TCP/IP Fundamentals and Linux System Administration

Introduction and Logistics

Sponsors

PacNOG

TCC

Network Startup Resource Center (NSRC)

USA National Science Foundation

Google

University of Oregon

Instructor Team

Name	Organization (country)
Dean Pemberton	NSRC (New Zealand)
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Administrative Items

Agenda, Materials, Downloads:

http://noc.ws.nsrc.org/   or   http://10.10.0.250/

During the course
Please ask questions as you have them.
Your experiences are valuable. Please share them.
The schedule is somewhat flexible.

Course Wiki
Available in electronic format during the week:

http://noc.ws.nsrc.org/workshops/wiki/pacnog13/

Will be available permanently here:

http://nsrc.org/workshops/2013/pacnog13-sysadm-ip/

Week Schedule

Day	Topic
Monday	Welcome (This talk) Layer 2 and Layer 3 network refresher Campus Network Design
Tuesday	Intro to Linux Linux Commands/Editors
Wednesday	TCP/IP Network Essentials DNS
Thursday	Scripting/Security/Apache
Friday	Engineering Roundtable Wrap up and close

Day Schedule

Time	Activity
0900-1030	Morning Session 1
1030-1100	Break
1100-1300	Morning Session 2
1300-1400	Lunch
1400-1530	Afternoon Session 1
1530-1600	Break
1630-1730+	Afternoon Session 2

Linux System Practice

We have a virtual lab environment
1. Local, virtual lab of Routers with Virtual PCs

You will use both ssh and telnet to access these devices.

You will work in groups

Virtual machine access

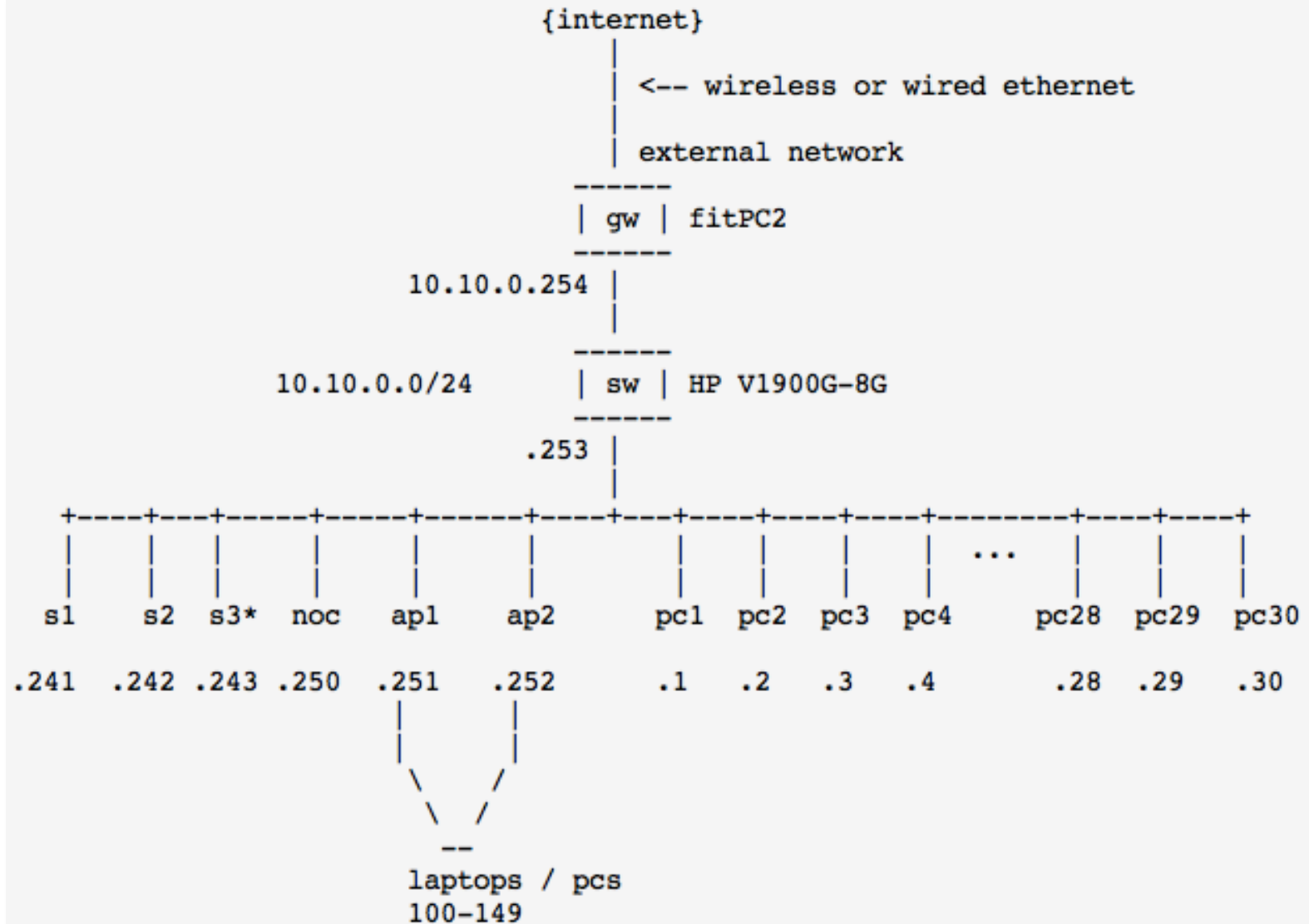**There are two users on your virtual machines (pc1-pc30)**

General User
   sysadm

Administrative User
   root

Passwords are or will be written down in class

Network overview

```
                              {internet}
                                  |
                                  | <-- wireless or wired ethernet
                                  |
                                  | external network
                               ------
                              | gw | fitPC2
                               ------
                  10.10.0.254 |
                               |
                               ------
      10.10.0.0/24            | sw | HP V1900G-8G
                               ------
                         .253 |
                               |
                               |
  +----+---+-----+-----+------+----+---+----+----+----+--------+----+----+
  |    |   |     |     |      |    |   |    |    |    |   ...  |    |    |
  |    |   |     |     |      |    |   |    |    |    |        |    |    |
  s1   s2  s3*   noc   ap1    ap2      pc1  pc2  pc3  pc4     pc28 pc29 pc30

 .241 .242 .243 .250  .251   .252      .1   .2   .3   .4       .28  .29  .30
                       |      |
                       |      |
                       |      |
                        \    /
                         \  /
                          --
                       laptops / pcs
                       100-149
```

A Few Conventions…

In the exercises:

- If you see a "$" then execute the command as a regular user (*sysadm* user).

- If you see a "#" then you should use `sudo` to execute the command as the *root* user. You do not need to use `sudo` if you already are root!

- There *will* be a (very, very) few typos. Be on the lookout and let us know!

- Some exercises *do not* give you all the steps! This is on purpose to let you apply newly found skills ☺

Key for Success

Remember, this workshop is for you!

If you do not understand or have questions, <u>ask for clarification</u>

Please <u>share your thoughts</u> and experiences. They are valuable

Take advantage of the event to <u>meet your colleagues</u> and build the "human network"

Questions

Do you have any questions?