



AFRINIC-21 MEETING REPORT

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Executive summary

The AFRINIC-21 Public Policy Meeting was held from 22 to 28 November 2014 at the Hennessy Park Hotel in Ebene, Mauritius. Trainings were conducted from 22 to 25 November and plenaries were held from 26 to 28 November 2014.

The event was hosted and organised by AFRINIC, the Regional Internet Registry for Africa. On an average, AFRINIC-21 was attended by 227 participants. The majority of the attendees were from the Telecommunications sector. Detailed statistics for AFRINIC-21 are available at Appendix A.

Over 170 participants attended (4) days of technical training that included RPKI, DNSSEC, IPv6 Internet Number Resource Management, IXP, Anycast and Cybersecurity.

The AFRINIC-21 plenary sessions discussed Internet Governance, Cybersecurity and Internet Technical and policy issues. AFRICACERT held its Cybersecurity Day on 26 November, a session well attended by participants, including regulators.

The AFRINIC Government Working Group session, also held on 26 November 2014, welcomed 30 participants from ICT Ministries and Regulators in Africa.

AFRINIC-21 was generously sponsored by Microsoft, Google, AfiliAs, ISOC, Ace, DotAfrica, Seacom, ICANN, Orange, Emtel, and l'Organisation Internationale de la Francophonie (OIF).

DAY 1 - 22 November

RPKI Workshop

The Resource Public Key Infrastructure (RPKI) Training got off to a great start, with twenty people (20) in attendance. Given by AFRINIC's very own Alain Aina, Director of Research and Innovation, Amreesh Phokeer, Research & Development Engineer and Logan Velvindron, Research & Development Support Engineer, participants had a chance to learn about Public Key encryption, Public Key Infrastructure, Number Resources certification and Internet Routing Security. The training was held over one day and is part of AFRINIC's knowledge enhancing projects.

IPv6 Workshop

The IPv6 training also kicked off on DAY 1 of AFRINIC-21. Mukom Tamon and Brice Abba from AFRINIC conducted the IPv6 training and shared technical know-how on IPv6 implementation. 14 delegates attended the workshop which will continue through to Sunday 23 November.

AfricaCERT Workshop

The AfricaCERT three-day workshop began at the Hennessy Park Hotel in Ebene, Mauritius, venue of the AFRINIC-21 meeting. The day's training session covered TRANSITS I, an internationally certified introductory course for Incident Response Teams (CSIRT/CERT). Marcus Adomey gave a brief introduction, welcoming delegates to the course, before leaving it with Oliver Caleff, Liaison Officer at the Agence nationale de la sécurité des systèmes d'information (ANSSI), and Koichiro Komiyama of JP CERT/CC, Japan.

For more information on these workshops is available at: <http://meeting.afrinic.net/afrinic-21/en/agenda/agenda>

DAY 2 - 23 November

DNSSEC Training

The second day of AFRINIC-21 Training kicked off with the DNNSEC training course, among others. Trainers Alain Aina, Amreesh Phokeer and Logan Velvindron were back on the training ground. With 18 participants attending this informative workshop on DNSSEC, trainees gained insight on the concept of DNNSEC and related technicalities. Alain and his team also found a very innovative way to explain DNSSEC through role play.

More information on the AFRINIC DNSSEC Service at:
<http://www.afrinic.net/en/initiatives/dnssec>

IPv6 Training

The two-day IPv6 course for Engineers ended today with AFRINIC trainers sharing knowledge on IPv6 implementation. Brice Abba, Trainer at AFRINIC, says that there were many questions during the training. Most of those questions pertained to the technicalities of IPv6 deployment. Trainees also contributed to the course by sharing their relevant work experiences.

More information about the IPv6 Training is available at: <http://learn.afrinic.net/>

FIRE Workshops

The Fund for Internet Research and Education (FIRE) Programme hosted a workshop on the business context of Intellectual Property and its relationship with trademarks and domain names. Mr. Eddie Hurter, Senior Lecturer on Intellectual Property Law at the Department of Mercantile Law of the University of South Africa and facilitator of this workshop, also discussed with the FIRE programme beneficiaries about patent information and its strategic use. Mrs Patricia Senghor, Programme Manager for the FIRE Programme, deemed it necessary for the success of the grantees' individual projects, to offer this workshop through the Seed Alliance Funding. The FIRE programme is a Grants and Awards Programme designed to encourage and support the development of solutions to information and communication needs in the African region. 15 grantees and awardees from the 2013 and 2014 rounds of applications participated in this workshop.

