



# Indiana Summer of Networking

Network Monitoring & Management  
**Welcome**

# Instructors

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Network Startup Resource Center  
- United States / Chile

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Network Startup Resource Center  
- Denmark / France

# Schedule

|                    |               |
|--------------------|---------------|
| <b>Session I</b>   | 08:30 – 10:15 |
| <b>Break</b>       | 10:15 – 10:30 |
| <b>Session II</b>  | 10:30 – 12:00 |
| <b>Lunch</b>       | 12:00 – 13:30 |
| <b>Session III</b> | 13:30 – 15:15 |
| <b>Break</b>       | 15:15 – 15:30 |
| <b>Session IV</b>  | 15:30 – 17:00 |

# Agenda:

|                  |                                           |       |
|------------------|-------------------------------------------|-------|
| <b>Monday</b>    |                                           |       |
| Session 1        | Introduction to Network Management        | PR    |
|                  | Basic Linux for VM usage                  | HA    |
| Session 2        | Cisco Configuration Basics                | HA    |
|                  | Simple Network Management Protocol (SNMP) | PR    |
| Session 3        | SNMP Labs                                 | PR    |
| Session 4        | Cacti                                     | HA    |
| <b>Tuesday</b>   |                                           |       |
| Session 1        | Observium                                 | PR    |
| Session 2        | Nagios                                    | HA    |
| Session 3        | Nagios cont.                              | HA    |
| Session 4        | Smokeping                                 | HA    |
| <b>Wednesday</b> |                                           |       |
| Session 1        | Log management: Syslog & Tenshi           | HA    |
|                  | Log management Labs                       | HA    |
| Session 2        | Netdot Demonstration                      | PR    |
|                  | RANCID Demonstration                      | PR    |
| Session 3        | Netflow / NfSen                           | PR    |
| Session 4        | NetFlow / NfSen labs                      |       |
|                  | Wrap up, exam, closing comments           | HA/PR |

# Administrative Items

- **Agenda**
  - <http://noc.ws.nsrc.org/>
- **During the course**
  - Please ask questions as you have them.
  - Your experiences are valuable. Please share them.
  - The schedule is somewhat flexible.
- **Course Materials**
  - Available in electronic format during the week:  
<http://noc.ws.nsrc.org/>
  - Will be available permanently here:  
<http://nsrc.org/workshops/2013/nsrc-iu-nmm/>

