



**Afrinic**

The Internet Numbers Registry for Africa

# AFRINIC-7 Meeting Report

# 25th September- Internet Governance in Africa and Policy Makers

## **i) Welcome and Opening - Adiel Akplogan**

Adiel Akplogan welcomed all the attendees to the Internet Governance in Africa and Policy Makers day. He said that Internet Governance was an important debate for internet development in Africa particularly regarding issues of access. He said that an initial session about internet governance issues was held in Abuja (during AfriNIC-6) that was mostly attended by technical people.

## **ii) Setting the Scene - Rosey Sekese (Deputy Director General, Department of Communications - ZA)**

She noted the contribution of Africa and the Internet community in Africa and commented on some of the issues discussed at the WSIS Geneva meetings regarding the unequal distribution of the benefits of Information Technology.

She discussed some of the activities of the Department of Communications such as hosting the IGA on the Kigali protocol and facilitating broadband initiatives in Southern and Eastern Africa.

She said that in order to work towards lower costs of communication on the African continent, countries need to collaborate and partnerships need to be formed between public, private and international stakeholders.

She said that, while Africa is a late starter, there are signs of progress even as there are ways to go. She viewed coming in late as an opportunity to leapfrog older technologies for internet provision.

Regarding technologies, she saw mobile networks as a key driver for next generation services and urged the speedy deployment of IPv6 for increased access to internet number resources on the African continent.

She stressed the need for greater security and privacy against the expansion of the internet and thanked everyone for attending and saw the meeting as preparation for the IGF meeting in November.

## **iii) Global Overview of the Internet Governance Structure - Markus Kummer & Anne Rachel Inne**

Markus Kummer started by underlining the importance of establishing a dialogue between policy makers and stakeholders especially for internet infrastructure such as the management of the DNS and internet numbering resources.

He recalled that Vint Cerf described the internet as a big ecosystem and a symbiosis of different organisations that required the need for collaboration.

He noted the role of the UN in facilitating dialogue by bringing actors to a neutral environment. He said he was interested in hearing from policy-makers in Africa about their priorities.

Finally he said that access is usually a concern for developing countries but that once issues of access are solved the next concern is about security.

Anne Rachel Inne talked about the role of ICANN in internet governance and in Africa. She said that the internet is an ecosystem with social, political and technological implications and that ICANN is an organisation that is involved in the technical administration of the internet.

She described the global view of internet governance and organisations responsible for different pieces of it. She explained the workings of the RIR system and described the different committees within

Africa and how they interact with the internet administrative system.

#### **v) Participation and Contribution to the Internet Governance Forum – Dr Nii Quaynor**

Dr Nii Quaynor said it was good to see multi-stakeholders reach the level of the IGF. He stressed the importance of participation for African countries because he said that what is done at the national level impacts at the global level and that on average African policy-makers were not responsive or participatory at the global level.

He said there was a need to create policy and institutions in African countries to tackle emerging internet issues such as cyber crime and fraud and that it was important not to spend time deliberating otherwise the continent would again be left behind.

He ended by saying openness should be top of the agenda over and above access and security.

#### **iv) The role of GAC in the ICANN System – Rachida Jouhari**

There was a presentation by Rachida, an AfriNIC Board Member, about the role of the GAC (Government Advisory Committee) in the structure of the ICANN, and various roles were mentioned such as providing advice on political issues when dealing with governments, intellectual property rights and international law. It was mentioned that the GAC is also involved in formation of some delegations about ccTLD and DNS management. The meetings schedule of the GAC was mentioned, along with the procedure of electing the president, members and GAC country representatives. There was also mention of the issues and status around the .xxx domain.

#### **v) Issues related to Internet Governance in Africa Region – Moderated by Pierre Dandjinou**

Pierre Dandjinou introduced the session about the African perspective on Internet Governance (IG), and mentioned that Africa needs to have a local forum to deal with our IG issues from home - and that we must prepare to participate on the international IG scene after investing a lot of capital into ICT initiatives that promote an African Internet.

- ccTLD Management – Michuki Mwangi

Michuki Mwangi from the Kenyan Internet Exchange Point talked about ccTLD best practices, and gave key points of interest on how to successfully run a functional ccTLD, from planning to the political, policy, financial, managerial and engineering/network design outlook.

- Root Servers – The Facts – Alain Aina

Alain Aina gave a presentation about the tips and tricks of setting up and deploying root servers, and some hints to useful information about root server management. He mentioned that only "copies" are being deployed, and that technical help can be easily availed online about how to do that. However, some people mentioned the need for Africa to have a need for a local internet and local traffic for these root servers to be more useful.

#### **vi) Building Internet Exchange Points in Africa – Key Factor for Internet Development**

Viv Padayatchy talked about building IXPs in Africa. He talked about some uses of IXPs that are usually ignored, like being able to setup a Voice (over IP) network, CCTV surveillance, e-banking and telemedicine and videoconferencing. He mentioned the need for African IXPs to interconnect with each other given the prohibitive costs of international bandwidth both via VSAT and fibre (SAFE/SAT3). He

stressed that IXPs are not only meant for ISPs but any other entity that plans to exchange traffic locally with other entities can connect to an IXP, citing banks, cellular operators, local revenue authorities, universities and others. He mentioned that it would be good for ISPs to bundle their products in such a way that a customer requiring only local content should be able to pay only for that, as it is done in many developed countries.

#### **vii) Internet Security in Africa: Call for Cooperation among Policy Makers - Pierre Ouedraogo**

Pierre Ouedraogo introduced the security issue by mentioning that Security has always been questioned since early civilisation and therefore it was predictable that Internet will also face this problem. He addressed the African perspective and possible solutions. He also addressed the issue at a global level. Among others, his recommendations were:

- Enforced Legal framework,
- Numerical trust for development,
- Capacity building,
- Contribution to global efforts and
- Technological alertness.

#### **viii) AfriNIC - a tool available to policy makers for efficient participation to the Internet Governance issue – Sunday Folayan**

Sunday Folayan opened the presentation by giving a definition of the term ‘Internet Governance’. He also gave a description of the terms ‘Internet Resources’, IP address, ASN and Names. He highlighted that Internet Governance goes beyond the management of IP address and includes issues dealt with by the Internet Corporation for Assigned Names and Numbers (ICANN). He also mentioned that it also includes other significant public policy issues, such as critical Internet resources, the security and safety of the Internet, and developmental aspects and issues pertaining to the use of the Internet. He listed the epistemic community values. He also made an analysis of the evolution of the Internet Structure from the past to the future. He also demonstrated the importance of Internet Development in the African region. He presented the structure for resource allocation at global level and how AfriNIC can represent the Africa region, one of these being the existing Policy Development Process of AfriNIC.

