AfriNIC becomes the fifth Regional Internet Registry to serve Africa and Indian Ocean Region. This full accreditation has been given by ICANN board during its last meeting on April 8th in Mar del Plata (Argentina) with the resolution 05.___

"Resolved (05.__), the Board proclaims AfriNIC to be a fully approved and recognized Regional Internet Registry, to provide IP address registration and other services for the Africa service region." - Extract from ICANN board resolutions

Table of contents

Welcome to **AfriNIC***news!*

It is a pleasure for me to introduce to you the new **AfriNIC***news*! Throughout or setup and transition process, we have been trying to keep our community informed on our progress and changes. This has been done mostly by e-mail and presentations during the different meetings. We are now taking one step ahead to introduce a regular news publication, **AfriNIC***news*! As stated in our mission - in addition to our core activity which is the registration of Internet Number resources, we would like to "*support Internet technology usage and development across the continent and strengthen self Internet governance in Africa by encouraging a participative policy development.".* By informing our community on what is new in this area and how other communities are working for en efficient technical coordination of Internet, we think we can put a foot into that part of our goal. The difference between the two previous versions is that this new edition covers broader subjects and tends to be informative. Subjects like: IPv4 address space usage, AfriNIC registration process in the AfriNIC region and further more are covered. We are expecting to improve the content of the next releases and to also open a questions and answers section where we can publish some frequently asked questions. AfriNIC is our registry and our participation in its process is the only way to make it sustainable. *We now have our registry - we now need to show that on our continen,t we can achieve things and make them last!*

Enjoy your reading and be free to address your comments and remarks to our publication team at afrinicnews@afrinic.net.

Adiel A. Akplogan (CEO, AfriNIC)

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AfriNIC, a story

By Pierre Dandjinou
chairman, AfriNIC board of Directors

With only 4 African countries connected to the Internet by 1995, the internal works of this technology were hardly known to the African community. Yet, a small group of Africans, the so called pioneers, used the opportunity provided by the technical workshops of the ISOC, which were organized within the framework of the ISOC's annual conference (the INET series), to discuss African issues. This was the origin of the African Networking Symposium (ANS) , a meeting place for all of the various organizations to discuss issues, test ideas, present results, and `obtain feedback from the nascent community. In fact, the first official meeting of the ANS took place as part of ISOC's annual conference at INET '97.

At INET '98, the success of the ANS was recognized and the program was expanded to become the Developing Countries Networking Symposium. Nevertheless, the concept of ANS lived on as a forum for African Internetworking exchange, and thus issues pertaining to managing Internet resources on the continent came to the forefront. Discussions around the creation of a local entity to be called the African Regional Network Information Center (AfriNIC) which acts as the Internet numbering authority for the region started then.

A casual meeting convened in Cotonou in December 1998, dubbed 'the Africa Internet Governance conference", under the aegis of what was then called the Africa Internet group (AIG), with the sponsorship of the United Nations Development Programme and the Francophonie, sought to debate on the African takes on the Internet Governance. While the initial objective was to expose African professionals to some of the technical issues ranging from management of National information centres, the ccTLDs, and the complexities of the discussions about the US White Paper that was published as starter to the opening up of the management of the Internet by the business community, participants to the Cotonou meeting decided to specifically deal with AfriNIC.

The Cotonou meeting was a landmark to consensus building on what it took to build AfriNIC. Issues such as language barriers were to be dealt with, alongside regional representation. Reviewed bylaws and a Board of trustees with regional representation were the most important outcomes of the meeting. Subsequent meetings that were conducted alternatively with the African network operators group (AFNOG) as well as AFRINIC's own general assemblies in places such as Cape

Town in South Africa, Accra in Ghana, Cairo in Egypt, Lome in Togo and Dakar in Senegal, proved useful as they did consolidate a common understanding of the stakes surrounding AfriNIC. As a result of the final screening of the applications for hosting, AfriNIC yielded a rather consensual result whereby four countries were selected to host different operations of AfriNIC: Mauritius for incorporation and Administration; South Africa for technical operations; Egypt for Disaster recovery and backstopping; and Ghana for training activities. In the latter case, training was to be conducted from other places such as Uganda and Senegal in conjunction with Ghana.

