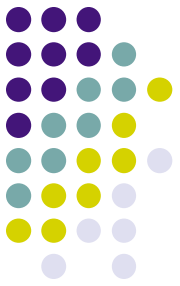# Vietnam Research and Education Network (vinaREN)

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THAILAN, 11-2013

Vietnam Research and Education Network

Contents:

Introduction

- VinaREN (Vietnam Research and Education Network), VinaREN is result of TEIN2 projects in Vietnam in 2006, at that time VinaREN have 2 NOCs in northern and southern of Vietnam, connected to POP TEIN2-HK with 45 mbps.

- Until September 2008, VinaREN was invested enough equipment by Vietnam government and have actual state as today.

- VinaREN is a modern network with high speed, great quality and performance, being capable of providing and sharing various contents, which is very practical for research and education activities in Vietnam.


LAUNCHING CEREMONY OF VINAREN in June 2006

VinaREN technical infrastructure
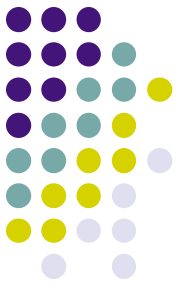
- VinaREN national backbone network is formed from the connection of six network operation centers (NOC) located in Hanoi (VNNOC), Danang (NOC-DN), Ho Chi Minh City (NOC-HCM), Hue City (NOC-HUE), Can Tho City (NOC-CT) and Thai Nguyen city (NOC-TN)

- VinaREN have 61 Members (leading Universities, Institutes and big hospitals in 11 provinces and major Cities of Vietnam)

