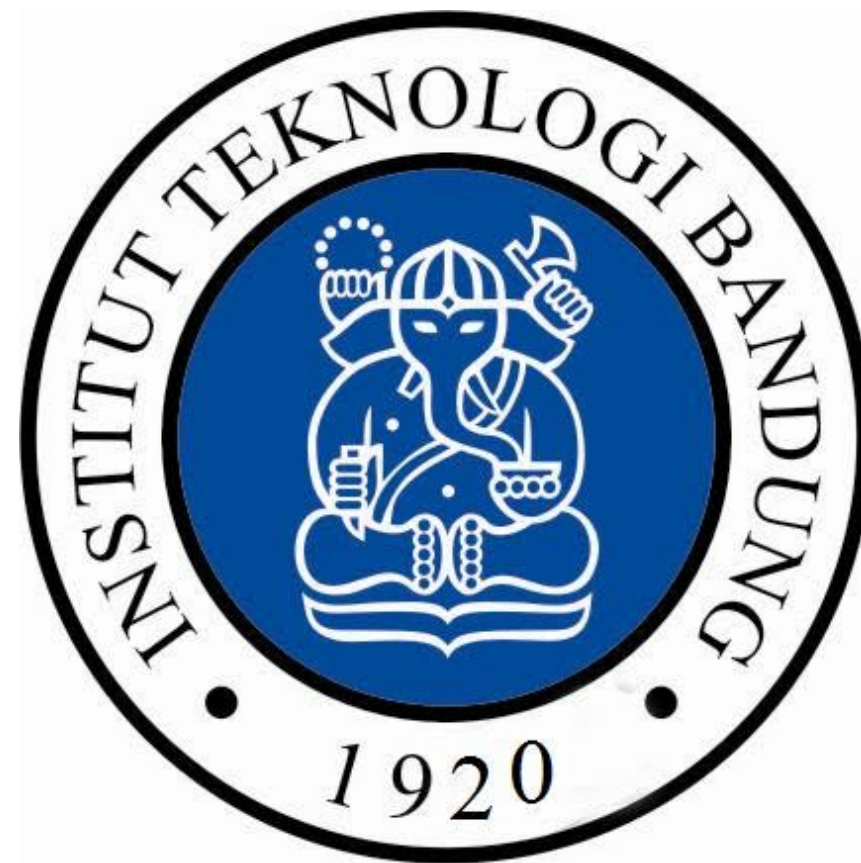


NOC Update Report

INHERENT ITB

Indonesia Higher Research Education Network



Pories Ediansyah Hidayat (pories@staff.itb.ac.id)

Outline

- Network Operation Center (ITB)
- Indonesia Higher Research Education Network (INHERENT)
- ITB INHERENT 2014
 - Status Update
 - Services
 - Project :
 - WSC 18 (fti.itb.ac.id/wsc18)
 - WCPL (<http://weather.meteo.itb.ac.id/aws.php>)