More information on the FIRE programme is available at: <http://www.fireafrica.org/>

AfricaCERT Workshop

The AfricaCERT Workshop entered its second Day. The day's course went more into depth on the technical module of TRANSITS 1 and was attended by 29 participants.

Day 3 - 24 November

INRM Workshop

The Internet Number Resource Management (INRM) Training gave participants an insight on the role of AFRINIC, the principles of INRM and the functionalities of the Whois. The course was conducted by AFRINIC Trainer Brice Abba and IP Analyst Keesun Fokeerah. 18 delegates attended the course including the ICANN At-Large-Advisory Committee (ALAC) representatives, benefitting from a better understanding of how number resources are managed.

FIRE Workshop

The FIRE Workshop on Intellectual Properties ended with a last round of discussions on copyrights and licensing issues. FIRE workshop participants will present their projects on 25 November, sharing their experiences and challenges in implementing their ideas.

AfricaCERT Workshop

The 3-day AfricaCERT Workshop ended on 24 November, with a session on the organisational, operational and legal issues involved in handling computer security incident. The practical side of the workshop covered PGP Public Key Signing Party. PGP allows encryption and signing of messages whereas Public Key Signing Party adds to security and enhance privacy.

For more information on CERT, please go to <http://www.africacert.org/>

Anycast Training

Nishal Goburdhan from Packet Clearing House introduced the concept of providing services via anycast. The workshop discussed what types of services are best suited for anycast and how one goes about implementing it. The workshop talked about the benefits of anycast deployment and the historical success of anycast deployments, particularly in regards to DNS.

IXP Training

The session discussed how Internet Exchange Points (IXP) help to lower traffic costs and increase network performance. It also covered other critical infrastructure typically located at an IXP (i.e., root servers and ccTLD nameservers).

Day 4 - 25 November

Thirteen (13) FIRE Programme participants shared and discussed on their projects,

Dr Viv Padyachy discussed his project which is to develop a proof of concept (POC) for an affordable method of monitoring ground level of Water resources in remote areas in Africa

Bernard Adongo (Kenya) CEO NikoHapa Ventures Ltd talked about NikoHapa, a customer engagement platform.

Oluwaseun Fakuade made a presentation on the Jasi-Citizens Jury, a project developed by Beacons Development, Foundation Nigeria. The aim of this project is to development of an application designed to drive participation amongst citizens across communities to allow them participate actively in the process.

Sandy Cardoso from Competences Ltd comes from Cape-Verdes island. Sandy presented on her project Bodiel on the production of a TV game show to educate youth on the proper use of the Internet.

Vename is a project which aims at promoting African cctlds through a web interface by Monthe Djombissie

Ian Mutamiri presented Nativ a project that teaches young people in Zimbabwe how to read Shona.

Majdi Calboussi shared his project on the provision of an online store offering various ecotourism products in Tunisia.

Reginald Nalugala from Asonga Kuchio Foundation talked about "Use of ICT in a safe and secure cyber environments". His project aims to empower children with online safety knowledge to recognise and optimise their full potential using technology.

Emilia Monteiro Tavares from University Jean Piaget of Cape Verde talked about the development of a mobile application to provide touristic information.

Amos Wussah from (Farmerland Ltd) Ghana spoke on the development of a mobile technology platform which provides services to farmers to enable them have relevant and timely agricultural information and market access.

Ana Carina Apoque through her project Bodiel on the production of a TV game show to educate youth on the proper use of the Internet , based on its culture and the popularisation of its applications

Isaya Opondo from Synergy Informatics gave a presentation on his project on Integrated Management System for Continuous Medical Education

Rainatou Sow from Make Every Woman Count (MEWC) shared her project about Empowering African Women and Girls through the use of informative and interactive online resources.