#### **viii) Round Table: Internet Governance Forum and Policy Makers in Africa: Expectation and Meaningful participation**

The round table was chaired by Viv Padayatchy and members were: Coura Fall, Rosey Sekese, Adiel Akplogan and Markus Kummer.

The Chair opened the floor for Discussion.

Questions and discussions were as follows:

Coura Fall mentioned the role of APC as being one to promote access to internet in a fair and equitable manner. Regulators, have an important role play to facilitate Internet access in the African continent such as infrastructure, interconnection and convergence.

She asked if AfriNIC is ready to collaborate with other African internet players such as CRASA, AfriSPA address the issue critical internet resources and resource management. Adiel Akplogan mentioned that Regional Cooperation was already happening but the support from Policy Makers is an important factor. He mentioned that Policy makers have been invited individually to assist to the

AfriNIC 7 meeting.

Markus Kummer discussed the roles and expectations from the IGF and noted that IGF is a platform for sharing of practices. He also mentioned that IGF do not have a decisive power implement actions but has moral power to enforce actions.

Rosey Sekese mentioned that some issues were already mentioned by other speakers. She mentioned that as compared to IGF the WRC is more result oriented explaining the higher level of participation at the WRC. She raised the question as how to make the IGF more result oriented. She also mentioned the need to address the local content of Africa. She also mentioned that the focus should also be on monitoring of activities to ensure a more result oriented collaboration.

The Chair opened the floor for comments:

Pierre Dandjinou asked what can be done to enhance a more result oriented collaboration with IGF. The following was suggested:

Clearly defines its needs and requirements. Taking into account poverty , development

Monitoring: Make an evaluation of the activities and provides a clear direction on the current achievements.

African countries need to share information and experience eg South Africa should share its experience with the other countries.

End Users should be more engaged in the whole policy making process.

It was also noted the major issues of the African continent are that:

- There is no sufficient information sharing among the countries
- The cross countries legislations is a barrier to infrastructure development
- Lack of participation from the African continent in international discussion forums.

The importance of knowledge sharing at local and regional level was highlighted. The possibility of AfriNIC to be that platform for information sharing for Africa was discussed. The Chair mentioned that despite the fact that AfriNIC is now well structured AfriNIC is still a young institution, and had limited resources. As such, it might be difficult for AfriNIC to host this platform. This view was shared by Adiel Akplogan. He however mentioned that AfriNIC can play a facilitator role with the support of the regulatory bodies.

Badru Ntege said that the importance of addressing the issue at the 'African Continent' level. It was noted that Africa has certain local specificities that need to be addressed separately at the global level.

Ann Rachel Inne mentioned the importance of engaging Policy makers in the discussions. It was also noted that there is often a change in the Policy Makers and as such, the Policy makers need to be re educated constantly. Ray Platz mentioned that this problem was common to the other continents and it was suggested to address the issue with Government official at a lower level of the hierarchy. These officials are more deemed to stay longer and ensure follow up of actions.

#### **ix) Round Table: Enhance cooperation and participation of policy maker in Africa to Internet governance debate.**

The table was chaired by Sunday Folayan and the members were Desire Karyabwite, Pierre Ouedraogo, Dawit Bekele and Nii Quaynor.

Desire Karyabwite presented his apologies for the absence of Dr Toure and Mohamed Al Basheer who were taken up with other meetings.

He talked about the following:

- ITU fully supports AfriNIC in its actions and activities. ITU will support AfriNIC through financial

means and holding of joint activities.

- ITU has a new team that has been elected last year and one of the main emphasis of this ITU team is strong collaboration with all the stakeholders in Africa and also in other regions.
- As far as Internet Management is concerned, ITU has a clear mandate defined by ITU members.
- ITU has assisted countries with policies and now the focus is mainly on capacity building. In this context, ITU is satisfied with the AfriNIC IPv6 workshop.
- For ACCESS, ITU has launched a special initiative next month namely the Connect Africa Summit that will be held in Rwanda to set up infrastructure backbone for Africa.
- There meeting will also address the Cyber security issue to have security at all levels based on 5 pillars: legal framework, Technical aspects, organisational structures, capacity building and international cooperation.
- ITU strongly supports initiatives from organisations.

Dawit Bekele mentioned the following:

- The reason for insufficient engagement from policy makers were identified as follows:
- Government has limited financial resources; Government may have other priorities such as health and access to water.
- Policy Makers should however be interested in the development of Telecommunication technologies in particular Internet as it triggers economic growth. Studies have shown the direct relationship of the development in Africa and internet development.
- It was noted that Internet development was made difficult by barriers such as security, openness and language diversity.

Pierre Ouedraogo mentioned the following:

- Policy Makers sometimes cannot respond to the high speed of technological innovations. This has made the involvement of Policy Makers difficult and may explain the absence Policy makers at some important forums. Therefore institutions and governmental bodies need to develop a mechanism to allow the private sectors to catch up with those technological advances. It belongs to everybody to demonstrate the willingness for Africa to meet those technological developments.

Dr Nii Quaynor mentioned the following:

- The main issue was that Africa has not adopted the Internet (Internet penetration being 4% for Africa and Europe being 40%). Therefore priorities need to be changed and the real challenge should focus on building the African networks. This network development will involve several issues such as partnerships, capacity development, language diversity, interconnection between the countries.

Alan Barrett mentioned the following:

- Due to some monopoly situation for Internet Access in certain countries the development of this network can be difficult. In response to this comment, Rosey Sekese mentioned a few initiatives to address this issue such as end of monopoly by Telkom SA, the extension of the Kigali Protocol to other countries, harmonisation of protocol to interconnect the African countries. It was mentioned that SME should also be involved in this process as they are the key factor to economic growth.

Didier Kila mentioned the following:

- In the process of privatisation of internet providers, Government should provide a regulatory framework to ensure that there is no conflict of interest between the profit making institution and the objective to enhance Internet development Africa.
- Nii Quaynor proposed to identify among the participants of the meeting the Critical Number resources: Results were as follows in order of priority: Access (33 votes) Security (7 votes), Diversity

(3 votes), Openness (5 votes)

### **Closing Remarks – Adiel Akplogan**

Adiel Akplogan thanked all the participants for their contribution. He re-instated AfriNIC's determination to collaborate with all stakeholders.

