

AfNOG 2013



Track SI-E

Scalable Network Infrastructure

*Introduction,
Logistics,
Schedule,
etc.*

What You Will Learn

- Internet history.
- Internet Protocol stack.
- IP addressing (IPv4 & IPv6).
- Basic routing.
- Dynamic routing with IS-IS.
- Exterior routing with BGP.
- Router management.
- Network operations & monitoring.
- Internet exchange points.

Instructors



- Alan Barrett (South Africa)
- Geert Jan de Groot (Netherlands)
- Nishal Goburdhan (South Africa)
- Frank Habicht (Tanzania)
- Patrick Okui (Uganda)

Participants

- Entire workshop:
 - 150(?) participants from ?? countries.
- This track:
 - 25 participants from 11 countries.
- Please introduce yourselves
- Please wear your name badges at all times.

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 one you don't ask.

Safety

- Be very careful when moving about, and do avoid:
 - tripping on power cords.
 - pulling cables out of sockets.
 - knocking equipment off tables.
 - Leaning too far back in your chair.

You Should Have Received...



- Name badges.
- Folder with:
 - Notepad.
 - Pen
 - Information pack.

You Will Receive...



- e-books
- Workshop materials on USB flash drive, at the end of the workshop.
- Take them back and teach others! That's an order 😊.

Extra Room Charges

- AfNOG will not pay for any extra charges to your hotel room, such as:
 - Phone calls.
 - Room service.
 - Bar.
 - Mini-bar in your hotel room
 - Anything in the fridge costs extra, even the water
 - Laundry.
 - Etc.

Internet Access at the Hotel

- Golfview hotel provides one hour of internet access per day, free of charge.
 - Ask at the hotel reception

Internet Access in Classrooms

- WiFi access should work on your personal laptop or other device
 - SSID "A13-bgn" or "A13-a"
 - WPA password "success!"
- No charge, no usage limits
 - But please, no large torrents
- If you make it slow for other people, you may be blocked

Internet Use in Class

- Please don't read e-mail or browse the web during sessions.
- You can download most of the training materials from the workshop web site
 - <http://www.ws.afnog.org/>
 - > SI-E
 - > Detailed timetable

AfNOG Electronic Resources

■ Web site

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


■ Mailing list

- afnog@afnog.org
- Subscribe via <http://www.afnog.org/>

Meals

- Lunch and tea breaks on site

Daily Schedule



06:00 – 08:30	Breakfast
08:45 – 10:45	Classroom session
10:45 – 11:00	<i>Tea/Coffee</i>
11:00 – 13:00	Classroom session
13:00 – 14:15	<i>Lunch</i>
14:15 – 16:00	Classroom session
16:00 – 16:15	<i>Tea/Coffee</i>
16:30 – 17:30	Classroom session
18:30 – 20:00	<i>Dinner</i>
20:00 – 21:30	Optional Evening session

