AFRINIC
The Internet Numbers Registry for Africa

Tunisia to host AFRINIC-29 Public Policy Meeting

AFRINIC is holding the 29th edition of its meetings from 26th-30th November 2018 in Hammamet, Tunisia. AFRINIC-29 is unique forum for the intersection of Internet development and advocacy providing an opportunity to strengthen policies and promote technical discussions, ensuring an evidence-based response to Internet issues in Africa.

AFRINIC-29 will serve as an occasion to intensify commitments from governments, the private sector, civil society and academia, amongst others toward the growth of Internet in Africa. The event will consist of a comprehensive fellowship programme that ensures small organisations are well represented at the gathering.

The Meeting will give participants the opportunity to learn from peers, share knowledge and discuss on relevant ICT topics. Participants will learn more about the strategies driving IPv6 deployment throughout the continent. Technical sessions will show in depth how Africa is performing in Internet infrastructure growth while ensuring low cost, resilient and secure Internet access as well as keeping content and traffic local. AFRINIC-29 will hold plenary sessions and comprehensive training workshops organised by AFRINIC, on managing Internet Number resources and the WHOIS, and AFRINIC's signature IPv6 Deploya-thons. Open sessions on the importance of keeping the Internet affordable and always on are sessions to watch out for. Part of the conference will enhance knowledge on cyber crime, DDoSs and shutdowns, moreover very importantly, harnessing the power of the Internet to help end poverty and ensure prosperity in the region.

HAMMAMET

AFRINIC 29

26-30 NOVEMBER 2018

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meeting.afrinic.net/afrinic-29

www.afrinic.net

Names, Numbers and Standards Demystified

A panel discussion at the International Telecommunication Union Annual Regional Human Capacity Building Workshop in Abuja, Nigeria.

The International Telecommunication Union Annual Regional Human Capacity Building Workshop took place in Abuja Nigeria. The event themed, "Strengthening Capacities in Internet Governance in Africa", addressed pressing issues regarding Internet governance at a regional level. The workshop also addressed the challenges associated with the growth of the internet, and capacity development issues in the African region.

This is the second edition in a series of regional internet governance capacity development events organised by the ITU Telecommunication Development Bureau in partnership with DiploFoundation and APC's African School on Internet Governance, and hosted by the Digital Bridge Institute (DBI) of Nigeria -the training arm of the Nigerian Communications Commission (NCC).

Among the panellists was AFRINIC's CEO, Mr. Alan Barrett who urged all stakeholders to deploy IPv6 emphasising Africa's lagging behind the rest of the world in IPv6 deployment. Mr. Barrett explained the ecosystem of the number protocols, highlighting the mechanisms of their distribution multi-stakeholder and policy development processes. He also highlighted the underlying technological challenges in Africa such as Internet performance, keeping Internet traffic and content within the African region.

''With approximately 100 million IPv4 addresses for a population of 1.2 billion, Africa's IPv4 stock is almost exhausted. IPv6 represents the future of the Internet '' underscored Mr. Barrett.

Prof. Umar Danbatta, Executive Vice Chairman, Nigerian Communications Commission, in the opening address called on stakeholders in the telecommunication sector to put in place right polices to fast track digital growth in Africa.

Annual Regional
Human Capacity Building
workshop
Abuja, Nigeria.

Insight into Registration and Membership Statistics 2018

The allocation statistics for our membership and Internet number resources are trending upwards as we gear through the last quarter of this season.

Since inception AFRINIC has allocated more than 112 million IPv4 addresses and issued a total of **9,239 /32s** IPv6 prefixes with the impending IPv4 exhaustion we are left with 7.3 million IPv4 addresses. AFRINIC also issued a total of 1709 ASNs since inception.

AFRINIC allocated 3.4 million /48 IPv6 addresses to its members since the beginning of the year additionally to over 5.9 million IPv4 addresses and 127 ASNs. Interestingly this is lower than last year for the same period that was around 7 million. This trend however was expected considering that the soft landing policy is in force.

AFRINIC welcomed 123 new members and is now slowing approaching its annual target of 160.

42% of our new membership has come from South Africa. Our global membership portfolio states a total of 1634 members with 28% membership from South Africa, followed by Nigeria 10% and Kenya 6%.

AFRINIC's service satisfaction survey revealed some promising statistics for our Customer Services Department. 71 % of the service requesters are satisfied with our speed of response while 74% appreciated our professionalism. Furthermore 66% of the same respondents find our staff accurate and 69% of them like our friendliness and 67% assess us caring and attentive.