With the final recognition of AfriNIC by ICANN at its meeting at Mar del Plata, Argentina this month, it is a first stage of the making of an African internet authority that has been accomplished. The years to come would be those of consolidating the user community, provision of quality services and engaging in capacity building activities such as training, research and development and contribution to the overall business and industry environment of the Internet on the continent.

> **AfriNIC is a non-governmental and not-for-profit membership based organisation. Its main role is to be the Regional Internet Registry for the African Region, like the four other continents which have their own RIR.**

AfriNIC open policy meeting

by Adiel A. Akplogan
CEO, AfriNIC

AfriNIC, like all RIRs, allocates and assigns Numbers resources through policies defined by the community. Based on what we call a bottom-up process, policies are commonly proposed or amended by the community and Registries just apply them. To make this process formal, AfriNIC has defined a Policy Development Process (PDP) in 6 steps as follows:

1. A policy is proposed (by anyone).

2. It is posted to the AfriNIC policy-wg mailing list for discussion. (The policy-wg list is open to anyone from the community, and anyone can join the list for discussions).

3. After at least 30 days of discussion and comments on the mailing list, the policy is brought to the public open policy (face to face)

meeting for the community and members' discussion and endorsement through consensus.

* Consensus is defined as general agreement of the group and is not measured by a majority vote.

4. If there is consensus at the open policy meeting, go to step 5 as itemized below. If there is no consensus, step 3 will be repeated until consensus is reached or the policy proposal is abandoned (or withdrawn).

5. A last call for comments on the policy will be announced on the policy-wg mailing list. A period of 15 days will be given for the community to suggest any final changes and amendments.

6. The Board of Trustees will then ratify and adopt the policy for use.

As you can see, this process requires that after discussions are held on the open mailing list, the proposed policy is put on the table during a face to face meeting called **Public Policy Meeting**. During such meetings, discussions on the policies proposed are initiated among participants. This stage of the policy development process is very important as this is where people can share their views and/or concerns on allocation practices. AfriNIC had its first public policy meeting in May 2004 in Dakar (Senegal) where IPv4, IPv6 and ASN allocations policies where discussed. These proposed policies were adopted and became valid in July 2004 after their ratification by the board. The second public policy meeting will held in Maputo (Mozambique) from 25th to 27th April 2005. Your participation in such a meeting is one of the key contributions to the success of our self governance bottom up process.

AfriNIC-1 meeting: Dakar, 21 and 22 May 2004

AfriNIC Registration Service
By Ernest Byaruhanga
Registration Service Manager, AfriNIC

As an RIR, AfriNIC provides to the community a service of managing, distributing and registering internet resources according to the policies and guidelines stipulated by the community. These are mainly IPv4 and IPv6 addresses, AS numbers and DNS reverse delegation. The registration services department acts as an interface between AfriNIC and members that are requesting for internet resources. It is therefore the most sensitive department at AfriNIC, and is composed of the IP resource Analyst team, who receive ticketised requests from members, evaluate these requests and decide on the final approval of the requests. At the moment, the only way of reaching the AfriNIC registration services department is through the hostmaster@afrinic.net email address.

As you can imagine, a lot of correspondence - including spam complaints, abuse, help/clarification and much more - is received on the hostmaster e-mail account! It can therefore take up to 48 hours to get a response from an IP resource analyst. If you think your request has stayed more than 48hours without any response, please report this to <afrinic-service@afrinic.net>.

The AfriNIC registration services department does not deal with spam or abuse related matters. It will therefore be useless to send such complaints to hostmaster@afrinic.net. It is advisable to query the AfriNIC whois database for the contacts of the IP addresses in question. Spam/abuse matters can then be sent to these contacts.