Time Keeping

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

Evening Sessions

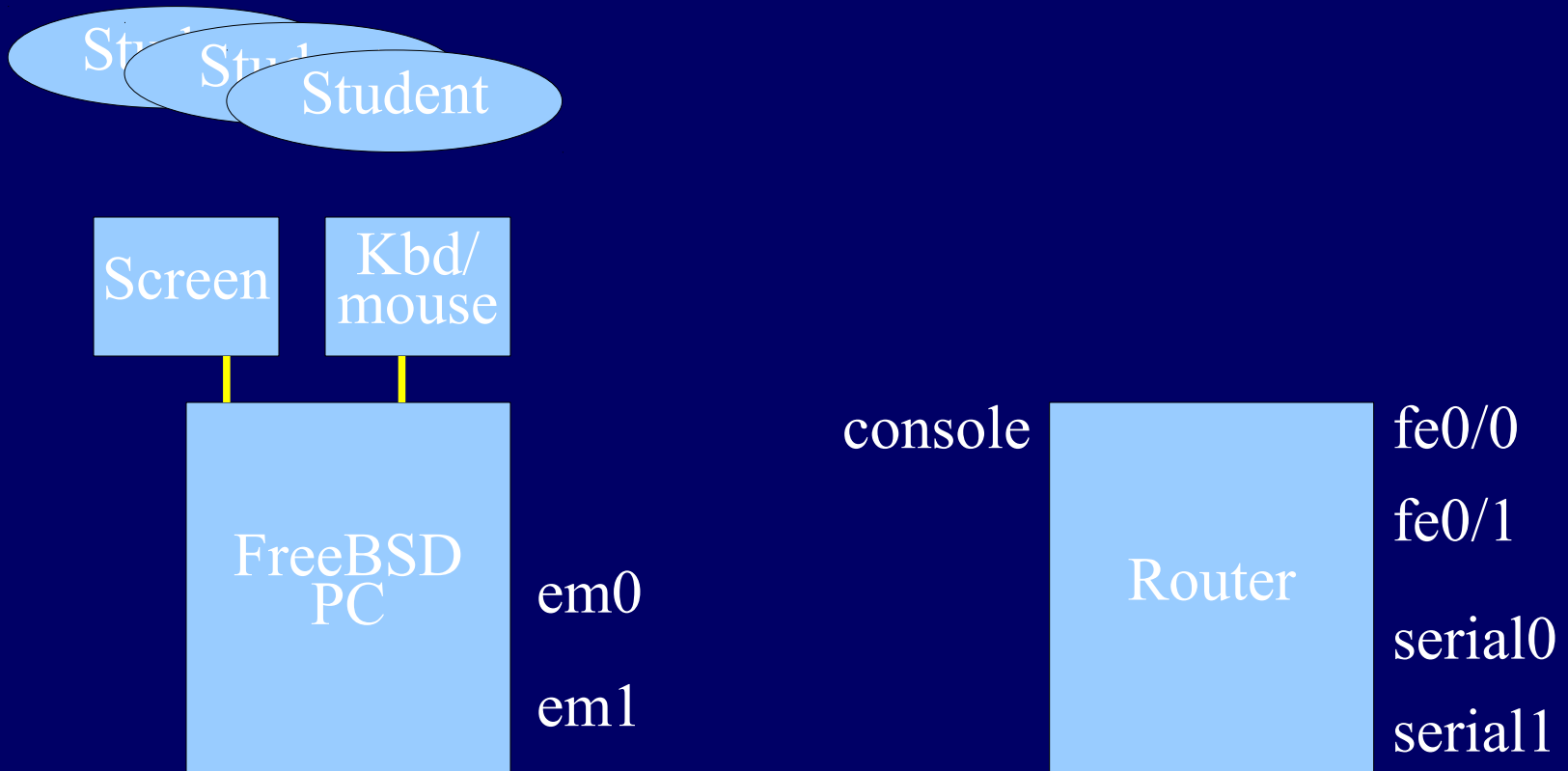


- There might be optional evening sessions.

