





## PREGINET Updates

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- Started as a government project of DOST
- Primarily funded and operated by the government
- Government, research and academic institutions
- Currently connects around 75 locations around the archipelago





- Five (5) POPs around the country
- 3 in Metro Manila, 1 in Laguna w/in IRRI, 1 in Cebu
- Max connection between POPs is 10G while the minimum is 155M
- Currently planning to have a DR site in Subic away from the capital





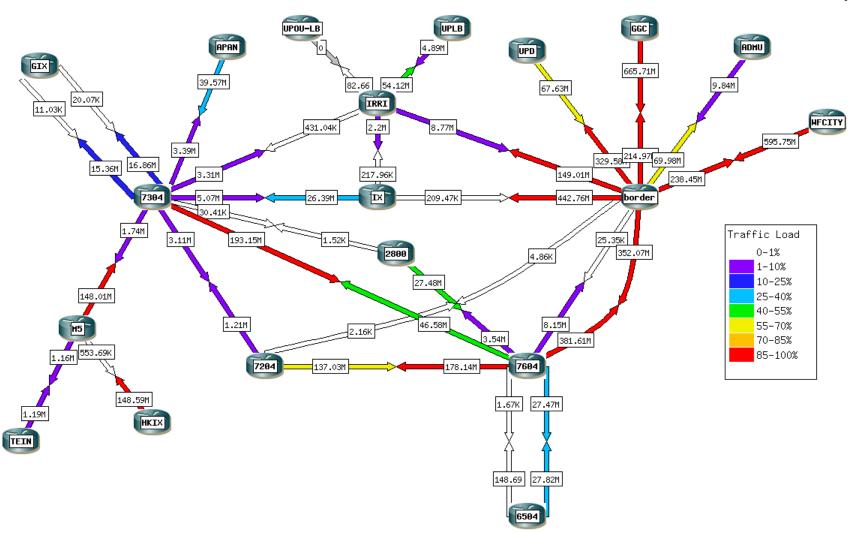
- Own 202.90.128.0/19 IPv4 and 2001:d18::/32 IPv6 Network and identified as AS9821
- Wired backbone leased mostly from localloop providers
- Wireless for short distance connections
- Connected to APAN and TEIN r&e networks
- Connected to two Local ISP, for the rest of the IPv4 and IPv6 Internet
- Connected to a local internet exchange (see PhOpenIX)



#### Backbone



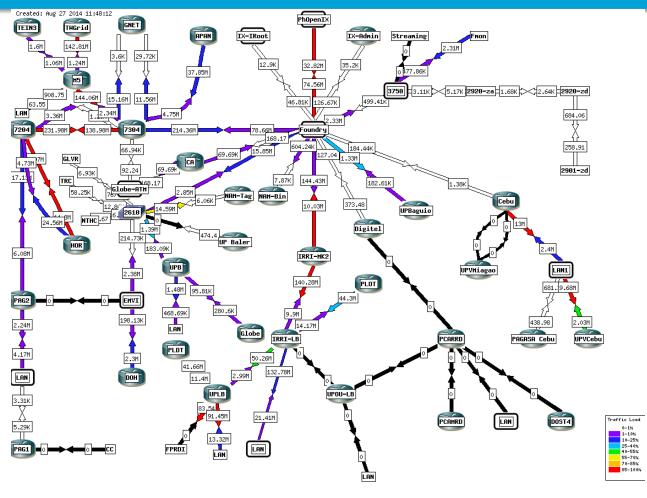
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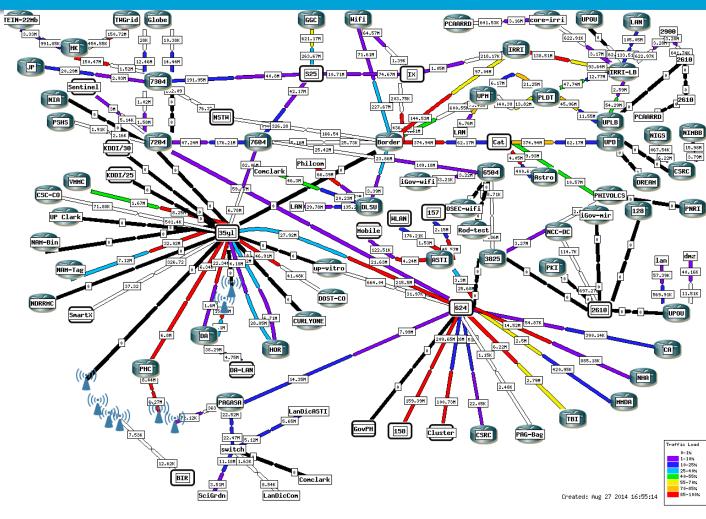
### Makati