## **IPv6 conference**

### **- Adiel Akplogan**

Adiel Akplogan welcomed everyone to the IPv6 conference. He noted the issue of the exhaustion of the central pool of IPv4 addresses, AfriNIC's awareness campaign on IPv6 (v6 Mandela) and the need to move to IPv6. He said that there is a need for integrating the new technology in infrastructure to ensure scalability and security. He said collaboration is also vital because the internet is where it is today because of collaboration. He thanked the Department of Communications for their support of AfriNIC in its initial setup and in hosting the technical and engineering department.

### **- Pierre Dandjinou**

Pierre Dandjinou said that the internet is more than a technological invention but also impacts on social and political spheres. He said the policy makers play a critical role in internet development in creating a regulatory environment because the technical staff was ready and willing to advance the internet in Africa.

He thanked the Department of Communications for their support and the role they have played in internet initiatives in Africa.

### **- The City Mayor of Durban, Councillor Obed Mlaba**

Councillor Obed Mlaba said that the discussion on ICT has come at the right time for Africa because there is a need for African countries to be global players in the realm of ICT.

He said building communication infrastructure is important because often African countries have to go outside the continent in order to communicate with each other.

He said it was important that African countries take responsibility for their own development if any sort of renaissance for the continent was to occur.

### **- H.E. Ivy Cassaburri**

H.E. Ivy Cassaburri thanked the Mayor of Durban and AfriNIC for inviting her to the event. She agreed with the mayor the importance of taking control for the development of the African continent and taking it into the future.

She discussed the commitments of the WSIS summits and said that it was necessary to turn the digital divide into a digital opportunity and that commitment on infrastructure was particularly needed.

She said issues of access were important as well as security for those with access and privacy of the individual.

Speaking about regulation, she said policy-making in South Africa was high among developing countries but that usage was low comparative to other countries and that beyond regulatory issues that the private sector also played a critical role in providing access.

She said that beyond access African countries have to look at issues of diversity in terms of language in connecting communities. She also noted the importance of affordability and availability for providing internet access to communities.

She spoke about the importance of creating enabling policy regimes for small and medium-sized enterprises since they were key drivers in providing affordable access.

At the continental level she said the African Union was in deep discussion about infrastructural issues and that governments and the private sector must work together to build infrastructure.

She said Africa was far behind in internet connectivity and discussed some of the inter-governmental initiatives such as the EASSY cable consortium and the setting up of a pan-African infrastructure fund that would be used to fund new undersea cables along the West African coast and connecting Africa to South America.

On IPv6 she said it was important to embrace the future and commenting on her experience with analogue v/s digital spectrum said that the speed of technology moves so quickly that one can easily be left behind.

Finally she stressed the need for a critical mass of skills to be developed and a transition plan to be formalised.

#### **ii) IPv4 Exhaustion: Transitioning to IPv6 – Adiel A. Akplogan**

Adiel gave a presentation on the IPv4 exhaustion issue with the tentative dates for the exhaustion of the IANA free pool.

He then talked about the situation in Africa and the solution of IPv6. He also mentioned what needs to be done by all stakeholders.

#### **iii) IPv6 in Africa: The Present Situation – Alain Aina**

Alain talked about the IPv6 situation in Africa, the prefixes which are being used by AfriNIC and the allocations made by AfriNIC in the region. He showed the distribution by the countries as well as the routing statistics

He mentioned the challenges facing IPv6 deployment in the region.

He also talked about the incentives which are being given by AfriNIC with regards to IPv6

#### **.iv) The Cost of not deploying IPv6 - Jordi P. Martinez**

In his presentation Jordi noticed that most of existing organisations are focusing their attention on the high cost that will be involved in IPv6 deployment. In fact Jordi is saying that even if there are costs

related to training, network upgrade and dual stack implementation, IPv6 deployment should not be considered as too expensive.

Training seems to take the biggest part of all the costs of IPv6 deployment. As they have already training plans for their employees in other fields companies should include the IPv6 training cost in their existing plan. Doing so will make them not considering ipv6 training cost as an extra cost.

Upgrading network also should be planned while taking in consideration the fact that most of new equipments are IPv6 enabled.

Deploying a dual-stack infrastructure should not be considered as very expensive. This means that the real cost of implementing dual-stack is at most the cost of one machine and the software used for that purpose.

The author mentioned the cost of deploying NAT in an infrastructure and also the cost of new IPv4 as this is in his exhaustion period which will bring additional cost.

He said also that the transition to IPv6 has started some time ago and many transition technologies are available. Some ISP can miss some revenues when their customers will realize that they can get better service from another ISP who has already deployed IPv6.

In conclusion IPv6 deployment can cost less when efficiently planned. Not deploying it can cost much more when it will be too late.

#### **v) Optimizing 802.11 networks for IPv6 mobility - Hisham Ahmed Ibrahim**

Hisham noticed that the large increase in the number of mobile users and the need for wider coverage areas of communication has resulted in the need for high mobility with high quality of service. In his presentation he described how mobility is used and works with IPv6 and the kinds of communications exchanged between each component in the sample network.

The proposed architecture for optimising 802.11 networks is based on IEEE recommendations and uses the protocol MIPv6. The main goal of this process is finding optimum architecture and obtaining the minimum percent of dropped packets in the network. From all the protocols used for testing the 802.11g gave the best result.

The author presented also the results of some test to optimise VOIP architectures. The evaluation criteria used are:

- Maximum number of wireless nodes, maintain a packet end-to-end delay (< 200ms) and minimum packet end-to-end delay during handoff.

The last part of the presentation was about hardware implementation with a prototype network configuration.

#### **vi) IPv6 Strategy for large providers – Yves Poppe, VSNL**

Yves Poppe gave an overview of the VSNL strategy with regards to IPv6.

He also mentioned the advantages of IPv6 and the run-out of IPv4. He also talked about the fact that VSNL was one of the first movers on IPv6.

#### **vii) IPv6 based Wireless Mesh Networks – Henk Kotze**

The CSIR's Meraka Institute gave a presentation about the way they are deploying IPv6 connectivity wirelessly, and how they are researching ways to further develop sustainable communication technologies in developing countries using IPv6. They mentioned about plans to setup wireless mesh IPv6 networks in rural communes in South Africa and gave an overview of an experimental mesh network that is currently operational but experimental for a few CSIR staff in Pretoria. It was mentioned that the CSIR is working along with the government on this Project.