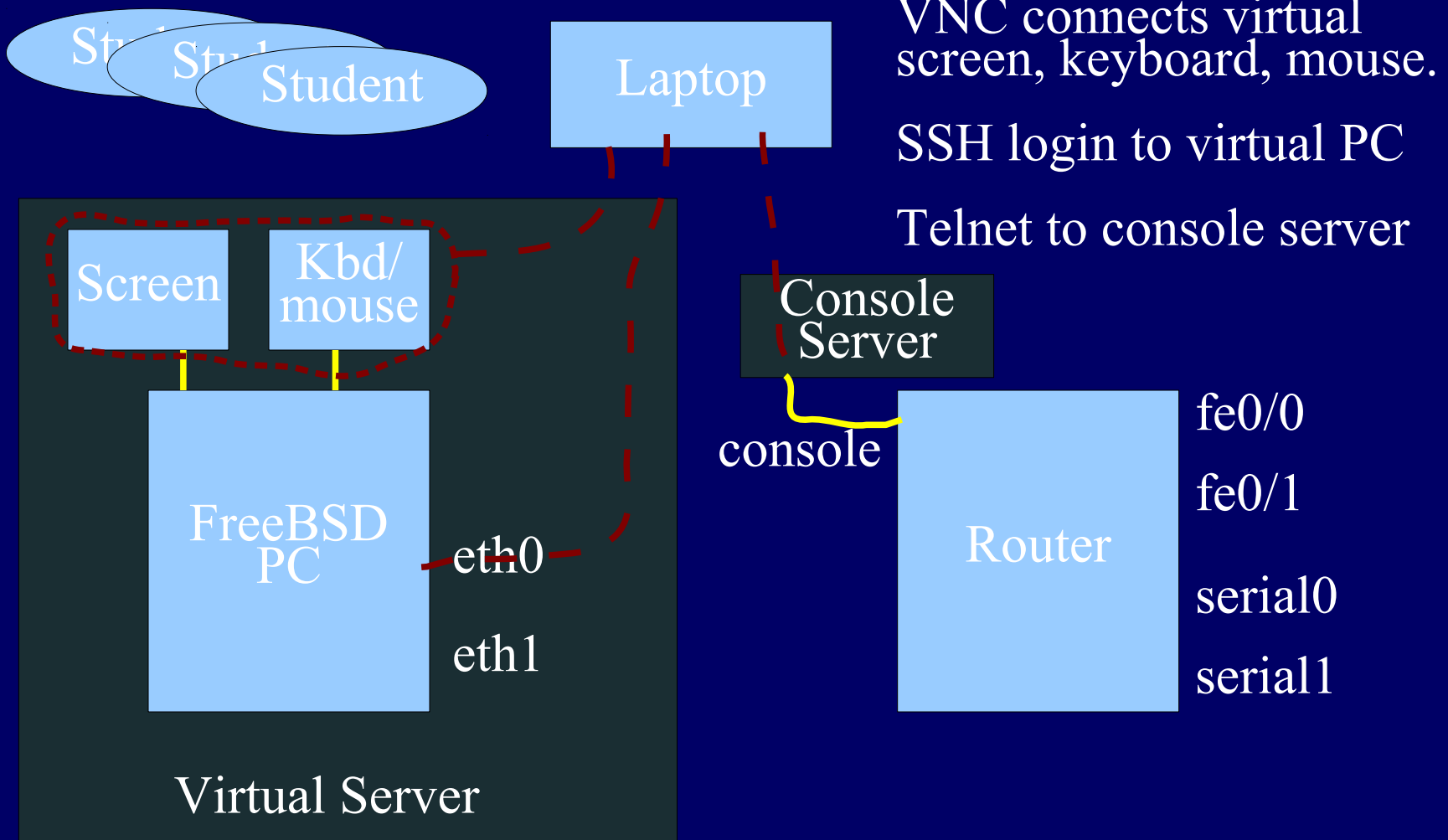
Classroom Layout

- 10 "cells" - labelled A B C D E (no F G) H I J K L
- Each cell has:
 - 3 participants with laptops.
 - 1 PC with FreeBSD
 - Virtual machine in "the cloud"
 - 1 Cisco router
 - Physical routers in the corner

Logical structure of each "cell"



Physical structure of each "cell"



Access to virtual PCs and Routers

- Use VNC or SSH to special hostnames and ports to access your virtual PC and your router console.
- See notes for details
 - <http://www.ws.afnog.org/>
 - > Click SI-E
 - > Click Details
 - > Find Monday Morning's intro session
 - > Click Equipment access details

Install VNC and SSH clients on your laptop

■ Windows:

- Search for “VNC viewer”. TightVNC or RealVNC are both fine.
- Search for “putty ssh”.

■ Linux:

- Install “vinaigre” package for VNC, if not already there.
- SSH is already built in.

■ Mac:

- VNC and SSH are already built in.

PC Configuration

- FreeBSD-9.1.
- **“root”** password is **“afnog13”**
- User **“afnog”** password is **“sie”**
- Don't change passwords.
- Don't install DNS resolvers.
- Don't “close security holes”:
 - instructors have left themselves a way to login remotely.

Schedule - Monday

- This introduction 😊.
- IPv4, IPv6 & IP Address Configuration.
- Introduction to Cisco Routers & IOS.
- Introduction to Static & Dynamic Routing.

Schedule - Tuesday

- Forwarding & Routing Simulation
- Introduction to IS-IS.

Schedule - Wednesday



- Introduction to BGP

Schedule - Thursday

- BGP.
- iBGP & IS-IS Lab Exercise.

Schedule - Friday



- Internet Exchange Points.

Optional Evening Sessions

- Subject to change.
- Other tracks might also have evening sessions which you may attend.

Open Questions



- Feel free to ask any questions during the sessions.
- Interrupt us if you don't understand anything or if you have a question.
- Please, ask questions!
- List of questions near door. They will be answered on Friday or during free periods when exercises are completed.

Overall...

WELCOME TO ZAMBIA

Enjoy the weather,
Learn everything you can,

Have fun,

Take photos,

Network,

Ask questions, make the instructors
happy 😊

Thank You!