial experiments (led by APNIC with the contribution from the other RIRs) have seriously evolved and will be moving to deployment soon.

The system will be based on PKI infrastructure which will have two major parts which are the issuance of a certificate and repository for the certificates and the Certificate Revocation List (CRLs). Each class of Certificate holder will be a CA for all resources held with a reference to the issuer. The structure will look as follows:

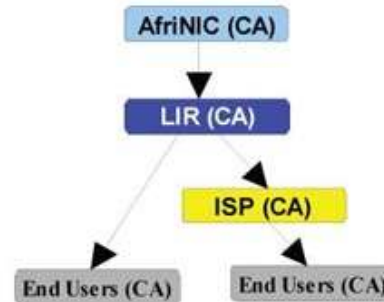


Figure-1: Certification structure

At each level, the certificate will contain among other information, the issuer, the subject, the set of resources associated to it, information about the public key of the holder of the signed resource and information about the private key used to sign it (see fig. 2 below).

What could this kind of certificate be used for? Several purposes among which we can have it used to sign Route Origination Authorisation (ROA), WHOIS objects, validate other signed objects and issue subordinate certificates to downstream users. Many other questions do not have full answers yet: What implication will this have on the way we manage resources today? How will the LIR handle certificates for assignments or sub-allocations to end-users or downstream customers? Who will be the root anchor for certificate validation? How will legacy and IANA Central registry addresses be handled in the Certification mechanism? These are questions to which you as the main users of this service may be called to comment on soon.

Already for the root anchor, the model which seems to have the consensus among the RIR community is to have five (5) root anchors (the 5 RIRs) and to allow interoperability of the certification process, there will be a cross certification mechanism among each root authority.

AfriNIC is actively involved in the work on this through the inter-RIR working group setup to work on this. In our willingness to further involve you in the process, we will organize a set of presentations on the trial project update. an evolution in policy discussions among us. Since this will affect several aspects of how we handle IP Number resources and routing, we expect to have your input into the process while requested.

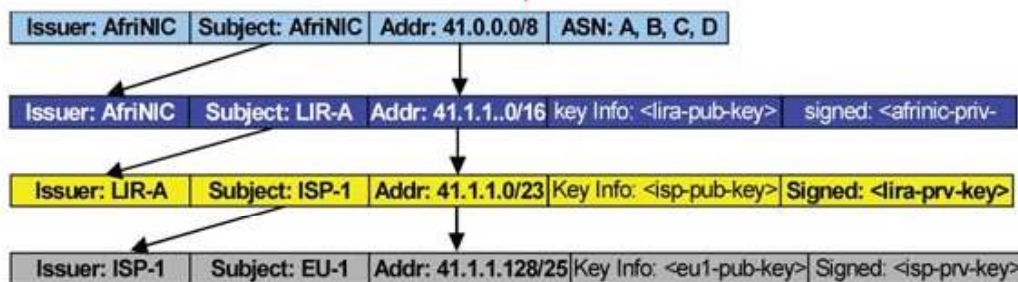


Figure-2: Information in certificate at each level of the validation chain

\* You can follow the update on the trial at: <http://mirin.apnic.net/resourcecerts/>. After the AfriNIC-5 meeting, you can also read more on the presentation which will be made on the topic by Steve Kent (one of the authors of the RFC 3779) and Randy Bush, Special Project Manager at ARIN and member of the inter-RIR group working on the trial project.

## RIPE NCC Update

### RIPE 53

The RIPE 53 Meeting took place from 2 - 6 October, 2006 at the Grand Krasnapolsky Hotel in Amsterdam, the Netherlands. There were 315 attendees from 36 countries at the meeting, excluding RIPE NCC staff and including representatives from AfrinIC, APNIC, ARIN, LACNIC and ICANN.

One of the Meeting highlights was the creation of two task forces: the Certification Task Force and the Database Privacy Task Forces. More information about the RIPE Task Forces can be found at: <http://www.ripe.net/ripe/tf/index.html> Elections for the vacant seat on the Number Resource Organization (NRO) Number Council (NC) also took place. Dave Wilson of HEAnet was elected from the RIPE NCC service region to take the seat vacated by Sabine Jaume (Renater) who was elected in January 2004. Dave takes up his position on 1 January, 2007. The Next RIPE Meeting, RIPE 54, will be held in Tallinn, Estonia 7 - 11 May 2007. More information is available at: <http://ripe.net/ripe/meetings/ripe-54/index.html>

## RIPE NCC General Meeting

The RIPE NCC General Meeting was also held during RIPE 53, on Thursday 5 October. There were 40 attendees, excluding RIPE NCC staff and non-voting observers. During the GM, members approved the RIPE NCC Budget and Charging Scheme 2007. More information can be found at: <http://www.ripe.net/membership/gm/gm-october2006/>

## LACNIC Update

The past three months have been for LACNIC a time of intense activity, announcements and events that we wish to share with you, the African Internet community.