- Situated in Quezon City, Metro Manila
- Consists of 4 regular staffs with 2 support staffs
- Regular working hours is 8-6pm, besteffort after office hours
- Pending request for 24x7 operations





- Homogenic brand within the network
- Mostly Cisco routers, Procurve switches, some juniper and even quagga/zebra for Internet Exchanges
- Open-source applications mostly, cacti&weathermap, perfsonar, rancid, nfsen, ipplan and redmine for ticketing
- Linux, BSD and BSD-variant e.g. PFSENSE











- Provides telecommunication services
- VoIP, Video Conferencing, Video Streaming
- Web hosting and DNS management
- Also provides public mirroring for linux distributions
- Provides network consultancy services, i.e. designing and operating network services



#### Other Works



- Works closely with Grid Operations and Embedded System groups of ASTI
- Also work closely with the Information,
   Communication and Technology Office in designing and operating the iGOV project
- Also work closely with other research groups, NOAH (weather visualization) and DREAM project



- Responsible for deploying sensors around the Philippines
- The goal is to build locally assembled modular sensors
- Deployed 1000 sensors within 12 months
- Data is open to all interested, mainly used by other research groups

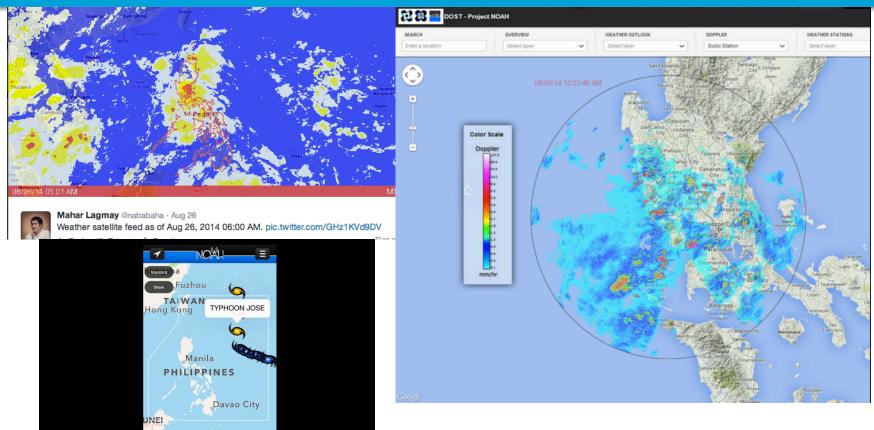










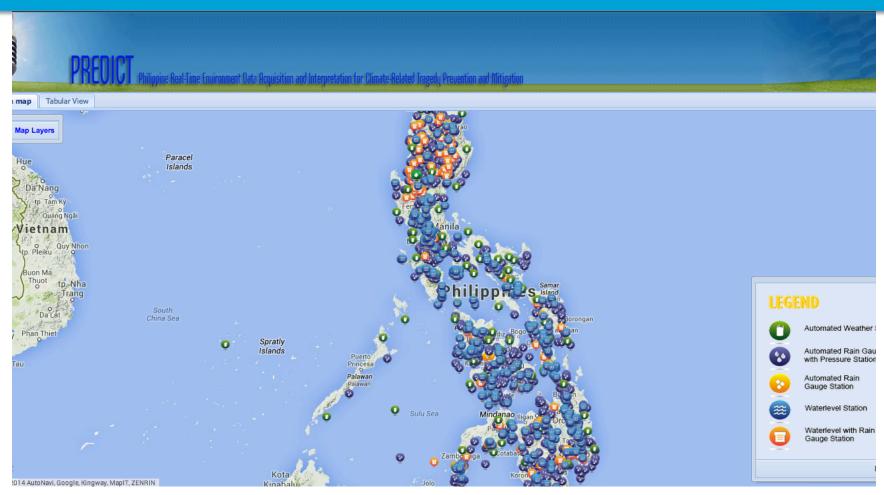


