

African Network Operators Group

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The Internet Society
1775 Wiehle Avenue
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Reston VA, 20190
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21 Aug, 2006

ATTN : MS LYNN ST. AMOUR

Dear Ms St. Amour,

AFNOG 2006 TRAINING WORKSHOPS AND MEETING SUPPORT GRANT :

On behalf of AfNOG, please accept our sincere thanks for your tremendous contribution of funds for the AfNOG 2006 Workshop, Meetings and INET Africa Forum. We are pleased that your kind sponsorship allowed a growing number of technical professionals to participate in the Afnog Event. ISOC's continued assistance to AfNOG is of great value to the AfNOG community as it prepares the African Network Operators to face the challenges of ICT development in the sub-region.

The AfNOG 2006 Event, the Seventh annual program which was held in Nairobi in May 2006 was a fantastic success and the number of African Instructors and participants continued to grow each year.

69 participants from 16 different African countries attended the workshop and 135 attended the AfNOG meeting. We continued the historic AfNOG and INET workshops with English and French.

We are happy to note that giant strides have been taken in several arrears of developing technical skills and cooperation among network operators in the Africa Sub region and it is our determination to improve upon our modest gains.

We acknowledge we could not have come this far without your support and thank you sincerely for your continued assistance.

We will advise subsequently our program for AFNOG 2007 in anticipation of your possible interest in participating with us once again.

Please find attached the following :

1. Technical Report on the Afnog 2006 Workshop and Meeting.
2. AFREN Report
3. Financial Report for ISOC's Sponsorship
4. List of ISOC Sponsored participants

5. CD covering AFNOG 2006 Event
6. AFNOG 2006 Evaluation Report
7. AFNOG 2006 Financial Report

Many thanks and best regards



NANCY DOTSE
AfNOG COORDINATOR



PROF. NII QUAYNOR
AfNOG CONVENER

African Network Operators Group

REPORT TO THE INTERNET SOCIETY ON AFNOG 2006 WORKSHOP AND MEETING HELD IN NAIBORI, KENYA FROM 7 – 18TH MAY 2006.

SUBMITTED BY NANCY DOTSE, AFNOG PROJECT COORDINATOR

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Date : 21 Aug, 2006

Background, Purpose & Objectives of AFNOG Workshops

AfNOG Workshop is a network technology knowledge transfer program to develop the capacity of network operators in Africa. It also provides a forum for operators, private sector, civil society, government organizations and individuals operating networks in Africa who are participants in the process of developing and enhancing a national Internet with regional and international connectivity to share and coordinate their Internet development.

The goals of the AfNOG educational workshops are:

- To develop a sustainable technical capacity development and acquisition mechanism in support of the very rapid development of networks in Africa.
- In particular, an objective is the migration of the technical capacity development processes from the developed countries to the developing countries where the capacity is needed. This puts both the development of capacity and the internet systems in the hands of Africa.
- To strengthen the technical expertise of African operators who need to design and manage larger networks as the demand for connectivity in Africa increases.
- To identify and share individual and institutional contacts as well as information sources to assist the process of national development, using international Internet connections.

The training program has evolved to now consist of three lab-based, technical tracks taught in English, and one in French.

Unix System Administration trains participants to install, upgrade, secure and competently Manage Unix Operating System on standard PC hardware. This Track remains popular since its introduction in 2005 and registers the largest number of participants per Track.

The Scalable Internet Services track focuses on provision of services to meet the needs of African ISPs and academic/research networks as the region's user base expands rapidly.

Topics include UNIX and Linux system administration, operating stable, reliable servers in the Domain Name System (DNS), building secure mail systems and secure web servers, scaling customer and end user support, implementing network security tools, and managing mailing lists on a large scale.

The Scalable Network Infrastructure track, which is taught separately in both English and French, deals with configuring and operating large scale backbone networks. Topics include basic routing, Open Shortest Path First (OSPF) routing, Border Gateway Protocol (BGP) routing, management of router configurations, designing NOC (Network Operations Center) facilities, network security, and establishing peering and Internet eXchange (IX) points.

Participants shared PCs, routers, and other lab equipment to build networks during classroom exercises.

Four Tracks were run concurrently namely :

- a) TE0 - Unix System Administration
- b) TE1 - Scalable Internet Services
- c) TE2 - Scalable Network Infrastructure
- d) F2 - Infrastructure Reseaux (French)

69 participants from 16 different African countries attended the workshop and 135 attended the AfNOG meeting. We continued the historic AfNOG and INET workshops with English and French sessions covering the same material with equivalent depth and scope.