- VinaREN members connect to the NOCs through Metro ethernet of telecommunications provider (Currently, VinaREN is using Viettel's Metro ethernet, a big telecommunications infrastructure Provider of Vietnam)
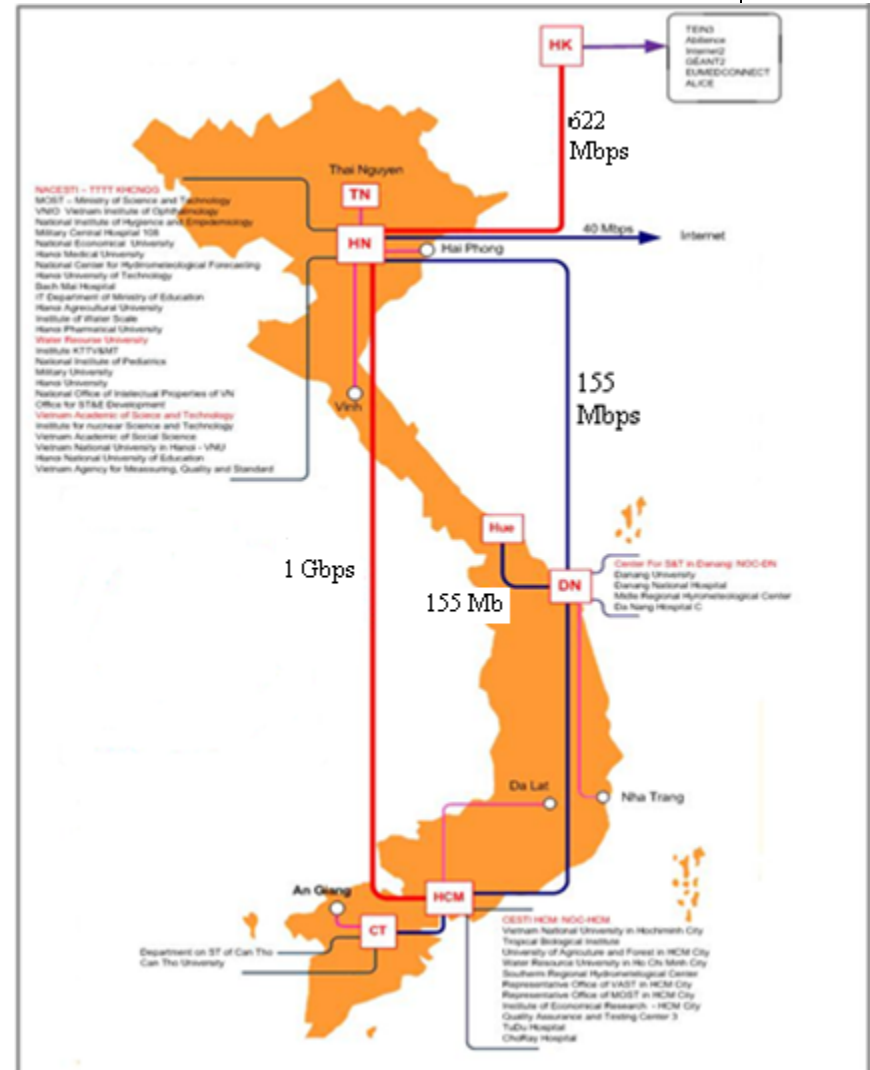
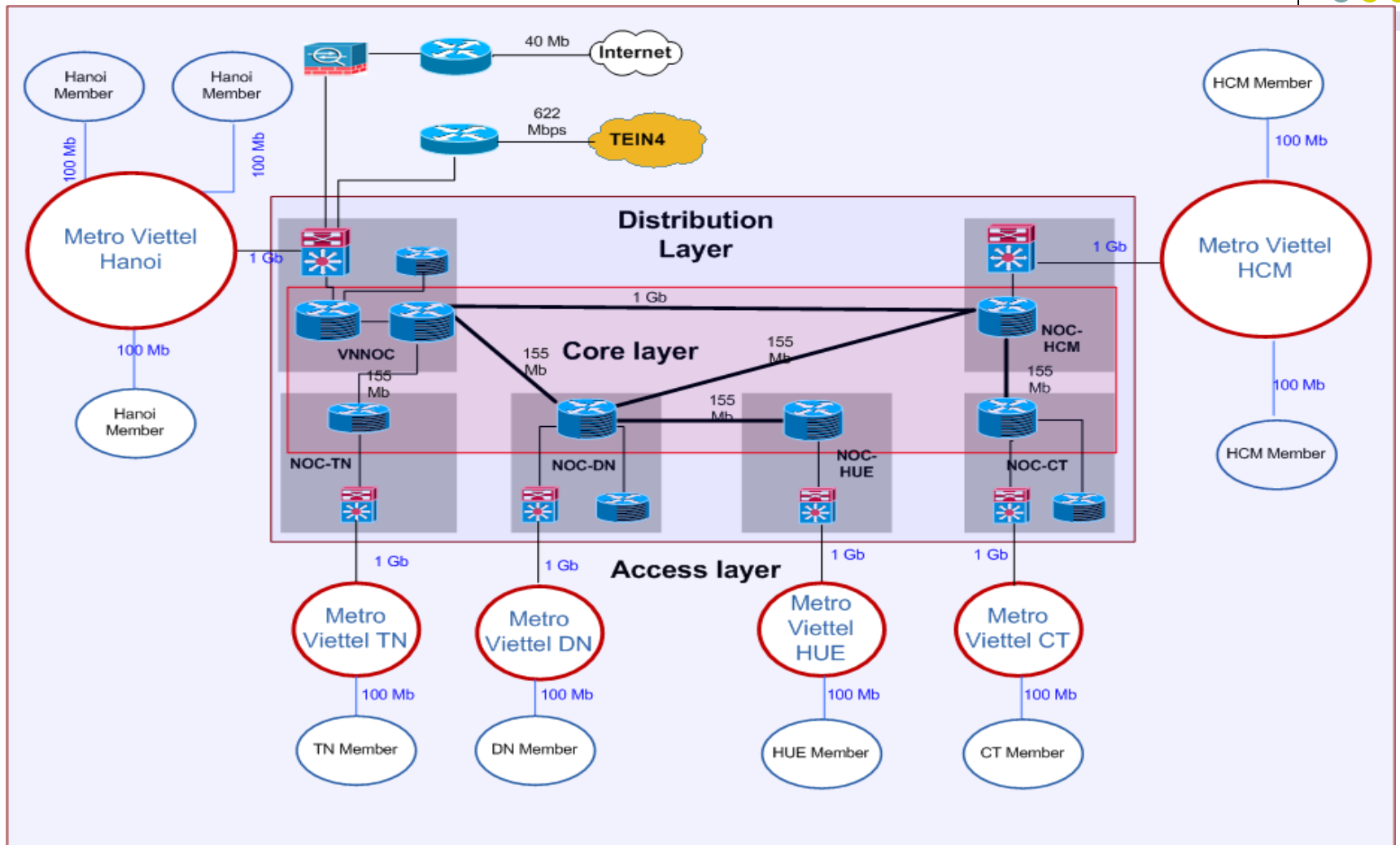# VinaREN Technical infrastructure
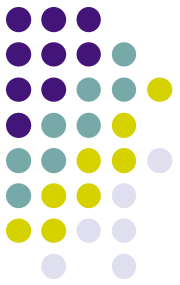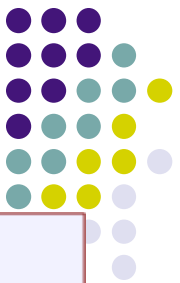
VinaREN connection