LIR training

AfriNIC has developed a training program to help its members at large to better understand the RIR system,the registration of IP numbers and IP number resource management. The very first AfriNIC LIR training event was held in November 2004 (10th and 11th) in Burkina Faso. This training in French put together 20 participants (already established LIRS and ISPs) from French speaking countries around the continent. AfriNIC's objective is to spread this training program around the continent. You can read more about AfriNIC training on www.afrinic.net/training/. The second training event is happening on April 23rd in Maputo prior to the public policy meeting. Another training event is planned in June in Pretoria South Africa. AfriNIC is also working on other means of training such multimedia material and online support.

The success of our organisation depends on how well our community will understand our process and their readiness to participate Therefore, we will put

all our effort into this aspect of activity to ensure a broader participation of the African community.

AfriNIC training on the 10th November in Ouagadougou

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AfriNIC and the International community

Along its transition process, AfriNIC has taken an active part in all the International aspects of Internet technical coordination. The AfriNIC region has been represented in the ASO (the ICANN Address Supporting Organisation) by two observers: Alain Patrick Aina and Gregory Massel. AfriNIC has also been represented in the NRO Executive Council by its CEO. With its final accreditation as an RIR, the African region will now need to officially appoint representatives to this organisation through the defined process.

ASO AC (Now the NRO NC): According to the ASO MoU with ICANN, each RIR region has to appoint three representatives in the NRO Name council. One of them is appointed directly by the RIR bord of the region and the two others are elected by the community. The election process has to be open and transparent. To allow this openness and transparency, we have defined an NRO NC representative election process in the AfriNIC region which can be consulted online at:

http://www.afrinic.net/nro/afnro-elp200502.htm

For this very first election, we have received 5 nominations for which a comment period was opened on the 27th of March. Elections will be held on the 26th of March during the AfriNIC second public policy meeting in Maputo. The two elected candidates will have respectively a mandate of 2 and 3 years. The third representative who will be appointed by the board will have a first mandate of 1 year. Doing this allows a rotation of the representatives.

Participating into the International community gives us the opportunity to express our particularity in the in the global Internet management arena.

Brief News:

- **AfriNIC settled in its new office in Mauritius**: In January 2005 AfriNIC moved in to its new offices located in the newly built Cyber Tower (located in the Cyber City). This gave the organisation the necessary space to setup its administrative office.

- **New staff @ AfriNIC:** Since the last AfriNICNews, two staffs have joined AfriNIC:

Nooriah Woozeer *joined us in July 2004 as Business and Administrative Assistant, she holds a B.A. in humanities from the University of Mauritius.*

Harish Gowrisunkur *joined us in March 2005 as CFO. is a fellow of the chartered association of certified accountants and holds an MSc in Systems analysis from the City University, London. Harish has worked in the UK, the US and consulted in 5 African countries.*

Franck Nnebe *will join us soon as senior software Engineer. He holds Msc. in Information Technology and Management from the Illinois Institute of Technology and a Bsc in Economics from the Illinois Wesleyan University.*

Upcoming Events

RIPE-50	Stockholm, Sweeden	02-06/05/05
WSIS MEA Prepcom	Cairo, Egypt	08-10/05/05
WGIG	Geneva, Switzerland	18-20/05/05
ARIN-XV	Orlando, USA	17-21/05/05
LACNIC-VIII	Lima, Peru	27-30/06/05
ICANN	Luxemburg	11-15/07/05
IETF-62	Paris, France	31-05/08/08
APNIC-20:	Hanoi, Vietnam	06-09/09/05

AfriNIC Staff

Adiel A. Akplogan: Chief Executive Officer

Harish Gowrisunkur: Chief Financial Officer

Ernest Byaruhanga: Registration Service Manager

Nooriah Woozeer: Administrative Assistant

IPv4 Address Utilization

By Geoff Huston
APNIC

When the Internet Protocol was first designed some thirty years ago, one of the more innovative aspects of its design was the choice of an address field in the packet head that was 32 bits in length. At that time contemporary network protocols were using 8, or 16 bit address fields, embracing networks of between 256 and 65,356 separate hosts. The choice of a 32 bit filed, embracing over 4.4 billion hosts was truly revolutionary, and at the time the address field appeared limitless.