AFRINIC's member contact accuracy levels up to 91%, as of end of September, with correct admin contact updated for 1489 members out of 1634.

AFRICA
INTERNET
SUMMIT'19
KAMPALA - UGANDA
9 - 21 JUNE 2019

internetsummit**.africa**

The WIDER Platform Explained

WIDER short for World InternetData ExploreR is a collaborative data-driven web portal that provides information for analysing data such as Internet access, infrastructure, market share and performance.

WIDER consists of many interesting features and uses datasets from APNIC Labs for IPv6 penetration and market share, in addition to country population data from the World Bank and AS classification data from CAIDA – Center for Applied Internet Data and Analysis.

WIDER intends to become a data repository of various open internet datasets from various data measurement platforms. WIDER is also bestowed with the capacity to visualize data from bespoke measurements campaign coming from the academic community displaying longitudinal graphs showing trends of IPv6 uptake, and within the context of IPv4 depletion, decreases in allocation of IPv4 address blocks.

AFRINIC was invited to present the online platform at AfPIF 2018. WIDER is a joint project by AFRINIC, ISOC-ZA and VANILLA.

wider.isoc.org.za

AfPIF 2018 took place in Cape Town South Africa.

AFRINIC Releases New Version of Internet Routing Registry

Keesun Fokeerah from AFRINIC's Registration Services presented an update on AFRINIC's Internet Registry at AFRINIC-26 in Nairobi Kenya.

AFRINIC has released a new version of its Routing Registry Service. This new version has removed the need for the ASN holder to authorise route or route6 objects.

Previously, route and route6 objects had to be authorised by both the holder of the IPv4 or IPv6 address space, and the holder of the ASN. In the case that the ASN and the address space were held by different organisations, then there was a process for semi-authorised objects to be held for seven days pending complete authorisation. In the case that the ASN was not issued by AFRINIC, then HostMaster staff had to authorise the route or route6 objects.

After discussion in AFRINIC's database working group http://bit.ly/dbwg-list, and checking the practices of other Internet Routing Registry services, AFRINIC has decided to remove the need for the ASN holder to authorise any route or route6 objects in the AFRINIC IRR. The route or route6 objects still need to be authorised by the address space holder, using the password associated with the mnt-routes or mnt-lower fields

in the associated inetnum or inet6num object. The address holder is responsible for maintaining the accuracy of the route(6) objects in the AFRINIC IRR. These changes have been reflected in the updated version of the AFRINIC Internet Routing Registry Guide. http://bit.ly/irr-guide

From September 2018, the RIPE NCC database no longer supports the creation of route(6) and aut-num objects that refer to out-of-region resources. AFRINIC membership who were using this RIPE NCC service has been requested to move their route objects in the AFRINIC IRR.

Over 60 members have adopted the AFRINIC IRR in the period August-September and 32% of the AFRINIC membership is currently using the AFRINIC IRR.

AFRINIC encourages its members to continue to move their route objects its IRR and give their feedback on the service via the survey link they received upon resolution of their ticket.

The new version of Routing Registry Service is available here: http://bit.ly/afrinic-irr

Migrate to **AFRINIC IRR**

CHANGES AHEAD

RIPE NCC IRR
ROUTE
6
OBJECTS
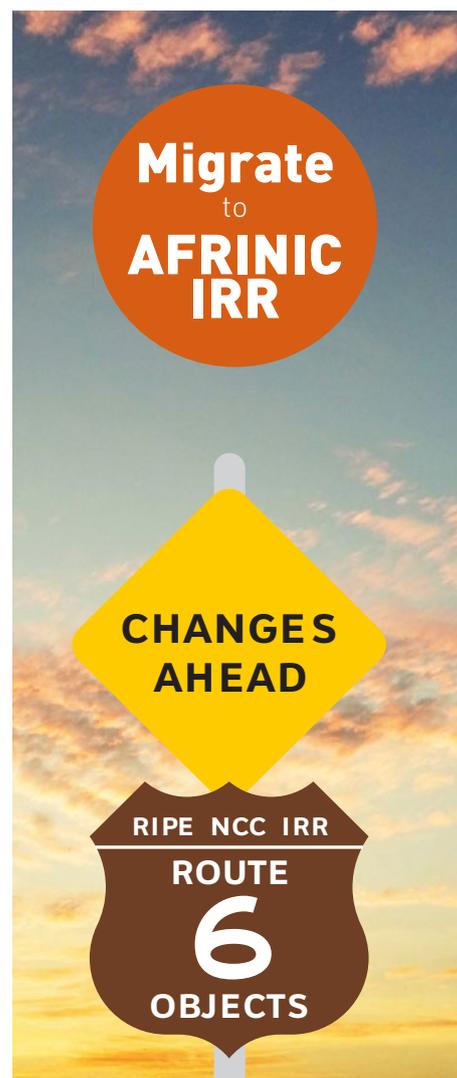
Checks at AFRINIC reveal 40,000 Domain objects with Lame Delegation Record