#### **viii) IPv6 Deployment in LACNIC Region – Ricardo Patara**

Ricardo Patara gave an update from LACNIC about the deployment of IPv6 in the Latin Americas. He mentioned that some initiatives have been taken by LACNIC to promote IPv6 deployment in the region, like waiving of fees for IPv6, the FRIDA programme, supporting several meetings around IPv6 in the region and chairing the IPv6 task force in the region. He mentioned that LACNIC also tries to support any joint meetings between LACNIC and the IPv6 Forum. It was also mentioned that LACNIC has recently unveiled an IPv6 web portal with all information the community needs to know from the fundamentals to deploying IPv6 in a production environment.

#### **ix) Strategy for manufacturers – Philip Smith, Cisco**

Philip Smith presented Cisco Systems' roadmap as far as IPv6 is concerned, and he mentioned that Cisco Systems has been involved in developing IPv6 software for all their hardware from as early as 1994, and that from 2001, all firmware (version number greater than 12.5) natively support IPv6. He mentioned that Cisco Systems has extensively tested their product IPv6 support before releasing the software and or hardware to the public and that the public should be confident with the IPv6 functionality on Cisco gear. He mentioned that IPv6 support on products from their subsidiary company - Linksys, will be available soon.

#### **x) Public Applications based on IPv6 – Toshiyuki Hosaka**

Toshiyuki Hosaka gave report about the IPv6 deployment status in Japan. It was mentioned that the Japanese government implemented an "ICT reform strategy" which mainly focuses on promoting the use of IPv6 while putting it into practical usage like earthquake warning systems. Transition models were mentioned, some of which are "smooth", and others "forced" - all geared towards a solution oriented deployment of IPv6 in Japan. It was mentioned that these initiatives have all paid off in Japan, as there are already many commercial and home-user services all available on IPv6 in Japan.

#### **xi) IPv6 for non Technical Engineer – Jordi Palet Martinez**

Jordi Palet talked about IPv6 to the non-technical person, which is mainly an outlook on IPv6 to the layman. He described the advantages of IPv6 over IPv4 such as the availability of a virtually infinite number of addresses; hence more gadgets and devices can be connected to the internet as opposed to the limited number of IPv4 addresses. He mentioned about IPv6's better support for always-on and mobile technologies, plus good features like automatic device configuration, security (with end-to-end IPSec) and improved support of options or extensions, something lacking in IPv4.

## **xii) Round Table: IPv6 deployment in Africa and Solution for better results**

The round-table consisted of Rob Hunter from Neotel, Michuki Mwangi from the KIXP, Theo Kramer from Uniform, Badru Ntege from the AfriNIC Board and Jordi Palet Martinez from Consulintel. The round table was moderated by Alan P. Barrett.

Each person mentioned their current IPv6 experience and their take on the future of IPv6 in Africa, plus challenges and hurdles faced by the community in deploying IPv6. There was discussions around the current problems with filtering /48s, the need to convince senior management of ISPs about investing into IPv6 ready infrastructure and the need to push for policies that promote the deployment of IPv6 than those extending the lifetime of IPv4 as the current policies for soft landing may never end in our favour. There was a mention that many upstream providers still do not offer native v6 support, and that only tunnelling is possible.

## **xiii) Anti-Spam BoF**

There was an anti-spam BoF that was chaired by Jean Robert Hountomey - and they had an update status of their activities since the last meeting in Abuja. Various issues around fighting spam were discussed and addressed, but it was decided that the BoF identify spam issues that are particular to Africa and that they set tasks and deliverables realistic to Africa's environment rather than re-invent the wheel with what many open-source initiatives are already doing. It was decided that the chair will draft a "charter" and send it to the anti-spam mailing list, from where the group can start further discussions on the objectives listed in the charter.)

27 September AfriNIC Plenary I

## **i) AfriNIC Corporate Update – Adiel A. Akplogan**

Adiel talked about the Board's 2008-2010 strategic plan for AfriNIC and that members will be consulted for input and participation.

He showed the growth in the allocation of internet resources in Africa, discussed the exhaustion of the IPv4 central pool and the need to transition to IPv6.

He discussed the importance of resource certification particularly for securing resources especially in the post-exhaust IPv4 environment where there will be greater trading of ipv4 resources.

He said there is a need to improve the quality of AfriNIC's service to its members and that the organisation will be hiring more technical staff next year to improve its operations. He also mentioned that AfriNIC will be moving to new office space to handle staffing growth.

## **ii) Board Activity Update – Sunday Folayan**

The following activities have occurred since the last board meeting in Abuja:

- Passing a resolution for staff to draw increased public awareness to IPv6 issues.
- Working on the constitution which is now available for public comment.
- Working on an MOU with AfrISPA.
- Resolved to participate in IGF, Rio.

- Have discussed parallel markets for IPs and current exhaustion of the IPv4 pool.
- Policies but are yet to take a position.
- Aim to set the foundation for a strategic plan for IPV6, which they initiated at a recent board retreat.
- See presentation for further details.

### iii) Joint NRO Statistics – Ernest Byaruhanga

Ernest Byaruhanga presented the NRO joint statistics for AfriNIC, APNIC, ARIN, LACNIC and RIPE NCC. He showed the distribution of the IPv4 address space, a yearly and cumulative total of ASN, IPv4 and IPv6 allocations/assignments made by RIRs to LIRs, and IPv6 allocations made by IANA to the RIRs. He provided links to data sources.

Discussions:

William Stucke enquired who allocated the IPv4 to AfriNIC region in 2001.

Ray Plzak clarified that the other RIRs allocated this.

A speaker from the floor asked if the one /8 which has been allocated is enough. He commented that there are several enterprises that use IPv4 addresses, and noted that most of them obtain these addresses from Europe and other regions, not from AfriNIC. He asked AfriNIC what plan they have for these allocations to come from AfriNIC.

Ernest - responded to the first question asked, stating that the /8 was received in January 2007 and, looking at the current trend, this should be adequate. He added that AfriNIC hope to obtain an additional /8 in 2008. Ernest commented that the other question should perhaps be answered by the board.

An AfriNIC Board member stated that a number of satellite carriers do have AfriNIC allocations.

Adiel - noted that several organisations are still using NATs and other techniques as opposed to strictly using IPv4 obtained from AfriNIC. He further noted that this is also why AfriNIC are placing emphasis on training as awareness is important to let people know that they can obtain IP addresses from AfriNIC. He added that AfriNIC are happy to hear additional ideas on this and that they are pushing so that the operator can receive what they need today.

Leo Vegoda, IANA - wished to clarify that there are two /8s, 41 and 196, marked to be reserved for AFriNIC in the IANA IPv4 registry.

