

AfNOG 2007

Workshop on Network Technology

Track E2

Scalable Network Infrastructure

Introduction,
Logistics,
Schedule,
etc.

What you will learn

- Internet protocol stack
- IP addressing
- Basic routing
- OSPF routing
- BGP routing
- Management of router configuration
- Network operations and monitoring
- Exchange points between networks

Instructors



- Joe Abley (Canada)
- Alan Barrett (South Africa)
- Randy Bush (USA)
- Sunday Folayan (Nigeria)
- Nishal Goburdhan (South Africa)
- Geert Jan de Groot (Netherlands)
- Philip Smith (Australia)
- Mark Tinka (Uganda)

Students

- Entire workshop: 88 students from 19 countries
- Track E2: 22 students from 11 countries (BW, GH, KE, MW, MU, NG, RW, SL, TG, TZ, UG)
- Please introduce yourselves
- Please wear your name badges

Let us know!



- If we speak too fast, please say so!
- If you can't see, please say so!
- If you don't understand, please ask!

Safety

- Be very careful when moving about, so you don't
 - trip on power cords
 - pull cables out of sockets
 - knock equipment off tables
 - lean back too far in your chair
- See security notes provided by hotel

You should have received...

- Name badges
- Folder with notepad, pen, information pack
- Meal tickets (distributed daily)

You will receive...

- Books, FreeBSD CD-ROM
(Monday evening)
- Workshop CD-ROM
(Saturday/Sunday after the end of the workshop)
- Take them home and teach others

Electronic resources

■ Web site

- <http://www.ws.afnog.org/>
- During the workshop, contains work-in-progress
- Afterwards, will contain copy of workshop materials

■ Mailing list

- afnog@afnog.org
- Subscribe via afnog-request@afnog.org

Meals



- Meals at hotel restaurant
 - Use meal tickets
 - Wear name badges
- Tea breaks in courtyard

Daily schedule



07:00 – 08:45	<i>Breakfast</i>
08:45 – 10:45	Classroom session
10:45 – 11:00	<i>Tea/Coffee</i>
11:00 – 13:00	Classroom session
13:00 – 14:00	<i>Lunch</i>
14:00 – 16:00	Classroom session
16:00 – 16:15	<i>Tea/Coffee</i>
16:15 – 18:15	Classroom session
19:00 – 20:00	<i>Dinner</i>
20:00 – 22:00	Optional evening session

Time keeping

- Please try to be on time
- We have a lot of material to cover, and will not get through it all if breaks are longer than scheduled

Email and web access

- Please do not read email or browse the web during lessons.
- Wireless internet access should work if you have a laptop computer (but please not during lessons!)
- You may use the classroom in the evenings, if instructors are present.

Evening sessions

- There might be optional evening sessions
- The classroom may be open in the evenings for you to experiment with the equipment, depending on instructor availability

Extra charges

- AfNOG will not pay for any extra charges on your hotel room, such as:
 - phone calls,
 - food and drinks,
 - laundry.

Classroom layout

- 10 "cells" - labeled A B C D E F G H I J
- Each cell has:
 - 2 students
 - 1 PC with FreeBSD-6.2
 - 1 cisco router
 - 1 cisco console cable
 - 1 hub/switch
 - 1 ethernet cable to central switch
 - Extra cables

PC Configuration

- FreeBSD-6.2
- login as **"e2"**, password **"afnog"**
- root password is **"afnog07"**
- Don't change passwords
- Don't install resolvers
- Don't 'close security holes'

Keyboards



- PCs have US keyboards
- FreeBSD expects US keyboard

Schedule - Monday

- IP and networking overview
- IP addresses / binary mathematics
- packet forwarding
- ARP
- overview of cisco router configuration
- static routes
- default routes

Schedule - Tuesday

- dynamic routing protocols
- OSPF
- Resilient network design principles
- Filtering spoofed packets

Schedule - Wednesday



- BGP

Schedule - Thursday

- More BGP
- Exchange points

Schedule - Friday

- Network operations and management
- Tear down - pack all equipment neatly in boxes

Optional evening sessions

- Subject to change
- Monday
 - Network devices: hubs, switches, routers, cabling
- Wednesday
 - IP telephony (voice over IP)
- Other tracks might also have evening sessions which you can attend

Open questions

- Feel free to ask any questions during class.
- Interrupt us if you don't understand or if you have a question.
- List of questions near door.