International connection:

- 622 Mbps connects to NOC-TEIN in Hong Kong.
- 45 Mbps connects to Internet

National connection:

- 01 Gbps: VNNOC to NOC-HCM.
- 155 Mbps: VNNOC to NOC-DN.; NOC-HCM to NOC-ĐN; NOC-DN to NOC-HUE; NOC-HCM to NOC-CT and VNNOC to NOC-TN.
- 100 Mbps NOCs to VinaREN members

VinaREN Technical infrastructure

VINAREN DIAGRAMS CONNECTION
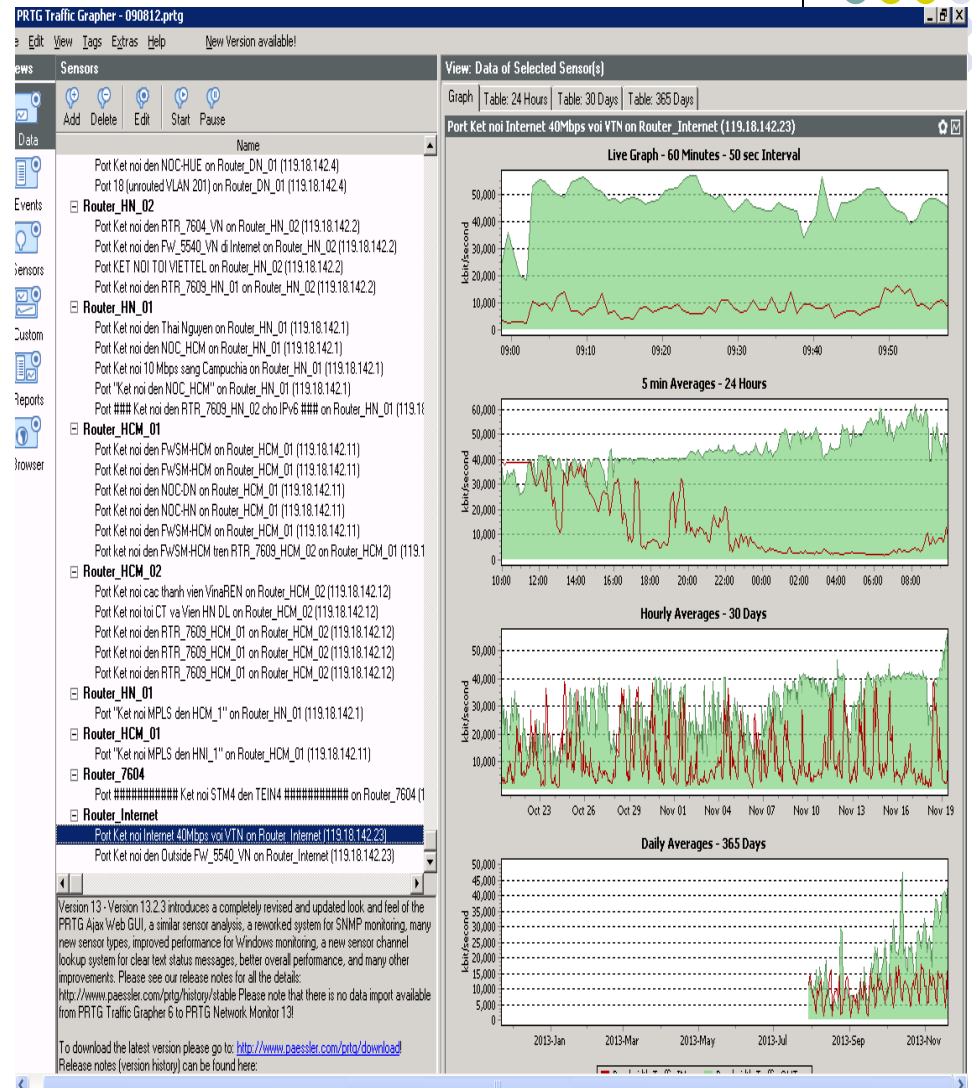
Administrator VinaREN System

1. Bandwidth Management:

VinaREN is using PRTG traffic grapher software to manage bandwidth

Bandwidth in and bandwidth out can be displayed via the connection ports on the Router

Now, we are able to display bandwidth of NOCs, bandwidth of VinaREN to TEIN.