On October 31, LACNIC celebrated its fourth anniversary as a RIR. In four years the organization has made important progress. For instance, our staff grew from 3 to 15, our budget grew from 150,000 USD to 1,500,000 USD, and our number of members increased from 100 to over 400. This growth will also be reflected in the inauguration of our new offices, which will be scheduled for December 11, 2006. Here at LACNIC we feel extremely proud of this achievement, which will help us to continue to provide a quality service to our community. We have created a webpage where you can find information and follow the progress of the construction of our new facilities: <http://prensa.lacnic.net/sede/index.php?lang=en>

In addition, during the month of October and within the framework of an agreement signed with the ISC, we inaugurated in Venezuela a new root server for deploying anycast copies of the F root server in Latin America. This server represents the third version made under this agreement, and we hope that next year we will implement these copies in Panama and Ecuador.

Simultaneously, as part of the Policy Development Process, two new policies have been implemented in our region. The first of these policies increases the size of additional IP address allocations so as to allocate volumes that will cover the applicant's operational needs for the following 12 months. The criterion previously applied covered only 3 months. The second policy that has been implemented

changes the HD Ratio value acceptable for the allocation of additional IPv6 address blocks. This value has changed from 0.8 to 0.94, and will allow a better optimization and utilization of the IPv6 blocks that have already been allocated.

Likewise, in response to the resolution of the LACNIC Member Assembly, the IPv4 address allocation fees have been reduced for the smallest categories, with reductions of up to 15%, and discounts of up to 50% have been established for non-profit non-government organizations. All of these measures aim at allowing small and medium sized companies within our region to have greater access to resources.

To conclude, I would like to extend to you a warm invitation to participate in our next meeting, LACNIC X, to be held from May 21 to May 25 in the island of Margarita, Venezuela.

## APNIC Update

### Certifying address resources

With the support of the other RIRs, APNIC continues to lead work in developing a resource certification service. This project will create a Resource Certificate Public Key Infrastructure (PKI) based on X.509 certificates. When the service becomes available, holders of IP addresses or other resources will receive a digital certificate, certifying their right to hold those resources. This has important implications for the security of resource holdings and means that for the first time there will be a simple, reliable mechanism for creating trust in the Internet routing system. Accompanying this project will be an open source tool kit and simple web-based management interfaces and APIs to make implementation of certification as easy as possible.

### Policy updates

The APNIC 22 meeting, held in September in Kaohsiung, Taiwan, resulted in a number of policy proposals being endorsed by the community. This included policies on IPv6 portable assignments for multihoming, IPv6 end site assignments, IPv6 critical infrastructure assignments, and lame DNS. These policies are currently being discussed on APNIC mailing lists prior to endorsement by the APNIC Executive Council. For details of these policies and a full report on APNIC 22, visit <http://www.apnic.net/meetings/22/archive/report.html>

### APNIC meetings

The APNIC 23 website is now online and contains information about the next APNIC meeting in Bali, Indonesia. Running from 26 February - 2 March, 2007, APNIC 23 will be held in conjunction with APRICOT 2007. Attendees have the opportunity to participate in sessions and discussions covering a broad range of networking topics, as well as participating in the APNIC policy process. Internet community members from around the world are warmly invited to attend, either in person or via the remote participation tools available during the meeting.

Looking further forward, APNIC 24 will be held in conjunction with SANOG 10 (<http://www.sanog.org/future.htm>) in New Delhi, India from 29 August - 7 September 2007 and APNIC 25 will be held in conjunction with APRICOT 2008 in Taipei, Taiwan from 25 - 29 February 2008. More details about APNIC meetings are available at <http://www.apnic.net/meetings>

## ARIN Update

### ARIN Community Outreach Efforts

At each of its two Public Policy and Members Meeting this year ARIN unveiled a new tool in its education tool box. Both efforts are a fresh approach to reach those within the ARIN region who may one day need to request Internet number resources and the broader civil society who need to understand the Regional Internet Registry system.