Delegates following Policy session during AFRINIC-27 in Lagos

Around 40,000 domain objects have been identified with lame delegation record in the AFRINIC database. However current record in October shows the number has slumped to 25,000 after checks have been carried out and members notified. This follows the implementation of the "Lame Delegations in the AFRINIC reverse DNS" policy.

The policy "Lame delegations in AFRINIC reverse DNS" was ratified on 21 March 2018.

The policy ensures that lame delegations appearing in the reverse DNS are acted upon by equipping the WHOIS with automatic checks, notifications to admin-c, tech-c and zone-c contacts of domain objects and removal of lame delegations after 30 days.

On day 1 of every month, a fresh scan of WHOIS domain objects is performed and checks made for lame delegations. During the next 30 days, multiple lameness checks are performed. Up to 4 notifications are sent to admin-c, tech-c and zone-c contacts of domain objects with lame delegations as long as the lame dele-

gations are detected, allowing them to act upon them.

AFRINIC has published a manual for members to act on the lame delegations. At the end of the 30-day period, remaining lame delegations are automatically removed from the WHOIS. Read the Manual here:
http://bit.ly/lame-delegation

These features have been deployed in the WHOIS.

Engagement Sought on future Address Supporting Organisation Structure

The AFRINIC community has been invited to comment on the future structure of the ASO on the community-discuss mailing list as part of an ASO review consultation process.

AFRINIC's representatives on the ASO AC/NRO NC, Fiona Asonga, Omo Oaiya and Noah Maina, have lead a

community process to develop AFRINIC's response to the ASO review.

The feedback on the ASO Review report outlined 18 recommendations that the NRO has resolved to accept. One of the recommendations instructed a public consultation, involving the five RIR communities, to determine the future structure of the ASO.

Noah Maina ASO AC representative for the African region at AIS'17 in Nairobi, Kenya

New KSK Roll Over flagged off in October

AFRINIC's Amreesh Phokeer presenting on DNSSEC Key Rollover at SAFNOG-4 in Tanzania.

DNS Resolver operators need to proceed with updating the configurations of their resolver software with the new key KSK-2017 as the rollover is scheduled for this October following its postponement last year. The new KSK-2017 has been heralded as the replacement for KSK -2010 for DNSSEC validation.

The updates can be done either manually or automatically through RFC 5011, which instructs resolvers to download the latest trust anchor to obtain this latest KSK.

Statistics for Africa reveal 102 ASN (6.1%) in 28 countries are operating at least a resolver reporting only KSK-2010. The total number of unique IP addresses reported is 1,776, including 7 IPv6 addresses, corre-

sponding to DNS resolvers in those networks.

Statistics also appraise that South Africa has the most number of ASNs reporting trust anchor details to root servers, followed by Nigeria, Ghana, Kenya, Egypt and Sudan. With regards to the number of unique resolvers identified, Nigeria has 810, Ghana has 311 and Morocco has 143.

Boost Your Career with an AFRINIC IPv6 Certification

AFRINIC's renowned program, certi:6, recently acclaimed its first awardee from Mauritius. Mr Clarel Catherine from the University of Technology Mauritius had the following to say after receiving the IPv6 certification award (Gold).