JPCERT Day

Koichiro "Sparky" Komiyama deputy director of Global Coordination Division, JPCERT/CC conducted the JPCERT Training training on 25 November. Since June 2014, he also serves as

board member of FIRST. Since Afrinic-12 in Rwanda, JPCERT has a delivered security training program in Africa including network forensics, malware analysis. Koichiro "Sparky" Komiyama was assisted by Toru Yamauchi (JPCERT).

The JPCERT day focused on how to respond when a web server is hacked. In training, participants learned HTTP Protocol basics and attack mechanism such as SQL Injection by lecture. In the afternoon, participants also examined the web server log files to detect any problem and to understand how/why/when an incident take place.

Olivier Callef from CERT-FR assisted for French speaking participants,

Welcoming Cocktail

The Welcoming Cocktail took place at the Backstage in Hennessy Park Hotel. Adiel Akplogan, AFRINIC CEO and Badru Ntege, AFRINIC Vice Chair welcomed the delegates at the social event. Delegates enjoyed and chatted in the relaxed setting with nice music, and some drinks and snacks.

Day 5 - 26 November

Newcomer's sessions

The session offered an understanding of what the Internet ecosystem means and stands for, and the organisations involved in the development and provision of the Internet in Africa. Issues such as Internet numbers, their provision and management, policy contents and names, research, infrastructure, capacity building, and security among others will be discussed as a way of helping newcomers and interested individuals what our meeting offers and achieves.

Brice Abba, Vymala Thuron, Radha Ramphul and Amreesh Phokeer from AFRINIC conducted the session.

Official Opening Ceremony

Adiel Akplogan CEO of AFRINIC welcomed the audience to the beautiful island of Mauritius. Mr Akplogan thanked everyone for attending the 23rd AFRINIC PPM. Mr Akplogan in his speech thanked the Government of Mauritius for supporting the incorporation of AFRINIC in Mauritius in 2004. Sunday Folayan AFRINIC Chair was next on the protocol and shared with everyone the humble beginnings of AFRINIC as an organisation and its tremendous progress across the years. Sunday paid tribute to the departing AFRINIC CEO Adiel Akplogan, also one of the founders of AFRINIC and the audience responded with a very warm standing ovation given to Adiel Akplogan in recognition to his great leadership and achievement. HEM T.K Pillay, Minister of ICT Mauritius concluded the official ceremony and highlighted the critical role that AFRINIC plays in the region and shared key ICT development initiatives in Mauritius.

AfricaCERT Cybersecurity Day

Following the opening ceremony, Jean Robert Hountomey (AfricaCERT) welcomed everyone in attendance to the AfricaCERT cybersecurity Day. This Day was dedicated to discussing cybersecurity issues. He introduced the first speaker, Don Stikvoort who gave a presentation on "Game Over. Incident Management in a Changing World".

Don talked about the upcoming challenges in the cybersecurity world. Don gave his views on the future of cybercriminality and the relationship between cybercriminality, and the three levels of power which he elaborated on. Don proposed that training more engineers in cybersecurity, and promoting information sharing among the various CERTs will help in eradicating existing cyber threats in the world.

The next presentation was made by Olivier Caleff, from CERT-FR on "Information sharing for cyber-defense actors". Olivier who was also a trainer for the CERT workshops, said that Internet users have a lot of information which they can share with CERT teams. On the other hand CERT teams need to establish standard protocols for information sharing such as TLP protocols, STIX models, TAXII taxii.mitre.org, OpenIOC, MISP github.com/misp, CIF collective Intelligence Framework and Cybox.

Olivier concluded that information sharing is based on trust and it is important.

The third presentation was a cybersecurity update by the ITU representative. ITU's mandate was highlighted and consists of building trust and security around the use of ICT. The key statistics on cybersecurity and capacity building initiatives such as the implementation of CIRT

National Programme were also presented.

Before lunch Koichiro Komiyama from JPCERT gave an overview of the APCERT, its mission, vision and functions. Koichiro also known as Sparky called for a greater involvement of African CERTs towards AfricaCERT.