At the April ARIN XVII meeting in Montreal, ARIN set up three exhibit "booths" on display throughout the meeting venue. The largest one, 8' x 8' was set up in the Cyber Café. Its eye catching graphics draw in the casual observer by asking the question, "Who is ARIN?" It then answers with "You Are!" Interchangeable panels provide basic information on what ARIN does and how one can participate in ARIN activities. Two table top models allow greater flexible in small venues. Literature racks and laptop presentations fit easily within the display area, thus providing a visually appealing and information loaded attraction. ARIN will take these new exhibits on the road and set up an "ARIN corner" when attending and participating in related industry conferences and meetings.

The first edition of a comic book, The Adventures of Team ARIN, was handed out in October during the joint North American Network Operators (NANOG) and ARIN XVIII meeting. In real life scenarios this group of four men and women, endowed with superhero powers, find ways to spread the truth about Access, Responsibility, Information and Neutrality in Internet number resource management what we all know as the Internet way. The popular comic book format should be a pleasing diversion from the typical printed materials ARIN uses in its education efforts. ARIN will widely distribute the comic book throughout its region.

ISPCON, a November trade show and Internet strategies and educational forum, is providing ARIN an opportunity to test drive its exhibit materials in front of a new audience. The ARIN booth offers printed materials, multimedia visuals, and an opportunity for attendees to talk to ARIN staff about the role of ARIN. ARIN IP analysts onsite are available to answer questions on requesting resources from ARIN. In addition, ARIN is participating in an IPv6 technical seminar and presenting an 'Introduction to ARIN' seminar in a demo theater on the trade show floor. This new opportunity reaches out to a broad audience with the goal of bringing new participants in the policy development process in the ARIN region.

ARIN continues to look for creative and effective ways to educate and engage our community in dialogue to insure that we are fulfilling our role of stewards of Internet number resources.

### New staff @ AfrinIC.

Since the last AfrinICnews, two staff members have joined AfrinIC:

Harikishna Kurup joined us in November 2006 as System Administrator. He holds a BSc in Engineering from Makerere University, Kampala.

Hisham R. Rojoo joined us in November 2006 as Membership Liaison and Communication Officer. He holds an M. Eng. from Cambridge University, UK.

## 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. During the past 4 AfrinIC meetings, participants have reached consensus on the following policies that are currently in use within Africa and the

Indian Ocean regions:

- The Policy Development Process,
- IPv4 Allocations and Assignments,
- IPv4 PI/End-User Assignments,
- IPv4 temporary address assignments,
- IPv6 allocations and assignments,
- IPv6 allocations from the IANA to the RIRs,
- AS number assignments,
- Change to the AS assignments criteria,
- The 4-byte AS number proposal.

Currently, there are several proposals under discussion that will be presented by the policy working group at AfrinIC-5 in Mauritius for possible consensus by the meeting, both of which are to do with the next generation Internet protocol, IPv6:

- IPv6 PI assignments,
- IPv6 assignments to critical Internet infrastructure.

Over time, technology improvements change the needs of the Internet community and the current policies may not meet the needs of a particular entity or ISP. This is where one can propose changes to existing policies or suggest new policies. To participate, anyone can submit a policy proposal using the procedure described on the policy section of the AfrinIC website. Policies are discussed at face-to-face AfrinIC meetings, which are currently held twice a year. Between meetings, policies are discussed on policy-wg@afriNIC.net, which is a mailing list that is open to anyone. It is important that the community takes keen interest in the policy development process and policies under discussion, as their approval directly impacts the way IP addresses and AS numbers are managed in the entire region and the world at large.