"I will be practising extensively on GNS3 as from today and I am looking forward to other trainings offered by AFRINIC during the course of this year. I seize the opportunity to also thank Stephen and Bashir for working with us during the one-week training. If universities get on board with IPv6, the country will soon follow!" Mr. Clarel Catherine -University of Technology Mauritius
AFRINC's certi6 program falls under the prestigious IPv6 Forum certification program and includes a written exam. The program helps engineers acquire the knowledge and skill
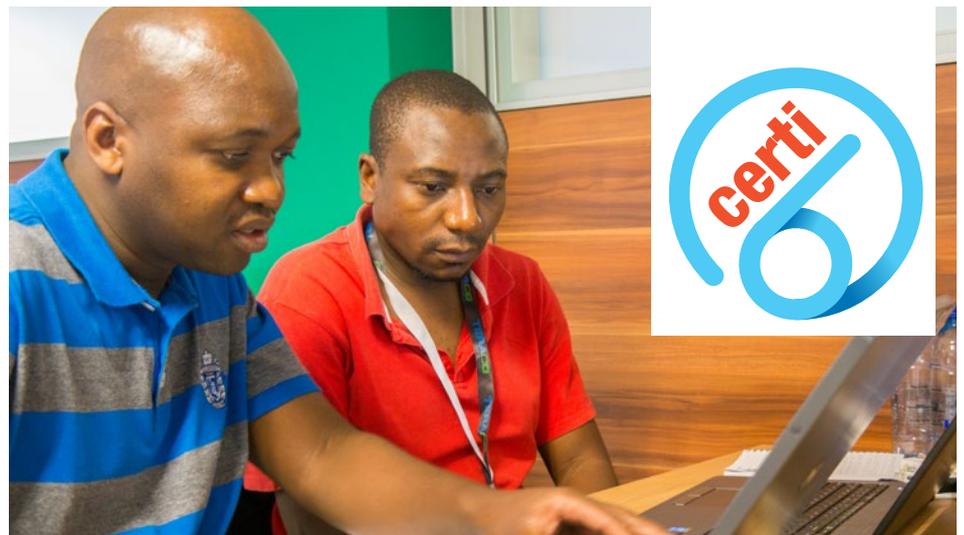
required to plan, design, configure, manage and troubleshoot multi-vendor IPv6 networks. AFRINIC partners with several organisations to conduct these examinations in Africa.
The certification has two levels, silver and gold, targeting networking security and system engineers.

The Campus Numérique Francophone de Yaoundé in Cameroon partners with AFRINIC to conduct the examination under AFRINIC's IPv6 Certification Program certi:6

Fostering participation in the regional and global policy discourse through AFRINIC's Fellowship Program

AFRINIC-27 Fellows during the AFRINIC-27 Public Policy Meeting held in Lagos, Nigeria.

AFRINIC fellowship program fosters understanding and participation of the African Internet community in AFRINIC's policy development process. Fellows use this opportunity to share and contribute to their respective communities on what they have learnt at an AFRINIC meeting.

This year thirteen fellows from Africa have been selected for the AFRINIC-29 fellowship program.

Andrianisa Pascal Heriliva	Madagascar
Ngassa Monkam Epse Fon Nsoh Sophie	Cameroon
Mamothokoane Tlali	Lesotho
Caleb Olumuyi-wa Ogundele	Nigeria
Yasmine Bilkis Ibrahim	Sierra Leone
Eric Kimathi Mwobobia	Kenya
Musafiri Fabrice	Rwanda
Nitin Kelawon Sookun	Mauritius
Noha Ashraf Abdel-baky Salama	Egypt
Leghis Cherkaoui	Morocco
Cheikh Boubey	Mauritania
Abidi Souad	Algeria
Serge Parfait Goma	Republic of Congo

The selected fellows will be travelling to AFRINIC-29, in Hammamet Tunisia from 26 to 30 November. AFRINIC Fellows will be representing their respective organisations and will be actively contributing through their participation. They will be exposed to relevant topics of discussion such as IP address management, policy development, Internet governance, internet infrastructure development and more. The next round of the fellowship program will start next year for AFRINIC-30 to be held in Kampala Uganda.

Congratulations to AFRINIC -29 Fellows.

FIRE Grants and Award Winners 2018 Announced

The FIRE Africa Grants and Awards Program rewards projects that indicate the potential to bring change and empower unprivileged communities in Africa.

The program endeavours to help those initiatives providing them with the knowledge, tools and contacts needed to advance through institutional support and capacity building.

The projects selected this year are:

1. Rosalia Health Innovation Team from Tanzania for the project Linking Gender-Based **Violence victims to the special services using mobile phone apps**
2. Shule Direct from Tanzania for the project **Ndoto App**
3. Empower youth in Technology from Uganda for the project **Stimulating innovation and entrepreneurship among women in ICT sector.**
4. Mashinani Hub from the Democratic Republic of the Congo for the project **Mobile Solar Labs.**
5. NetPoints Limited from the Democratic Republic of the Congo for the project **Solar Powered Internet Kiosk.**

Rosalia Health Innovation, Shule Direct and Empower youth in Technology will each receive funds of USD 11,000 whereas Mashinani Hub and NetPoints Limited will each be awarded USD 15,000.