A speaker from the floor wished to do a quick check to clarify an issue, he wished to place a perspective that the current allocation depicts a depletion date of 2014. He expressed his concerns for more work needing to be done with regards to projections commenting that it would be necessary to determine the current activities in the African region and to identify the regional plans. He expressed his belief that these plans may effect current projections and that it would be good to have this in place, noting that he was unsure if regional plans would affect AfriNIC's plans for the future.

Ernest clarified that the use of NAT is discouraged in AfriNIC documents and that whenever AfriNIC staff receive requests of this nature, they discourage it.

Adiel - noted that the document that is used to reach these projections adds factors that allow AfriNIC to make these projections. He noted that if AfriNIC members have a need to request the resources they will get them. He further added that no matter what AfriNIC's projection is, the key point is how we are going to manage the IANA pool, noting these issues are things AfriNIC would like to focus on.

Brian Longwe, Kenya - requested to ask AfriNIC 7 participants about two major issues. The first issue, he noted, had already been addressed, which is the issue of increasing awareness for new LIRs. He added that although these issues are being worked on there is a need to continue work in this area. He

then commented on the other issues that he felt was a bigger issue, being that at an operational level, many African ISPs still use NAT. He expressed his concern that this is holding Africa back when addressing the issue of obtaining number resources and using them the way they should be used.

A speaker from the floor clarified that it is one thing to tell people what to do, but another thing to have people change their behaviour. He has asked members of the room if they have any responses to this question.

Rob Hansen, - wished to clarify the status of 192 196?

Ernest – clarified the status

A speaker from the floor wished to draw on Bryan Longwe's comments, about the layer nine level, he expressed that this is a level 9 issue and that technical people know what needs to be done, however the economic side does not add up with the policy side. He expressed his concerns that he feels this is a critical component and that the African community need to create awareness of the business sense to people in order to help bring about a change.

Jordi Palet - commented on the usage of NAT in other regions, which, he noted, is not perhaps the same as in Africa, it's really difficult at this stage to convince people to change as it means the cost of renumbering networks and other issues so there is sometimes some other reasons. He commented that it will be much better to, instead of asking people to renumbering their network, to keep doing what they are doing, but for new customers use IPv6.

Allen - commented that if you as a customer find yourself behind an NAT you should tell your provider and complain and let them know that you do not want this. He expressed that perhaps if the customers complain NAT use could be stopped.

Paul Wilson - commented that in the APNIC regions, the NAT is heavily used, for example in India, and that APNIC have not been able to address this as downstream ISPs cannot obtain this and they are not big enough to come to APNIC for resources. So there are at times 2 layers of NATS. Paul clarified that he made this point at the last APNIC meeting that this behaviour has made India have a very low deployment of addresses in India, this did ring alarm bells and made them (Indian ISPs) think that perhaps there is something they need to do

A speaker from the floor commented that IPs usage and costs impact on the use of NATS as companies cannot afford the costs, also there is a lack of communication between AfriNIC and the end users and this is a problem.

A speaker from the floor clarified that when AfriNIC gets to your country with their outreach they will let your community know that they can get their addresses from AfriNIC.

Philip Smith - further commented on Paul Wilson's comments about NAT use in India, stating that there is only a fraction of a /8 allocated to a country with a population of over a billion people. He noted that people in this region still have no idea that they can get their addresses directly from AfriNIC. He stressed the need that we all help spread this word and not just expect the registries to do so.

Mark Elkins - stated that he needs NAT, as long as he has NAT he can control over what comes in and goes out of his network

Adiel - further commented on the issue that it has come down to awareness and how the operator hears the issue and takes this message back to their communities. As Philip said, this is an issue that we must all be responsible for creating awareness of. He expressed that we need to all work together on spreading this word. He further added that the issue of NAT in contrary is to educate people from layer

one to layer nine. AfriNIC cannot come up with a list of ISPs using NAT, but we can if we know that there is an issue in a particular country extend outreach and get the word into that community.

David Conrad, ICANN - getting addresses from a registry may be trivial compared to getting space from an ISP. You need to have an ISP route the addresses. If you obtain the address space you need to find an ISP that will route it. Perhaps AfriNIC could look into these issues, He further commented that in about five years the techniques that are used in Africa presently may be in high demand as there will be no more IPv4 and everyone will need to know how to use NATs.

#### **iv) NRO-NC/ASO-AC Update – Alan P. Barrett**

Allan Barrett described the NRO and the role and duties of the NRO-NC within the NRO. He described the ASO-AC and said that the NRO-NC fulfils the role of the ASO-AC according to the MOU between ICANN and the NRO.

He discussed membership representation on the NRO-NC, AfriNIC's representatives and talked about the group's mailing list, website and other means of communication.

He explained the tasks of the ASO-AC and its role in ICANN appointments and governance issues. He noted two new global policy proposals, past meetings, outreach workshops and the upcoming meeting in Los Angeles in November.

#### **v) RIR Updates:**

- APNIC, Paul Wilson

Paul Wilson gave an update on the member survey conducted at APNIC and presented an analysis of the survey. He highlighted the confidentiality of the respondents on the survey. He also listed the priority areas namely: Technical Research and Development, Streamline process, increase accessibility of meetings and policy process, represent the needs of ISPs, Expanding training activities, improving APNIC website, Support ISP Education in AP Region, Resource certification and expand communication and outreach.

He closed the presentation by inviting all participants to share their views on their understanding of the term 'Critical Internet Resource'.

- ARIN, Ray Plzak

Ray introduced the ARIN delegation that was present at AfriNIC 7.

A copy of the ARIN Report, September 2007 was distributed to the participants.

Ray explained that the ARIN board of trustees issued a resolution in May 2007, advising the Internet community that migration to a new version of the Internet Protocol, IPv6, will be necessary to allow continued growth of the Internet.

Ray noted that at the upcoming ARIN meeting in New Mexico, the ARIN Board of Trustees will be attending Board of trustees retreat.

Ray explained the outreach activities that have been conducted by ARIN and highlighted upcoming outreach activities that ARIN will be participating in.

Ray noted that ARIN will be releasing two new comic books next months which focus on IPv4 depletion and IPv6 uptake.

Ray noted that the ARIN board reaffirmed that the policy development process can reflect what the

community thinks about legacy address space. He further noted that this is prevalent as most of the legacy address space resides in the ARIN region. One discussion was if these address holders should enter a contract with ARIN, become more a part of the community and work more within the PDP.