We announce with pleasure that the First NREN Forum was organized in Nairobi, Kenya. The African Network Operators Group, (AfNOG) the Association of African Universities (AAU), and the Network Startup Resource Center (NSRC) convened a two day technical meeting in Nairobi, Kenya with a group of network engineers and Information Technology managers from numerous African universities. The Forum was well attended with a total of fifty-nine participants from fifteen different countries in the African research and education meeting.

The Regional Internet Registry for Africa, AfriNIC, was invited and actively participated in the program. The engineering round-table discussions focused on best practices in developing the physical infrastructure of campus networks, network engineering principles, provision of applications and services in the African university environment, how to plan scalable architecture for interconnecting university networks at the national level, and building alliances to achieve economies of scale from partnering with other institutions and agencies.

AfREN – African Research and Education Networks was proposed as a name to identify the universities and research institutions that were represented in the Nairobi, Kenya workshop. AfREN group will convene in Abuja, Nigeria at AfNOG 2007.

Further, a full day Tutorials on topics such as MPLS - The Service Enabler, Designing & Implementing A Wired & Wireless Campus-Wide Network Infrastructure in Sub Sahara Africa, BGP, Basic Issues in Wireless Networking, Netflow and IPv6 for an African ISP.

AfNOG 2006 Meeting followed soon after. The meeting consisted of a variety of short technical presentations and interactive discussions as follows:

- Design & Deployment of the KCCT Network - the Challenges & experiences
- WiMAX as the Broadband Wireless technology for today and tomorrow
- Amplified DNS Distributed Denial of Service (DDOS) Attacks

- DNS Anycast
- IPv6 Deployment Update
- ISOC Chapters Panel - Internet Governance - the opportunity for developing countries
- Heroines and Heroes of the AfNOG Revolution
- AfNOG from a regional perspective

In addition, AfriNIC had its 4th Open Policy Meeting and the 3rd Annual General Member meeting was held where internet registry issues were addressed.

The Nairobi event ended with a full day INET Africa Conference organized by the Internet Society in conjunction with AfriNIC and AfNOG. There were representations from a number of ISOC chapters in the Sub Region. This meeting focused on technical as well as policy aspects surrounding Internet standards development and applications, with special attention to localization and education initiatives. Open discussion on Internet governance and issues of importance to the continent were also held.

On the whole, the eleven day event covered an intensive Workshop, Tutorials and Meetings which were most successful and we received lots of commendations from participants. The number of African Instructors and participants continued to grow each year and the goal is to train a greater number of African Network Operators in subsequent years.

Main outcomes of the Workshop

The main outcomes of the workshop is that the participants are equipped to develop and maintain Scalable services and routing networks in their countries. They are also equipped with sufficient training material to enable them train other technical professionals in their community.

Follow-on Activities

All the participants are added to the list of AFNOG members who receive additional mentoring by posting requests to the more experienced on the list to support their efforts. The participants in their outreach to their communities will widen knowledge about the workshop by making references to the website www.afnog.org. The graduates also become members of human support network who guide each other on mailing lists.

Benefits to AfNOG Participants

Participants have become equipped with the skills to develop and maintain large networked Systems in their home countries. They have also become the trainers of trainers who carry Technologies further into the emerging networks.

We built a robust professional link between all participants in the programs which will enable mentor-student and colleague-colleague relationships formed during the workshop and conferences to remain strong and of continuing usefulness well beyond the workshop and conference.

How Participants expect to apply what they learned at the Workshop

The Participants have gone through extensive hands-on training, setting up and managing prototype infrastructure and services. The expectation therefore is that on their return to their respective countries and region and they will teach others what they have learned at the workshop.

AfNOG Success Story

AfNOG has been training approximately 60 participants annually for the past seven years in Africa. Numerous networks in Africa are being managed by former participants at AfNOG Workshops. It has become the principal technical networking forum in Africa attended by the more serious Internet professionals annually. In addition large numbers of participants attend the follow-on AfNOG Meeting annually . AfNOG was also a consensus forum for the establishment of AfriNIC, the numbers registry for Africa.

In conclusion, financial contribution from ISOC for AfNOG 2006 Event in Nairobi, Kenya has tremendously assisted engineers, Internet service providers, and research and education network operators throughout the continent in acquire the necessary tools of development in Information Technology.

In collaboration with IDRC, NSRC, the Internet Society, and our many international partners, AfNOG has once again demonstrated the ability to transfer the necessary tools, technology, information, and training required for strengthening African networking operations and mechanisms for continued Internet development throughout the region.

LIST OF EVENTS

AFNOG 2006 Workshop	07 – 12 May 2006
NREN Forum	13 – 14 May 2006
IPV6 Training	13 May 2006
LIR Training	14 May 2006
TUTORIALS	14 May 2006
AFNOG Conference	15 May 2006
AfriNIC Conference	16 –17 May 2006
INET Africa Conference	18 May 2006

Related Websites :

www.afnog.org
www.afrinic.net