The next presentation was made by Giampiero Nanni, from Symantec Corporation titled "Towards a robust and uncompromising security posture. The policies for the Cyber-Security journey". The works of Symantec were highlighted in the areas of policies/legal/regulatory, and protecting critical infrastructures. The presentation ended with symantec's perspective on cyber threats in Africa.

Inspector Gangalaramsamy Narayan LEA coordinator for Africa-CERT then spoke on identifying areas of collaboration between CERT & LEA to combat cyber criminals. Narayan said that the socio-cultural aspect of cybercrime cannot be ignored in this fight. Foy Shiver (Deputy secretary general of APWG) spoke on Building a Unified Response to Cybercrime followed by Dr. Kaleem Ahmed Usmani, Officer-In-Charge, CERT-MU who gave a presentation on Building a National Cybersecurity Strategy for Mauritius.

Kevin Chege, from ISOC spoke on IGF Anti-Spam Best Practices and the fight against spamming. Kevin defined the role of governments, ISPs, and end-users in the fight against spamming and encouraged participation in events such as the IETF working groups. Prof Nabil Sahli then addressed the issue of building a robust security architecture, with open-source tools and discussed whether it is possible to create a secure network using open source tools.

Prof Benoit Morel from Carnegie Mellon University spoke on cybersecurity challenges faced by AfricaCERT and highlighted the importance of African CERTs and FIRST in their respective roles. Prof Morel provided some statistics of Internet penetration for African countries concluding that Africa has a high level of Internet penetration. As a result Prof Morel stated it is high time for Africa to enforce its security and to start adopting best practices.

Logan Velvedron from AFRINIC concluded the panel discussion with his presentation on Protecting BIND Server in a hostile environment.

The last presentation for the AfricaCert cybersecurity Day was done by Jean Robert Hountomey who gave an update on activities by incident response and security teams under FIRST (the Forum of Incident Response and Security Teams).

The video archives are available online at: <http://meeting.afrinic.net/afrinic-21/en/vod>

AfGWG-10

The AfGWG Meeting was well attended with about 30 participants from ICT Ministries and Regulators in Africa. Many of the regulators were already present at AFRINIC-21, benefitting from an AfricaCERT and Cybersecurity workshop, which all the more facilitated their participation at the AfGWG.

Points of discussion included the IANA Stewardship Transition and the ICANN Accountability Process. Mr. Adiel Akplogan, CEO of AFRINIC, gave an overview of the IANA proposal process both from the global and regional perspectives and highlighted the importance of governments' involvement in this multistakeholder process, noting that the Government Advisory Council (GAC) and the IANA Coordination Group (ICG) had a strong African

representation. The participants also had a chance to put their concerns on the agenda for discussion, mainly issues of certain transactions by clients (end users) being blocked because of the origins of IP addresses used. This sparked the debate on the importance for governments to request for their own IP block for the stability and security on their networks, and the advantage of participating in policy discussion revolving around IP management.

The meeting continued with discussions on how to improve AFRINIC's partnership with governments, as the AfGWG is the first initiative set up for this purpose. The many challenges faced in developing a stronger collaboration with governments were debated in addition to the strategy to adopt for AFRINIC to increase the engagement of governments with the Internet community. There was emphasis on the fact that engagement groups such as the RALO's and ALAC existed and needed the participation of governments.

In conclusion, Mr. Mukom Tamon, AFRINIC's Head of Capacity Building and Community Development, also gave a brief overview on the need to deploy IPv6 in Africa and how crucial it was to involve governments and regulators in this effort. Tailor-made training for governments and regulators will be made available at the regional level upon request.

Sponsors cocktail

A sponsors cocktail organised at Hennessy Park hotel concluded the day. All our sponsors were invited for a party in a cosy setting. AFRINIC Chair Sunday Folayan made a welcome speech and thanked all AFRINIC-21 sponsors present and invited our sponsors to continue to sponsor the AFRINIC Meetings for many years to come. AFRINIC CEO Adiel Akplogan also addressed the invitees and thanked them for their valuable support and contribution to AFRINIC-21.

Souvenirs were then given to our sponsors as a token of appreciation.

Day 6 - 27 November

Pierre Djandjinou, ICANN VP presented the ICANN Africa Strategy Review Report. The strategy focused on mainly increasing African participation to ICANN activities and reinforces ICANN presence in Africa.