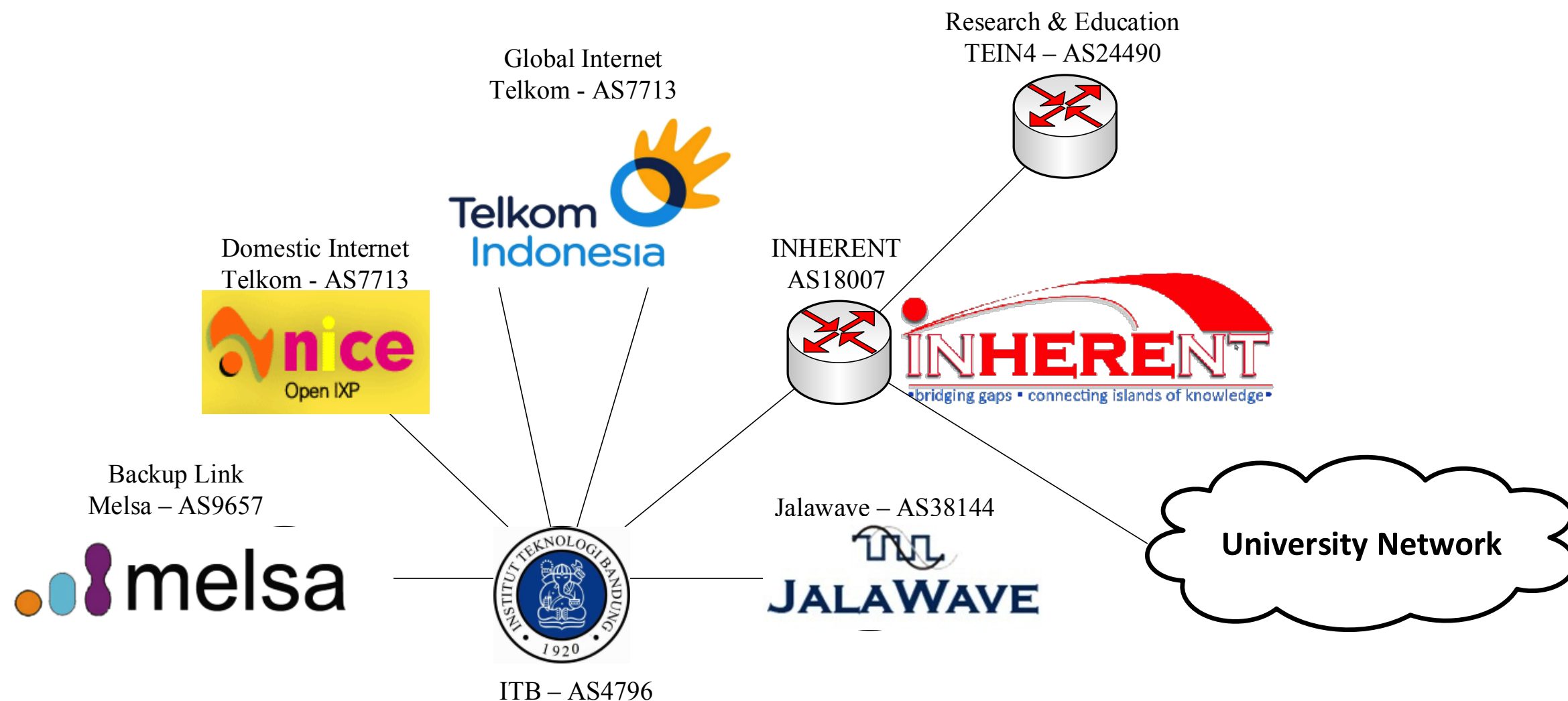
Network Operation Center (ITB)

Equipment :

- Border Router :
 - Cisco ASR 1002 (TEIN4)
 - Juniper MX80 (ITB)
- Backbone :
 - Cisco 7606 (INHERENT)
 - Brocade MLXe-8 (ITB)

Network Topology

- L3 Connectivity Diagram



Address Allocation

- 167.205.0.0/17 (ITB Community)
- 167.205.128.0/17 (INHERENT)
- 2403:8000::/32 (ITB Community)
- 2403:8000:10::/48 (INHERENT)
- 2001:d30:3::/48 (from WIDE-JP)