However, in 2005 this is no longer that case, and while we will not run out of IPv4 addresses this month, and probably not in this year, it is time to look at how long we have to go, and what our options are when we exhaust the remaining available IPv4 address pools.

While the IPv4 space encompasses some 4.4 billion unique 32 bit values not every value can be used in the Internet. The IETF has reserved some 8% of the address space (or the equivalent of 20.09 of the 256 /8 network blocks). A further 6% (or 16 /8 blocks) are reserved for use in multicast contexts, leaving a little under 220 /8 blocks, or 86% of the total IPv4 address space available for general use.

The allocations of this space up until today now encompass some 66% of this useable space, or the equivalent of 146 /8 address blocks, leaving the equivalent of 74 /8 blocks in the unallocated address pool managed by the Internet Assigned Numbers Authority (IANA). So it looks like we're 2/3 of our way through the available address space, and asking the question of how long we have to go before we completely exhaust the address resource is a timely question.

The basic message from this analysis is "Don't Panic". The Internet is not running out of available address space in the near future, and there is still quite some time available to work through the available options.

There are some further aspects to consider here. The first is the procedure of address allocation. IPv4 address blocks are allocated from the IANA to the Regional Internet Registries (RIRs), who, in turn, allocate smaller blocks to ISPs and local Internet Registries, who in turn perform end user allocations. At this stage the address blocks are announced in the Internet's routing table. At any stage there are a certain number of addresses held in the RIR-managed address pools, and also a certain number of addresses held in the ISP and LIR pools before they appear in the routing table. Some 37% of the useable addresses are actually announced in the routing table, 9% are held in the RIR address pools and 20% of the useable address space is held in ISP and LIR address pools and is not announced in the Internet. Over one half of the RIR address pool space, and the majority of the ISP and LIR space reflects address space that was allocated prior to the adoption of the current RIR system in the late 1990's. Since 1997 over 95% of all RIR allocated address space is advertised into the routing system.

By analysing the growth of the routing system we can derive a model of demand for address space across the global Internet, and, hence make some tentative predictions as to the longevity of the IPv4 address space.
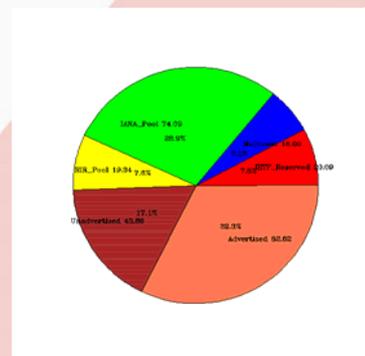
IETF Reserved	20.09 /8s
Multicast	16.00 /8s
IANA Pool	74.09 /8s
RIR Pool	19.19 /8s
Unadvertised	43.82 /8s
Advertised	82.82 /8s

Figure 1 – Ipv4 Address Space Snapshot - March 2005

The current address consumption rate has lifted from a long term average of 4 /8 address blocks per year in 2002 to some 6 /8 address blocks per year in 2005. This implies that the remaining 74 /8 address blocks would provide a further 12 years supply at this rate, or until 2017 (Figure 2). Another form of the predictive model is where the growth of the Internet continues to increase over time, and the rate of increase of address consumption is 1.5 /8 address blocks per year. This model of continual increase in consumption will exhaust the available address space within some 7 years, or by 2012.

These are approximate predictions, or course, and many technological, social and economic factors are at play when looking at the basis for actual address consumption rates.