Over the past two years, the Africa Strategy Working Group (ASWG) came up with the Africa Strategy Review ver1.0, which is being implemented through several projects such as the Africa DNSSEC Roadshow, Africa ccTLD study jointly with ISOC and AfTLD.

Pierre Djandjinou concluded his intervention by inviting the African community to share its inputs and contributions to the Africa Strategy ver 2.0 document.

ICANN IDN program and IDN Africa project Overview by Yaovi Atohoun

Yaovi presented the ICANN Internet Domain Name (IDN) program, which consists in among others:

- ☒ **Label Generation Ruleset (LGR)** which determine validity and variants of an IDN Label For The Root Zone
- ☒ **IDN Fast Track Process Implementation**, which assists IDN ccTLD string evaluation fore eventual delegation
- ☒ **IDN implementation Guidelines**, which promotes IDN registration policies and practices to minimize application rejection

Yaovi Atohoun recalled that many efforts carried out since 2011 to implement the IDN TLD labels in several languages.

To conclude, on behalf of ICANN, Yaovi Atohoun calls upon the contribution of the African Internet community to join and work on the IDN TLD Label so that any language can benefit from Internet development.

New gTLD Program by Bob Ochieng:

Bob Ochieng presented the history of the gTLD recalling that the first gTLD was introduced in 1998 (with 8 top level domains).

ICANN created the GNSO in charge of working on the policies and procedures to efficiently manage gTLD.

In January 2012, GNSO came up with the Applicant Guidebook, which to outlines processes for gTLD applications.

With regard to the low number of gTLD applications received from Africa, a call was launched to the community urging more Africans to take part in the new gTLD process.

Bob Ochieng concluded that these are the new challenges which Africans can seize for social and economic development in our region.

Presentation of SO/AC: AFRALO, GAC activities by Aziz Hilali and Tijani Ben Jemma

Mr Hilali shared with the community the activities being run by AFRALO, representing the African Internet community at large in ICANN.

Once again, with regard to the low participation of the African Internet community at the Internet Governance Forum, a call has been addressed to African Internet community to be more involved in the Internet governance policy process.

For this purpose, AFRALO has set a task force to mobilise the African community to fulfill ICANN leadership positions.

Mr Ben Jemma again encouraged the African community to apply for the upcoming nine ICANN open positions in 2015.

IANA Oversight Transition Panel

The panel was chaired by Adiel Akplogan, CEO of AFRINIC. Adiel explained the main IANA functions and said that from the RIR perspective we need to focus on the number side of the Oversight after the withdrawal of NTIA. The role of the CRISP team which has one and a half month to come up with a proposal as the consultation period ending 15 January was highlighted. AFRINIC's role in the process was also highlighted. The results of the Oversight survey report in the AFRINIC service region was then presented by Adiel.

Adiel invited the members of the panel to briefly give their views on the IANA Oversight Transition.

The panel consisting of Mouhamet Diop (Khewuel), Seun Ojedeji (CRISP), Paul Rendek (RIPE NCC), Elise Gerich (IANA), Dr Nii Quaynor, (AFNOG), Andres Piazza (Lacnic), Daniel Karrenberg (RIPE NCC) and Alan Barrett (CRISP) gave an update from their perspective.

Technical Presentations

Eddy Winstead from ISC (Internet Systems Consortium) gave a presentation updating delegates on ISC, F-Root, BIND and DHCP. Eddy provided an overview on ISC and presented the relevant statistics on F Root in Africa, ISC Open Source with updates on BIND roadmap and BHCP.

Dr Nii Quaynor, AfNOG convener, presented on "A Network Performance Index" explaining how he modeled and analyzed data published by the NCA on congestion and call drop in various mobile networks. Dr Nii Quaynor investigated what relationship, if any exists in the networks between call drops and congestion in the infrastructure.

Jan Zorz (ISOC) and Douglas Onyango (ISOC Uganda Chapter) gave their presentations on BCOP (Best Current Operational Practices). Their presentation stressed on the BCOP document and implementing new technologies like IPv6, RPKI, DNSSEC and others based on best practices. Jan gave a global update and Douglas who provided an update from Africa.