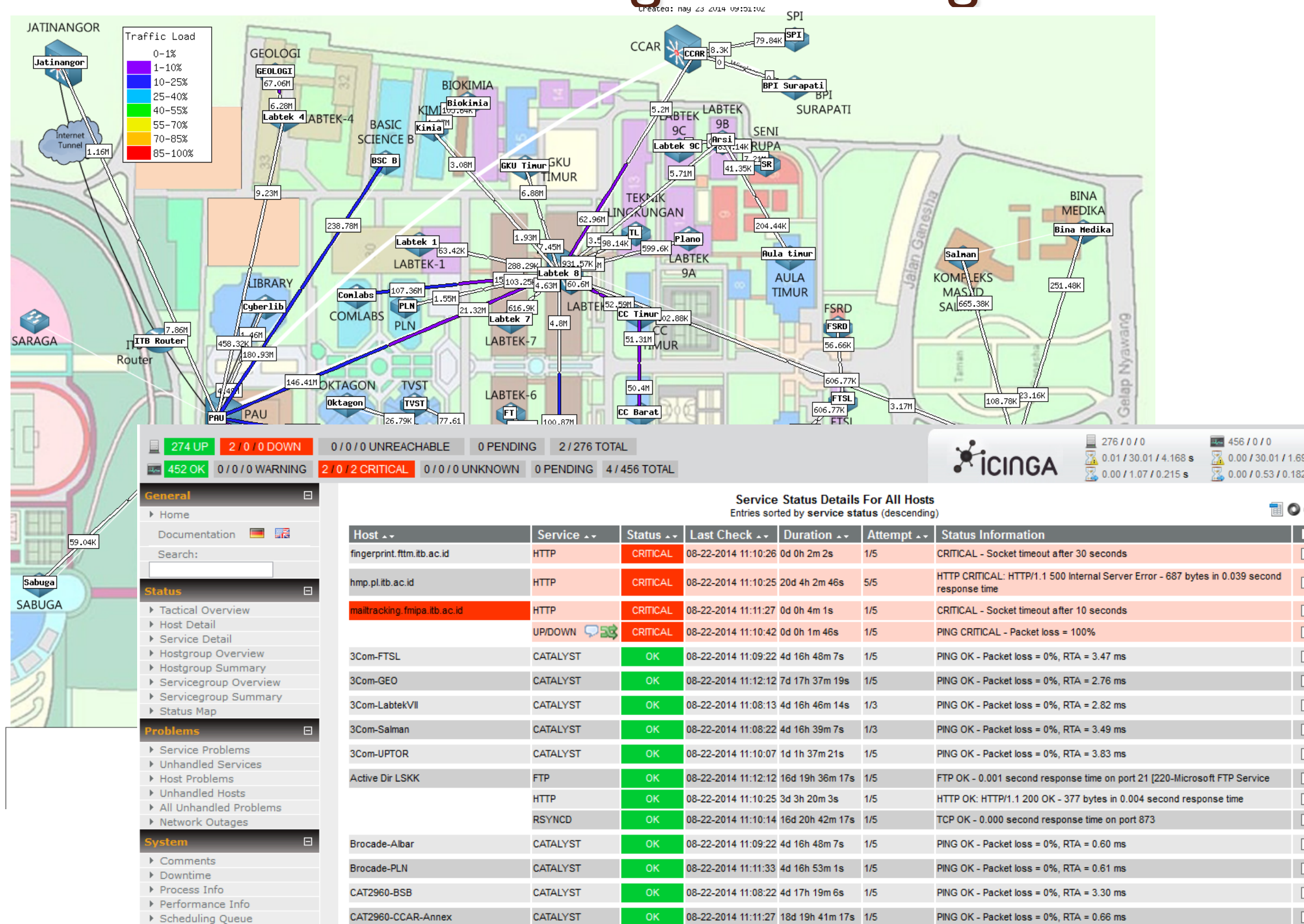
IPv6 Development

- Connectivity :
 - Main connection using native ISP (Telkom) and TEIN4 IPv6
 - Hurricane Electric tunnel broker for backup connection
- Allocation :
 - Client address using EUI-64
 - Server address using static IPv6 except experimental server

Network Monitoring and Management Tools

- Faulty
 - Icinga
 - Thold (Cacti Plugins)
- Change
 - Rancid
 - SVN
- Accounting
 - Lightsquid
- Performance & Capacity
 - Cacti
- Security
 - Sophos UTM (Appliance)
- IPAM
 - GestiolP