The FIRE Grants program received 106 submissions from 17 countries in Africa.

The 2018 FIRE Awards program has selected the project **C.L.E (Cours en Ligne à l'Ecole) from Senegal** in the category ''Internet for Social Inclusion and democratization of access and the use of ICT.''

The project focuses on setting up a distance learning system. This device set up by the Association of Support to Science and ICT (AASTIC) is intended for teaching and learning activities in the context of online tutoring for middle-secondary.

The FIRE Awards recipient will be receiving a $3000 cash prize and will have flight and accommodation costs covered for the IGF meeting hosted by the Government of France at the headquarters of UNESCO in Paris from 12 to 14 November 2018.

The FIRE Awards program 2018 received 14 applications from 9 countries in Africa.

FIRE
www.fireafrica.org

seed @lliance

The FIRE programme is a proud member of the Seed Alliance, helping ideas to grow.

AFRINIC represented at events July – September

AfPIF 2018
21 – 23 August 2018

AFRINIC participated at The African Peering and Interconnection Forum (AfPIF)2018 as a silver sponsor and made two presentations on the WIDER platform and the AFRINIC Internet Routing Registry. The event was held from 21 – 23 August 2018 in Cape Town, South Africa.

AfPIF addresses the key interconnection, peering, and traffic exchange opportunities and challenges on the continent and provides participants with global and regional insights for maximising opportunities that will help grow Internet infrastructure and services in Africa.

SAFNOG 4
24 – 29 September 2018

AFRINIC participated actively at SAFNOG-4 as a bronze sponsor and which was held in Dar es Salam, Tanzania from 24 – 29 September 2018.

AFRINIC intervened in several panels on the agenda that included; Dealing with the recent Routing Registry Changes, DNSSEC Key Rollover, Should Africa Stop Investing In Europe, Advances From IPv4 Brokers, Internet Number Resources Update and add IPv6 Deployathon.

SAFNOG is a discussion forum for building and sustaining regional communities for matters specific to infrastructure development in the specific sub-region.

IETF 102
14 July to 20 July 2018

AFRINIC participated in the Number Resources Organization Engineering Coordination Group Meeting held during IETF 102. The event was held in Montreal Canada from 14 July to 20 July.

The Internet Engineering Task Force (IETF) is a large open international community of network designers, operators, vendors, and researchers concerned with the evolution of the Internet architecture and the smooth operation of the Internet. It is open to any interested individual. The IETF Mission Statement is documented in RFC 3935.

ITU Annual Regional Workshop
27-29 August 2018

AFRINIC was represented by CEO Alan Barrett who presented on the topic of ''Names, Numbers and Standards – Technical and Policy Aspects'' at the ITU annual regional human capacity building workshop on "Strengthening capacities in Internet governance in Africa" held in Abuja, Nigeria, from 27-29 August 2018.

Alan Barrett made a presentation on the topic of Names, Numbers and Standards – Technical and Policy Aspects.

The workshop was organized by the ITU Telecommunication Development Bureau in partnership with DiploFoundation and hosted by the Digital Bridge Institute (DBI) of Nigeria.

Capacity Africa 2018
5 and 6 September 2018

AFRINIC attended the Capacity Building event in Rwanda and met with prospective members. Capacity Africa 2018 took place in Rwanda on the 5 and 6 September.

Capacity Africa is the largest wholesale telecoms event for Africa, connecting senior-level executives from across the continent with international partners and investors for the last 12 years, facilitating new business opportunities and establishing new connections within the industry. The two-day conference agenda delivers critical industry information into new infrastructure projects and opportunities for innovation in data and voice services from African and International market leaders and promising newcomers.

SdNOG-5
30 September to 4 October 2018

AFRINIC was a gold sponsor at SdNOG-5 that took place from 30 September to 4 October 2018 in Khartoum Sudan.
AFRINIC attended the event to meet with its members as well as prospective members and gave presentations on AFRINIC Updates and AFRINIC IRR.
SdNOG is a non-profit group that provide an open forum to be used by any interested member from the Internet Community in Sudan to exchange technical information and expertise in networking.