AFRINIC Services Update

Sunday Folayan (Board chair) presented the current board members and its structure, the sub-committees, the meetings held in 2014 and 2015-2019 strategic plan. In addition, he gave an update on the CEO's recruitment processes, committees and recruitment timeline.

Arthur Cardinal (Head of Member Services) informed on the key objectives for 2014 which included the new membership process/trend ISO 9001, survey results, IPv4 allocation distribution and service delivery tools improvement.

Madhvi Gokool (Registration Services Manager) presented her team and gave an update on resources requests, ISO certification, and audit processes in the Registration Services. Some statistics on our resource pools and issued IPv4 were also provided.

On the Finance side, Patrisse Deesse (Finance and Account Director) presented his team, and discussed the strategic plan, billing 2014 exercise, ISO 9001, audit activity, budget 2015, change in currency and travel management system. He ended with the current achievements and highlights.

The HR update by Christian Fanchette (Director Human Resources and Administration) talked about the HR objectives, recruitment & staff, ISO 9001, 360 degree training feedback, soft skills training for 2015 and other ongoing projects.

Gaelle Fall (Head of Communications and PR) introduced her team and 2014/2015 objectives and the processes recommended for ISO 9001 like event, content, branding and quality objectives. Gaelle then spoke about Marketing/PR, FIRE programme, Events and participation as well as various publications. She ended with the AFRINIC-10 anniversary update.

Neriah Sossou (Head of IT and Engineering) discussed about his team 2014 objectives and updated on various projects about virtualisation, redundancy plan, community lab, mail/ mailing list management, DNS initiatives, NMRP2.0, SDMS, WHOIS 2.0 and IRR among others.

The slides of all these presentations can be accessed at: <http://meeting.afrinic.net/afrinic-21/en/agenda/agenda#day-5-27th-nov>

The video archives are also available online at: <http://meeting.afrinic.net/afrinic-21/en/vod>

Gala Dinner

The social gathering at Les Ruines du Maritim was the occasion to commemorate the departure of AFRINIC CEO Adiel Akplogan. Members of the AFRINIC Board, staff and the community shared anecdotes about Adiel, their special moments and experiences. There was also a nice meal and dancing later that evening.

Day 7- 28 November

The morning session was about the global updates provided by the RIRs, IANA and the NRO.

The first update was done remotely by George Kua Emole for APNIC, ARIN did not attend the event, LACNIC's presentation was done by Andeas Piazza, Axl Pawlik for RIPE NCC, Elise Guerich for IANA, Alan Barrett for the ASO and Adiel Akplogan for NRO.

The Policy session was held from 11:00 to 18:00. The co-chairs were Seun Ojedeji and Adam Nelson and was divided into sessions as follows.

- The Policy Development Process (PDP)
- Policy Implementation Status Report
- Summary of proposals under discussion in AFRINIC
- Summary of Interesting proposals in other regions
- Resource Policy Manual (RPM) Status Report
- Proposal: Out-Of-Region Use of AFRINIC Internet Number Resources
- Proposal: AFRINIC *whois* Database Update Process
- Proposal: *anycast* Resource Assignments in the AFRINIC region
- Proposal: Resource Reservation for Internet Exchange Points
- Proposal: AFRINIC Service Guidelines
- Policy implementation experience report
- Open Microphone

The outcome of the policy discussions and minutes for the above sessions are published at: <http://www.afrinic.net/en/library/policies/archive/ppm-minutes/1273-pdp-minutes>

2014 ASO-AC Election

AFRINIC-21 was concluded by the 2014 ASO-AC Election. Douglas Onyango, Gregoire Ehoumi and Wafa Dahmani who attended AFRINIC-21 addressed the delegates through a brief introduction of themselves following which the election took place.

Douglas Onyango from Uganda was elected to the vacant seat.

The slides of all these presentations can be accessed at: <http://meeting.afrinic.net/afrinic-21/en/agenda/agenda#day-5-28th-nov>

The video archives are also available online at: <http://meeting.afrinic.net/afrinic-21/en/vod>

Appendix A

AFRINIC-21 Statistics



AFRINIC-21 Sponsors



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SPONSORS



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