However, it is impossible to display the bandwidth of VinaREN's Members, because it is not available by IP address.
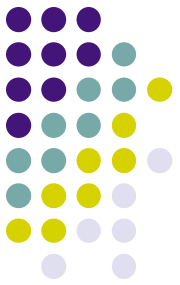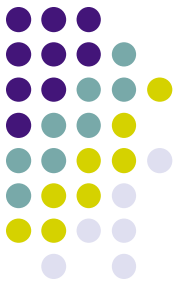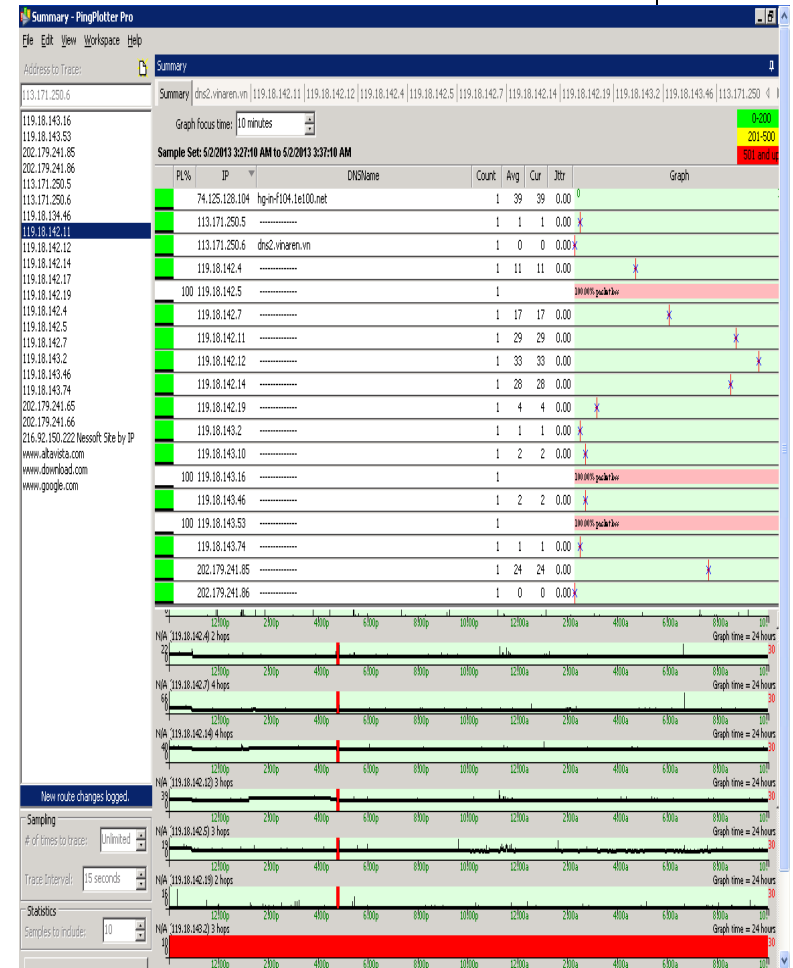
Administrator VinaREN System

2. Traffic Management:

VinaREN is using Pingplotter Pro software to manage traffic line.

- Display the blue line if connection from NOC to member is good.

- Display the red line if connection from NOC to member is broken.

- And knowing the time of the incident

Administrator VinaREN System

3. Error diagnosis and correction

- Disconnection:

    - First test terminals (by reviewing the light signal on terminal),

    - Next checking the cable connection between the network devices (as Converter with computer, converter with switch…).

    - If they are ok, call to the provider of telecommunications services to check their transmission between two sites. It normally takes about 15 minutes for configuration errors and about 2 hours for the resumption of the transmission line.

- Equipment error:

    Checking equipment through light signals, re-start of equipment. If it doesn't work, replace with backup device (VinaREN's NOC have backup Routers). Other devices errors shall be called home warranty, or order a new one.
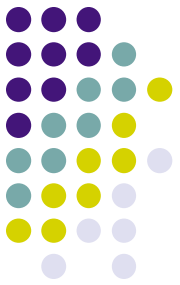
Conclusions

After this courses, I learned more network management software. I think that, organizing courses like this are very helpful for NOC administrator.
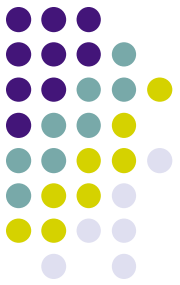
Thank You for Attention

VinaREN

http://www.vinaren.vn