Network Monitoring and Management



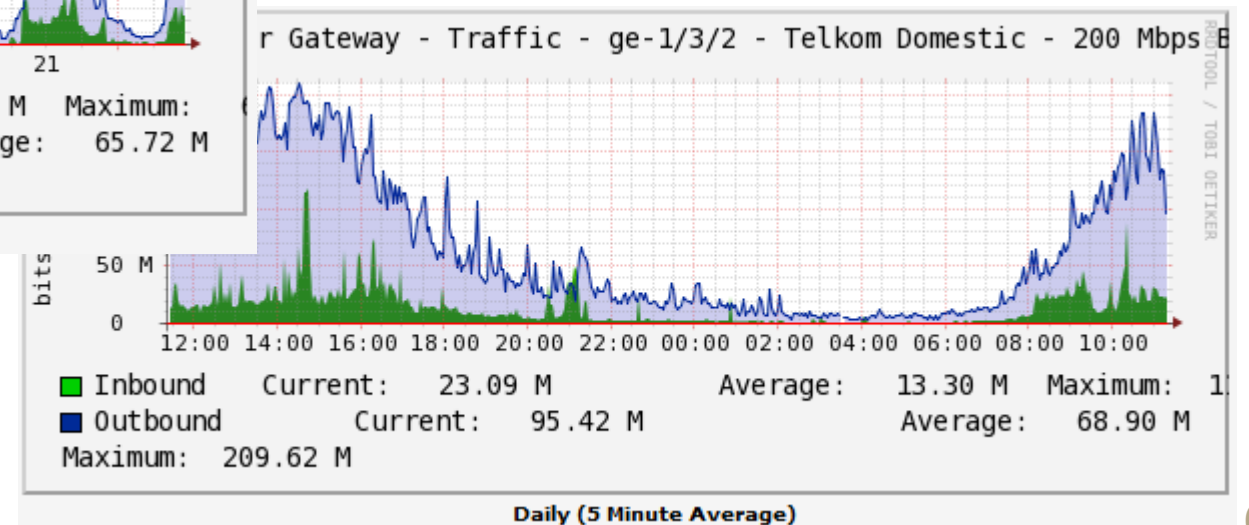
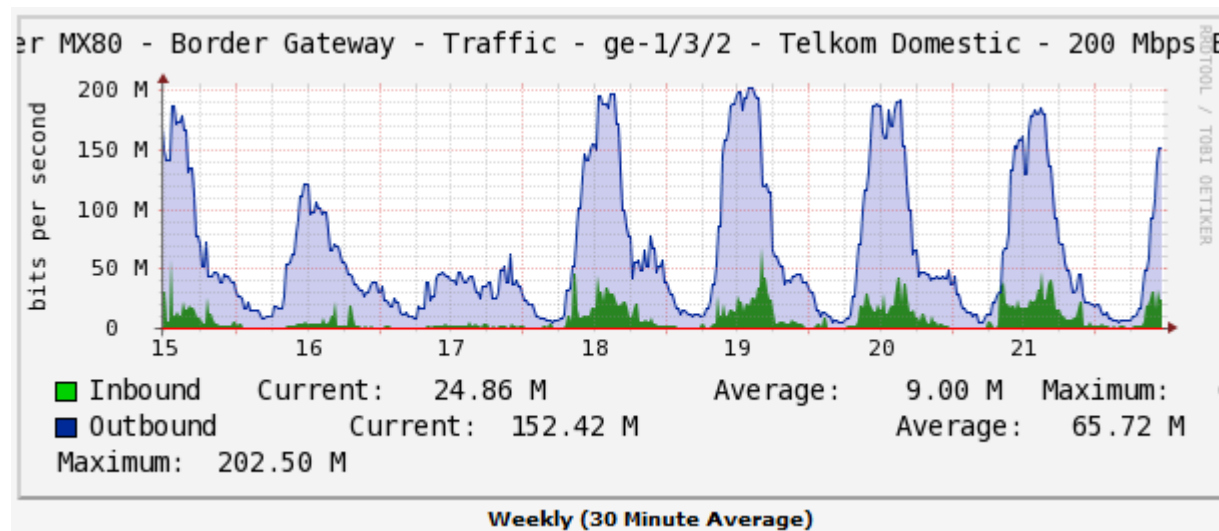
INHERENT 2014

Indonesia Higher Research Education Network

- Status Update
- Services
- Project

Status Update

- Connectivity using Indonesia local exchange (OpenIXP)
- Tunneling protocol using GRE and OpenVPN



Status Update

- Why using Tunneling?
 - The government budget is not always have budget to pay dedicated connection
 - Domestic connection reachable to ITB, network, this become problem in budget audit
 - Most university has capex but not opex
 - Domestic connection is cheaper than global connection
 - Every university always have domestic connection

Status Update

- Has connected in stable connection :
 1. POLSRI in Palembang
 2. UNTAN in Pontianak
 3. PETRA in Surabaya
 4. Politeknik Negeri Surabaya
 5. UNY in Yogyakarta
 6. UNILA in Lampung
 7. UNTAN in Padang
 8. UNLAM in Banjarmasin
 9. USU in Medan
 10. UNG in Gorontalo

Services

- Running :
 - Connectivity in physical and logical
 - Video Conference
 - Mail Queueing
 - Web Caching
 - Cluster/GRID
- In development :
 - Cloud Services (SaaS)
 - OpenFlow over GRE
 - VoIP

Project : WSC I 8

- WSC is online world conference sponsored by Springer
- Conference registration open for all academics, students, and industrial/comercial parties
- Free of charge
- Website reference :
 - <http://www.fti.itb.ac.id/wscI8/>

Project : WCPL

- The laboratory for weather and climate prediction
- Realtime data updates (detail in 3 minutes)
- Data source from BMKG (Badan Meteorologi, Klimatologi dan Geofisika)
- Data presented in online system
 - <http://weather.meteo.itb.ac.id/>

Project : National Observatory

- Purpose to replace bosscha (89 years old)
- In planning, project will be done in 2018
- Will be place near Kupang with 8-12 telescope
- Using e-VLBI (Very Long Baseline Interferometry)
- Need 1 Gbps per telescope



Thank You!