AfNOG 2008

Workshop on Network Technology

Track SI-E

Scalable Network Infrastructure

Introduction,
Logistics,
Schedule,
etc.

What you will learn

- Internet protocol stack
- IP addressing (IPv4 and IPv6)
- Basic routing
- OSPF routing
- BGP routing
- Management of router configuration
- Network operations and monitoring
- Exchange points between networks

Instructors

- Alan Barrett (South Africa)
- Randy Bush (USA/Japan)
- Sunday Folayan (Nigeria)
- Geert Jan de Groot (Netherlands)
- Isatou Jah (Gambia)
- Philip Smith (Australia)
- Mark Tinka (Uganda/Malaysia)

Students

- Entire workshop: 90 students from 21 countries
- Track SI-E: 30 students from 8 countries (CD, GH, GM, KE, MA, MW, NG, 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!

- The only stupid question is a question you don't 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

You should have received...

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

You will receive...

- Books, FreeBSD CD-ROM
   (Monday lunch time)
- 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

- Breakfast at hotel
- Lunch and dinner at EMI
  - Use meal tickets
  - Wear name badges
- Tea breaks in corridor

Daily schedule

08:00 and 08:15   *Buses leave from hotel*
08:45 – 10:45 **Classroom session**
10:45 – 11:00   *Tea/Coffee*
11:00 – 13:00 **Classroom session**
13:00 – 14:15   *Lunch*
14:15 – 16:15 **Classroom session**
16:15 – 16:30   *Tea/Coffee*
16:30 – 18:30 **Classroom session**
18:30 – 19:30 **Optional evening session**
19:30 – 20:30   *Dinner*
20:45 and 21:00   *Buses return to hotel*

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.

- See instructions near office for Internet access in the hotel

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
  - Probably only before dinner, not after dinner

Extra charges

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

Classroom layout

- 14 "cells" - labeled A B C D E F G H I J K L M N
- Each cell has:
    - 2 students
    - 1 PC with FreeBSD-6.3
    - 1 cisco router
    - 1 cisco console cable
    - 1 hub/switch
    - 1 ethernet cable to central switch
    - Extra cables

PC Configuration

- FreeBSD-6.3
- login as "**sie**", password "**rabat**"
- root password is "**r@b*t**"
- Don't change passwords
- Don't install resolvers
- Don't 'close security holes'
  - instructors have left themselves a way to login remotely

Keyboards

- PCs have US keyboards
- FreeBSD expects US keyboard

- Actualy keyboard is Arabic/French (AZERTY instead of QWERTY)

- Run "/usr/local/bin/keyboard us" or "/usr/local/bin/keyboard fr" to switch what the operating system thinks the keyboard looks like

Schedule - Monday

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

- Evening: Introduction to IPv6

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

- 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.
- Please! Ask questions!

- List of questions near door.