He expressed some views of members of the ARIN community of recognising that there will become a point when there will not be any IPv4 address space left in the IANA pool, although there will of course still be IPv4 address space, therefore discussion has been focusing on what needs to be done internally to enable ongoing handling of IPv4 addresses. He noted that some policy proposals that will be discussed at the upcoming ARIN meeting next month, will deal with this issue.

Ray then updated the consultation and suggestion process at ARIN, noting that there were a few odd ones, however there were some very good responses, and that this procedure enabled separating operational matters from the policy development process.

Ray noted that further information can be found on the ARIN website.

#### - LACNIC, Ricardo Patara

Ricardo Patara mentioned that the result for the high number of members for IPv6 is due to the effective campaign for IPv6 awareness. He highlighted the membership evolution at LACNIC, mentioning that the increasing number is due to the fact that LACNIC has formalised the relationship with the Brazilian NIR. He mentioned that the LACNIC has undergone major organisational change: namely the acquisition of an office space. He also spoke about the strategic planning of LACNIC and presented the vision and mission statement. He gave an update of the LACNIC X meeting. He presented the collaboration between LACNIC and the Information Society in LAC and the E-LAC.

He finished by inviting the members to the next LACNIC meeting in Brazil.

#### - RIPE NCC, Axel Pawlik

Axel Pawlik opened the presentation by emphasising the need develop 'Disaster Preparedness' by the following means: emergency plan, ensure full business continuation plan, member benefit and corporation among RIR. He gave an update of the major changes at RIPE NCC, at the team level as well as the focus areas. He presented the Vision and Strategy of RIPE NCC and presented the certification in the RIPE region. He spoke about members and outreach (Surpassing 5000 members with the biggest growth in Russia). He also spoke about government and 'enhanced corporation' in the region. He gave an update of the RIPE 54 meeting and presented the upcoming meetings.

#### **vi) ICANN Report – Anne Rachel Inne**

Anne Rachel Inne opened the session by presenting the general principles of operation of ICANN. She also gave an update on the upcoming events. She listed the main topics that will be discussed at the ICANN meeting in Los Angeles, October 2007. She also presented the challenges for the Africa Region. One of the issues highlighted was the language barrier and the lack of resources to have the adequate expertise for the translations. She also mentioned that for the codification of languages do not include any African language and invited the players in Africa to address this issue. She also invited contribution for drafting the NRO terms of reference.

She highlighted the importance for the African continent to voice out its requirements at the ICANN meetings and invited strong participation from this region.

Discussion:

A speaker from the floor asked Anne Rachel to clarify her comment regarding IDNs in English.

Anne Rachel replied that IDNs are actually right now leaving us a lot of problem in regards to policies being put in place. She further expressed that in this region the Housa language is used and that she is not comfortable in self representing this language group as a whole.

The speaker from the floor thanked her for her English clarification, he then added that this community does need to know and that more needs to be done.

Anne Rachel agreed.

A speaker from the floor - asked about the similar use of dot.cat for a linguistic group.

Anne Rachel responded that dot.cat agreed and supported the idea that catalonean was a linguistic community and that they wished to preserve this language and that using dot.cat enabled them to be a part of it.

### **vii) IANA Report – Leo Vegoda**

Leo Vegoda presented the new IANA website. He gave an update on the recent Number allocations: to RIR and those returned to IANA. He also gave an update on the DNS work and the new IPv4 Registry Format DNS Work

- In-addr.arpa
- DNS

### **viii) AfNOG Report - Sekyen Niyang**

Sunday noted that he thought it more appropriate for Sekyen Niyang to do this presentation. (from NGNOG)

Sekyen provided an overview of AfNOG, its objectives and a brief history of its achievements. She noted that many countries were already planning on holding similar meetings.

She also provided an overview of meeting participants' background, noting that NgNOG is primarily organised by education and research institutions, which has brought about an increase of educational and research institutions in AfNOG.

She commented on some of the challenges confronting AfNOG, noting that language was a barrier as it presently was only presented in French and English, and that AfNOG hope to be able to present in local languages in the future.

She provided an overview of AfNOG achievements, noting that AfNOG had trained over 800 internet engineers and that former students are now instructors. She also noted that Nigeria is adding two new tracks in November 2007.

She invited participants to attend AfNOG9-9/AfrNIC 8 in May 2008, which will be held in Rabat.

### **ix) AfTLD Report – Michuki Mwangi**

Michuki Mwangi gave an overview of the roles and highlighted the challenges faced by Cctld. He emphasised the direct relationship between internet penetration and domain name registration. He gave

an update on the activities of the AfTLD activities. He highlighted participation at local and international level. He mentioned collaboration with AfriNIC through the MOU that has been signed, participation in the AfriNIC events, ICANN, IGF. He mentioned that this is important for the Representation of the African continent. He highlighted the focus areas for AfTLD. He mentioned that one of the important challenges will be fund raising activities.

#### **x) 32 bit ASN numbers - Phil Smith**

Based on the fact the 16 bit ASN numbers will be exhausted soon, the internet community has started working to extend the ASN pool to 32 bits. A description of all the specifications can be found in the RFC 4893.

These 32 bit ASN numbers are available on request since January 2007. The representation of these numbers is still on discussion.

For the author what is important here is to note that the 32 bit is compatible with the 16 bit ASN numbers.

There is no need to throw out old routers or replace old 16 bit ASN numbers with the new 32 bit ASN. In terms of functionality only local routers will need to support the 16 bit ASN, remote routers will support the 32 bit ASN. What has changed is the new BGP attributes AS4\_PATH and AS4\_AGGREGATOR. Philip Smith said also that some implementations already exist. These implementations are Quagga, OpenBGPd, JunOSE and RedBACK. Cisco also supports this since IOS-RX 3.4 release.

Discussion:

A speaker from the floor asked if he needs to get a new router.

Philip further explained that if you have an existing 16-bit number you do not need to do anything, but if you are new and you are going to use a 32-bit ASN then, yes, you will.

A speaker from the floor asked Philip to please spread this information so that people in Africa do not throw out their routers.

Philip stated that nobody in this room will need to do anything, but in 2010 they will need to.

#### **xi) Reclaiming the legacy 14.0.0.0/8 addresses - Leo Vegoda**

14.0.0.0/8 Class A addresses are commonly used in the international system of PDN (Public Data Networks). The main task in this reclaiming process is mapping this class A address to the X 121 addresses used in the X25 networks. In most cases one or two of these addresses are really assigned and only a few of them are used in PDN networks.

Leo explained that there were 984 addresses and that there were 29 contacts.