The prospect of imminent exhaustion of the

remaining unallocated address pools could fuel a run on the remaining space, dramatically increasing its consumption rates for the final few address blocks.
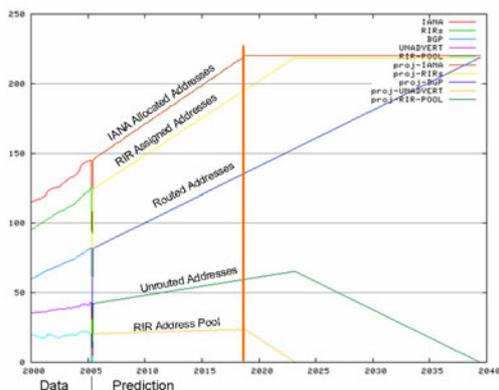

Figure 2 – IPv4 Address Consumption – constant rate model

On the other hand, the emergence of an address trading market could release a significant proportion of those unrouted address blocks that were allocated prior to 1995 into play, creating a new pool of address blocks that could fuel further Internet growth for up to a further two to three decades. Rather than relying of the emergence of a new market in address resources, or running the risk of a chaotic run on remaining unallocated address resources, it may be better to assist the Internet industry react to such preliminary signals of address shortage by undertaking an orderly transition to IPv6. Within such a transitional scenario the consumption rates of IPv4 addresses would slow down, with a corresponding increase in IPv6 allocation rates, as the Internet undertook such a protocol transition.

The basic message from this analysis is "Don't Panic". The Internet is not running out of available address space in the near future, and there is still quite some time available to work through the available options. The RIR system has been successful in ensuring that address space is used responsibly, and there is no imminent exhaustion or shortage of IPv4 address space that would threaten the further orderly growth of the Internet at this point.

Of course this is a constantly evolving situation, and the policies used by each RIR to manage address resources is guided by an open, transparent bottom-up process that considers the perspectives of all interested parties when reaching consensus outcomes. In a realm where the finite nature of the resource demands careful and considered address management, the RIR system has proved not only to be an outstandingly successful approach so far, but also being easily up to the task of managing the demands of address distribution mechanisms in the coming years.

March 2005

Board corner

The AfriNIC structure has its members at the very top, who elect their representatives to seat on the panel of the Board of Directors. The panel is composed of representatives of the six African sub-regions in addition to the CEO of the company. Board members are elected by members in good standing* during the Annual General Members' meeting. They are elected for a mandate of three years renewable only once.

The actual board is composed as follows:

Primary 2004			
Name	Region	Terms	
		Start	End
Kamal Okba	Northern Africa	05/2004	04/2007
Pierre Dandjinou	Western Africa **(chair)**	05/2004	04/2007
Didier R. Kasole	Central Africa	05/2004	04/2005
Brian Longwe	East Africa	05/2004	04/2006
Alan Barrett	Southern Africa	05/2004	04/2006
Viv Padayatchy	Indian Ocean	05/2004	04/2005
Adiel Akplogan	CEO	Appointed	

Alternate 2004			
Name	Region	Terms	
		Start	End
Mokthar Hamidi	Northern Africa	05/2004	04/2007
Sunday Folayan	Western Africa (chair)	05/2004	04/2007
Pierre Moutumbe	Central Africa	05/2004	04/2005
Charles Musisi	East Africa	05/2004	04/2006
Alan Levin	Southern Africa	05/2004	04/2006
Kenneth Yiptong	Indian Ocean	05/2004	04/2005

During the AfriNIC-2 meeting, there will a board election for seats 5 and 6 which are labelled to Central Africa and the Indian Ocean. Nominations received can be found at:

http://www.afrinic.net/bot/nominees2005.htm

Next, we will run elections for seat 3 and 4 which are East Africa and Southern Africa.

Board committee:

Financial committee:

- Adiel Akplogan
- Alan Barrett
- Alan Levin
- Kenneth Yiptong

Board election committee 2005:

- Yaovi Atohoun (Chair)
- Sunday Folayan
- Mark Tinka
- Adiel Akplogan