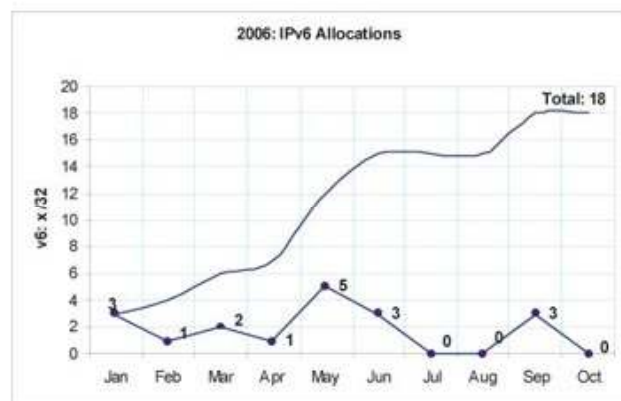
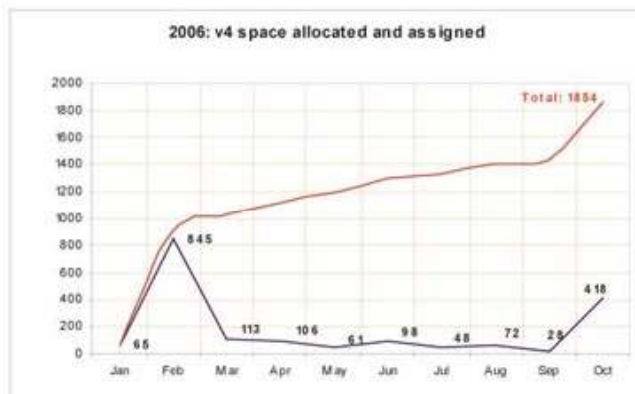
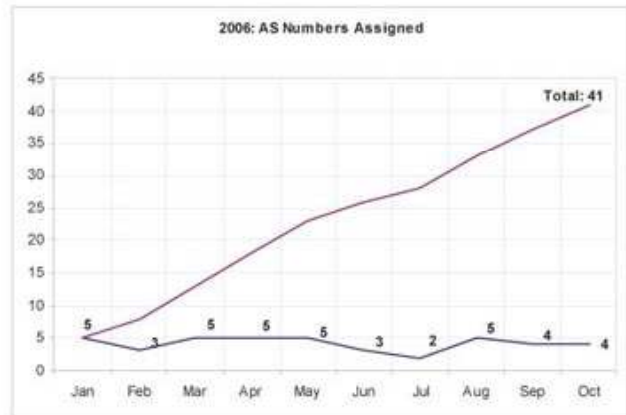
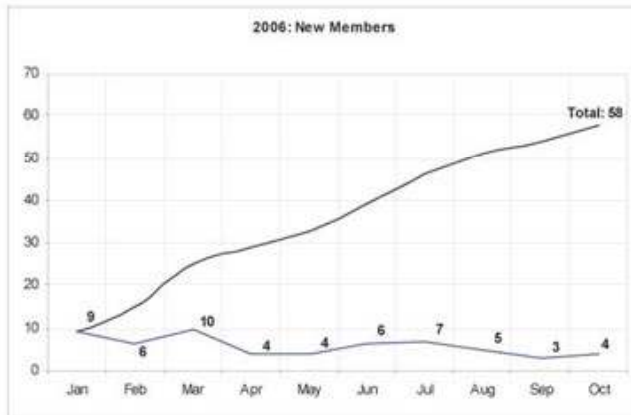
### Result of Board election 2006

Seat 3 and 4 were open to be renewed for Eastern Africa and Southern Africa sub-region

- Badru Ntege as Primary (from Uganda) and Brian Longwe as alternate (from Kenya) were elected for Eastern Africa.
- Alan Barrett as Primary (from South Africa) and Sylvio C. Almada as alternate (from Angola) were elected for Southern Africa.

See <http://www.afriNIC.net/about.htm#boaMem> and <http://www.afriNIC.net/meeting/afriNIC-4/afriNIC-4minutes.htm#13>

## Some Statistics from AfriNIC the Registration Service



Mailing lists are the main discussion tool for the AfriNIC community. Anybody can participate to our process by subscribing to one of the public mailing lists listed below. To subscribe, you need to send an empty e-mail to {name\_of\_the\_list-request}@afrinic.net with the word 'subscribe' in the subject ligne.

Mailing list	Description
<a href="mailto:afrinic-discuss@afrinic.net">afrinic-discuss@afrinic.net</a>	General discussion and announcements on AfriNIC activities
<a href="mailto:policy-wg@afrinic.net">policy-wg@afrinic.net</a>	Policy discussion mailing list (All policy proposals must be made on this list)
<a href="mailto:afripv6-discuss@afrinic.net">afripv6-discuss@afrinic.net</a>	IPv6 technical discussions
<a href="mailto:training-discuss@afrinic.net">training-discuss@afrinic.net</a>	Discussions on training related issues and feedback

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 Training: [training@afrinic.net](mailto:training@afrinic.net)