He added that it took him personally about 100 hours of work for research and liaison for under 1000 addresses. He noted that the workload varied for the networks, ranging from 5 minutes to a few hours spread over a few days. He further noted that one organisation re-numbered their networks in order to tidy it up and hand them back.

Leo summarised the workload as being 3 1/2 hours per registration. He added that this is a lot of work for low value addresses as it is difficult, however this does not mean that address space is not worth reclaiming.

## **xii) Internet Routing Registry for Africa – Mark Elkins**

Mark explained that currently there is not a Routing registry for African and that presently double work is needed as double registering is required without an African Routing Registry,

He explained that a routing registry was a place to define and store ones' given resources, peering and transit relationships.

He noted that two registry systems do not currently provide, and identified those as AfriNIC and LACNIC.

He highlighted some issues and advantages of using AfriNIC for this, highlighting that there would be the downside of using more AfriNIC bandwidth.

Mark noted the advantages that it should not matter where your registry is held, and that it allows others to see what networks/prefixes you can carry. He also noted that it would be of huge importance to keep the information up to date.

Discussion:

A speaker from the floor asked if Mark imagined that when two database is provided, that getting the LIRs address space current and updated will be difficult.

Mark responded by saying that a lot of people are already keeping their information update. He noted that if you are peering at home within Africa it may not be the case.

A speaker from the floor commented that the structure of the database is difficult for us to update as you need to extract the text and I think that perhaps you could make a friendly user interface that is easier for people to use.

Mark noted that this is not necessary as at present you have web and mail.

Frank noted that there will be a presentation later on MyAfriNIC which will further clarify this.

## **xiii) Update from Anti-Spam WG – Jean Robert Hountomey**

Jean Robert Hountomey presented the outcome of the BoF which was held in Abuja during AfriNIC-6 (21 participants) and the one at AfriNIC-7 on the eve.

He gave a report of the online discussions so far on the anti-spam mailing list. He also mentioned some areas of work which is required.

## **xiv) Discussion on Open Policy Proposals – Hisham R. Rojoa**

The two global IPv4 exhaustion proposals were delivered today.

- 1) Global policy for the allocation of the remaining IPv4 address space
- 2) JPNIC proposal

There was consensus that something needs to be done.

There was consensus that there should be equal allocation amongst the RIRs.

Both policies were then submitted for a show of hands to the community to see if there was consensus on the proposals.

For the first policy when called for a show of hands there were 9 hands in favour.

There was a call for a show of hands for the JPNIC proposal and there were 5 hands in favour.

When asked who is against both proposals there was 1 response.

It was determined that the first proposal reached consensus, but would be referred to the mailing list to determine consensus on the value of N.

In relation to the first proposal there was a call for a show of hands for the end count.

N = 1 - 6 hands

N = 2 - 6 hands

N = 3 - 0 hands

N = 4 - 0 hands

N = 5 - 0 hands

This policy is now going to the mailing list for further discussion to determine N = ?

#### xv) MyAfriNIC Presentation – Frank Nnebe

He presented the new portal and mentioned that there were main objectives were: Simple, graphical, user-friendly interface; Member functionality in one place; Provide enhanced service and support Ensure seamless integration with WHOIS. He gave an update of the present portal and highlighted the different problems and difficulties that members may encounter. He demonstrated how MyAfriNIC is a solution to the various issues. He presented the different functionalities which includes among others: member., account management, organisation information, contact information management, user administration, notifications, billing , on line payment, resource management He concluded by mentioning that My AfriNIC is a user-friendly Web-based interface that enables AfriNIC members to manage their account, information and resources with enhanced service and support.

One speaker from the floor asked to clarify how the system was more user friendly. Unfortunately, due to some connectivity issue, the demo had to be postponed to the following day

#### **i) Discussion on Open Policy Proposals**

##### - Policy Development Process

Alan provided an overview of the proposed Policy Development Process. Alan noted that there are two slightly different versions of this proposal, clarifying that the mailing list version is the most recent (not the paper handout).

To view the presentation, [click here](#).

Discussion:

Ernest queried the 60 days for staff implementation, he expressed his concern that some policies may take more than 60 days so policies should be looked at on a case by case basis.

Alan agreed that the 60 day implementation would depend on tools, etc that may be needed in order to implement a policy, he also expressed some concern regarding the Board meeting timeframe, noting that presently the board meet every two months.

A speaker from the floor expressed his concern regarding membership suggesting we need a minimum of three people from the community to participate so that when one of the members is also the proposer, there is also opportunity for discussion between the other members. He then wished to clarify the use of the term consensus, noting that the policy later uses the term majority, and this was

inconsistent.

Ray Plzak, ARIN - Ray noted that the ARIN region perform an impact analysis on implementation for each proposal which identifies software, hardware and human resources needed for each policy. He added that the outcome of this analysis determines the implementation time.

Philip Smith commented that he mostly liked this proposal, noting that it is similar to PDPs in other regions. He did, however, note that the 30 day board meeting and 60 day implementation could be problematic. He also commented that he believed there needed to be clearer definition of consensus.

Jordi Palet commented that the board should include the proposals on their agenda item to ensure that the 30 day period was met. He added that he had previously posted comments and a possible definition of consensus on the mailing list, and also he added suggestions to stop people from manipulating the process. He is in favour of the policy, but accepts it may need modifications.

Alan asked Jordi to clarify what he meant by manipulating the process.

Jordi clarified that there have been instances of individuals manipulating the process (by bringing up unrelated issues which have distracted the discussions) and that he believes that this could be avoided.

Alec Peterson, ARIN advisory council, provided an overview of how the ARIN advisory council operates, as this is similar to the proposed PDP Moderator Group, noting that there are fifteen members on the council. He added that the method of consensus used in the ARIN region has 'escape' paths.

The Chair noted the modifications to the policy and asked for a show of hands for those in favour of the policy including these modifications.

There was a favourable response from participants.

The Chair determined that the policy and its modifications had reached consensus.

- Global ASN Allocation Policy– Axel Pawlik

The IANA policy for allocation of ASNs blocks to RIRs was presented by Axel Pawlik from RIPE NCC. The proposal documents practices for allocation of AS Numbers from IANA to RIRs, and that this procedure is being followed informally and is not documented. Basically, an RIR received multiples of 1024 ASN blocks after utilising 80% of their most recent block or have a reserve less than 2 months.

The Chair asked for a show of hands for those in favour. There was a favourable show of hands. The Chair determined that this policy had reached consensus.

To view the presentation, [click here](#).