# Virtual machine access

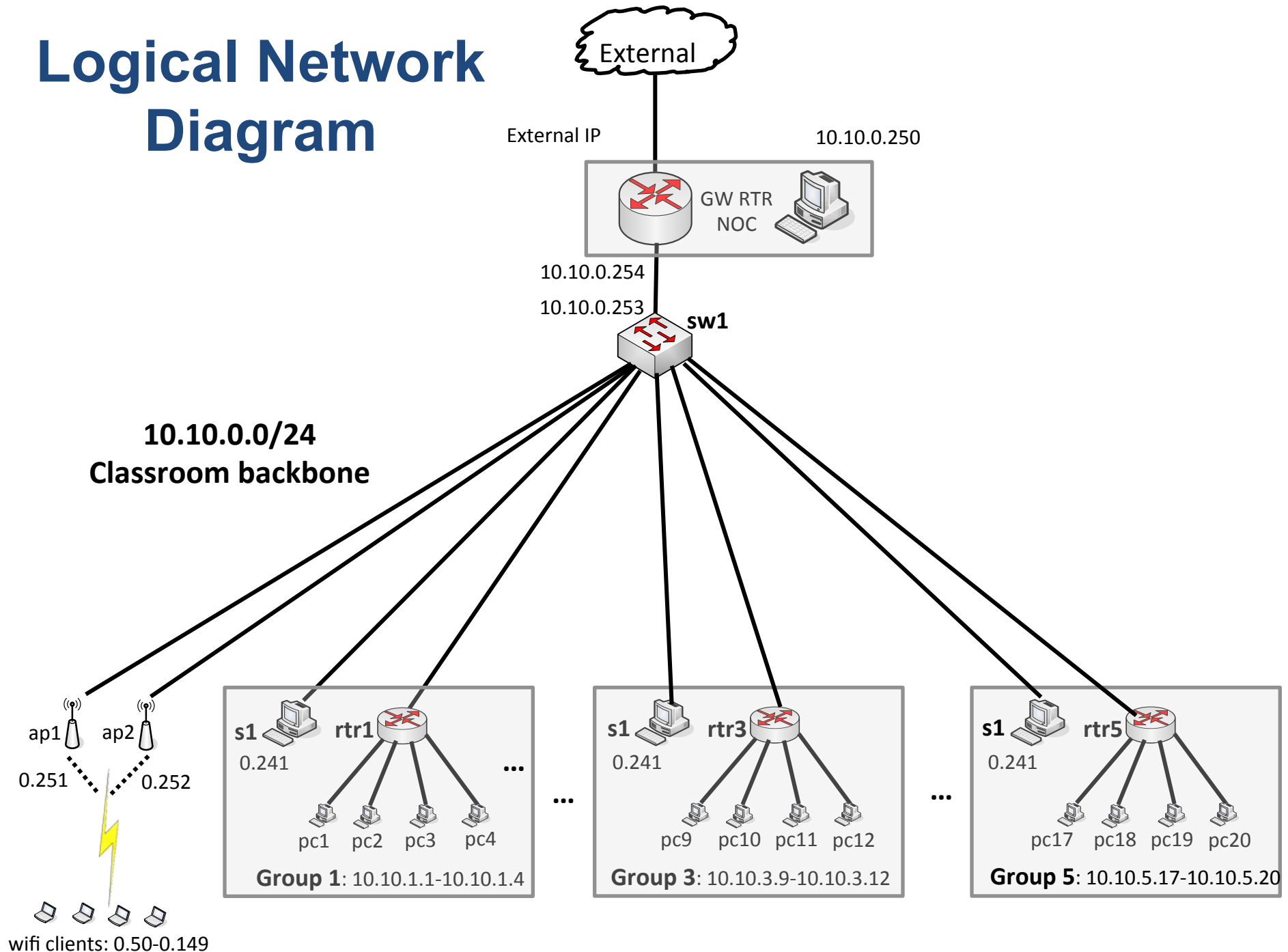
**There are two users on your virtual machines (pc1-pc24)**

General User  
*sysadm*

Administrative User  
*root*

***Passwords are or will be written down in class***

# Logical Network Diagram



# Virtual machine groups

| GROUP 1                     | GROUP 4                     |
|-----------------------------|-----------------------------|
| <b>rtr1</b> ==> 10.10.1.254 | <b>rtr4</b> ==> 10.10.4.254 |
| <b>pc1</b> ==> 10.10.1.1    | <b>pc13</b> ==> 10.10.4.13  |
| <b>pc2</b> ==> 10.10.1.2    | <b>pc14</b> ==> 10.10.4.14  |
| <b>pc3</b> ==> 10.10.1.3    | <b>pc15</b> ==> 10.10.4.15  |
| <b>pc4</b> ==> 10.10.1.4    | <b>pc16</b> ==> 10.10.4.16  |
| GROUP 2                     | GROUP 5                     |
| <b>rtr2</b> ==> 10.10.2.254 | <b>rtr5</b> ==> 10.10.5.254 |
| <b>pc5</b> ==> 10.10.2.5    | <b>pc17</b> ==> 10.10.5.17  |
| <b>pc6</b> ==> 10.10.2.6    | <b>pc18</b> ==> 10.10.5.18  |
| <b>pc7</b> ==> 10.10.2.7    | <b>pc19</b> ==> 10.10.5.19  |
| <b>pc8</b> ==> 10.10.2.8    | <b>pc20</b> ==> 10.10.5.20  |
| GROUP 3                     | GROUP 6                     |
| <b>rtr3</b> ==> 10.10.3.254 | <b>rtr6</b> ==> 10.10.6.254 |
| <b>pc9</b> ==> 10.10.3.9    | <b>pc21</b> ==> 10.10.6.21  |
| <b>pc10</b> ==> 10.10.3.10  | <b>pc22</b> ==> 10.10.6.22  |
| <b>pc11</b> ==> 10.10.3.11  | <b>pc23</b> ==> 10.10.6.23  |
| <b>pc12</b> ==> 10.10.3.12  | <b>pc24</b> ==> 10.10.6.24  |

# Select your group now

- 6 total (virtual) routers
- 4 (virtual) Ubuntu Linux server images per router.
  - 24 total virtual machine images

*You will work in groups of 2 and 4 on some exercises. Please choose your location now. You will use your virtual machine during the whole week.*

# Questions

**Do you have any questions?**