- IPv6 – Jordi Palet Martinez

There was another proposal by Jordi Palet to make some changes to the current IPv6 address and assignment policy - presented initially at the Mauritius AfriNIC-5 meeting to gather some ideas from the participants and see if a new version is needed for the proposal, or not. The motivation for this change was to modify the policy to allow assignments to organisations with branches, like banks, universities, etc. Jordi later mentioned that this is now sorted by the recently approved PI policy, and additionally asked that the community remove the part on the current v6 policy that requires AfriNIC to evaluate PA assignments that are greater than one /48 to the same end-site.

Discussion:

Alan Barrett commented that he opposed this policy as he thought it made it too easy for end users to get a PI /32 allocation. He further noted that there was already provision in AfriNIC's policy for end sites needing PI space to get the /48 and that we should keep the present condition there. He added that

we should not delete Section 5.4.2 Assignment of multiple /48s to a single end site until we have more experience.

Jordi asked Ernest what were AfriNIC's criteria for if there was a request for multiple /48s

Ernest noted that there had not been any requests. He further added that he could not give an answer to Jordi at this time.

Adiel added that they must have a plan that demonstrates they will use the requested resource, noting that he did not think this was very difficult.

Alan suggested that AfriNIC already have processes in use for IPv4 space and that he believed staff are more than capable of adapting these processes for IPv6.

To view the presentation, [click here](#).

#### **ii) MyAfriNIC Demo – Frank Nnebe**

MyAfriNIC Demo - Frank Nnebe gave a presentation about MyAfriNIC, a new member web portal for managing the member's registration information with AfriNIC. The demo was done using an internal test environment as a demo account was not yet setup on the main live server yet.

Frank demonstrated the functionality of MyAfriNIC to show the ease and effectiveness of its use.

David Conrad asked if MyAfriNIC actually creates the reverse DNS.

Frank replied stating that you create the domain object and then the zone file is updated behind the scenes.

#### **iii) Membership Liaison and Communications Report – Hisham R. Rojoa**

Hisham provided an overview of the outcomes of AfriNIC-6. He then highlighted training events that took place during 2007, thanking the trainers for their efforts. He invited participants to attend AfriNIC-8, which is being held in Rabat in June 2008.

Hisham noted outreach activities that had taken place and noted that AfriNIC plan to extend their outreach to areas that have not previously been covered. He also noted training activities that had been conducted in the region, adding that AfriNIC intend to broaden their training scope in 2008.

Hisham gave an update of communication activities, including the outcomes of a member's survey that was conducted earlier in the year.

He also presented policies that had been adopted by AfriNIC and noted policies that are presently under discussion in the AfriNIC region.

He completed his presentation by noting that there will be a member survey in 2008 and informed AfriNIC- participants that AfriNIC will be the secretariat for the NRO in 2008.

To view the presentation, [click here](#) .

#### **iv) Registration Services Report – Ernest Byaruhanga**

Ernest gave an update on membership statistics, ticketed requests, and new membership numbers, noting that there has been an increase in membership which has resulted in an increase in IPv4 allocations. He added that this growth demonstrates the impact that AfriNIC have had in the region. He provided a breakdown of IPv4 allocations within the AfriNIC region, noting the top ten countries that had received allocations.

Ernest noted that there had been 33 IPv6 allocations to date and that nine /32s were allocated in 2007, which was a lot lower than the 19 allocations made in 2006.

He added that presently there had been four 4-byte AS numbers assigned and that two had been returned, also noting that peering tests had been conducted.

Policies that were approved by the community had been implemented, including the 12-month planning window (which was previously a 24 month planning window), IPv6 addresses to end-sites and critical infrastructure (noting that this has not been applied as there have not been any requests), and HD ratio change (from 0.8 to .94)

Ernest also noted that Alain Aina had conducted IPv6 /48 PI prefix-routability tests adding that these tests were successful. He added that further testing will take place in 2008.

Ernest explained that the transfer of early registrations a PI assignments from RIPE NCC were mostly completed and some remaining resources are pending inter-RIR coordination on the procedures.

#### **v) Financial and Administration Report – Adiel A. Akplogan**

Adiel provided a financial update for 2007, second quarter. He noted that this year end users were billed for the first time. He noted that AfriNIC underwent an audit in 2006 and that in February 2007 an interim audit was conducted.

Adiel also note that throughout 2007 AfriNIC had been performing the role of treasurer for the NRO.

#### **vi) Software and Engineering Department Report – Frank Nnebe**

Frank reported that reverse DNS has become automated which will ensure 24 hour service.

He gave an update on Whois database statistics, noting that most of the objects in the database are inetnums, followed by role and person objects. He added that queries had grown and that updates are not so common.

Frank noted current projects include implementation of MyAfriNIC, IPv6 ftp, mail server whois and usage statistics, VOIP which will decrease phone costs and improving reliability robustness and security of Infrastructure

Upcoming projects include Resource certification and routing registry, which will require looking at training that will need to be conducted in the region so that this service will be used

A speaker from the floor asked what the levels of IPv6 usage are at the moment

Frank stated that he will get that information for the speaker.

#### **vii) Conclusion and Closing Remarks - Pierre Dandjinou**

Pierre thanked AfriNIC staff for their effort in enabling AfriNIC 7 to take place. Pierre gave a summary of the main issues that emerged from the meeting. He commented that in general, the AfriNIC community needs to be made more aware of issues and needs encouragement to participate more. He also noted that another focus of the meeting was IPv6, both the transition and implementation.

Pierre then announced that it is also the 10 year anniversary of the concept of AfriNIC, suggesting that some form of celebration should be held. He thanked the other RIRs and a number of people and organisations in the African community for their support during the whole process. He announced that the next AfriNIC meeting will be in Rabat in June 2008 and he encouraged people to attend.

Pierre also announced that the first female member was elected to the AfriNIC board this year.

Pierre Dandjinou then gave closing remarks and said that AfriNIC reached its targets that ICANN set in 2005 and has realized all expectations, the management has been sound, and that the CEO and his staff

have done a good job as it was never easy from the beginning. He said that AfriNIC has to move to further challenges like making sure that the community is much more informed and not just participating so that they can be more active on mailing lists for example. One key challenge - which is in fact the theme of the meeting: Transition to IPv6: The community is looking forward to decision the registries will take. He thanked the other registries for the start-up support given when starting up AfriNIC, then Philip Smith and Jordi Palet for the IPv6 workshops, Francophonie, and the South African Government's DoC plus Uniforum for all the support during the meeting.

Adiel announced that anyone wishing to host an AfriNIC meeting in the future is more than welcome and a call will be posted on the website