PINOY NEWS PORTAL @AllNews\_PH · Aug 4 [PIA News] .nababaha: Forecast track of #JosePH according to PAGASA. pic.twitter.com/ogMSfhBuio ift.tt/1khAW4G

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http://fmon.asti.dost.gov.ph/weather/predict



## Grid Operations



- Used mainly by research for intensive computing requirements such as the Department of Energy and Ateneo de Manila Physics Department
- Also offers storage service for large data sets like satellite imaging and sensor repositories
- Uses Open-source solution i.e. KVM for virtualization & currently shifting to Supermicro for hardware



## iGOV Project Goals

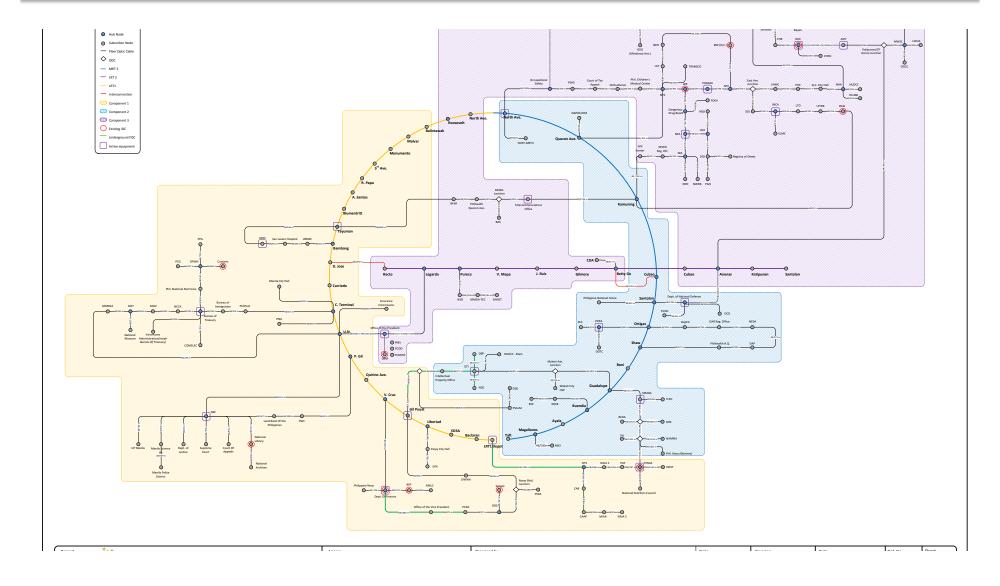


- Link up relevant government data centers and databases
- Have a secured government shared network for deploying government information system;
- Provide a secured payment system for government transactions;
- Provide a secured single sign-on government portal for accessing common government services
- Showcase Public Key Infrastructure (PKI) authentication in government transactions
- Acquire a secured official electronic communications and collaboration system; and
- Build a Government Data Center that will host all the applications.



- Fully owned and will be used by the government only
- Centered around Metro Manila with 160KM of run
- Fiber runs through MRT and LRT rails since this is owned by the state
- Expected to finish this October







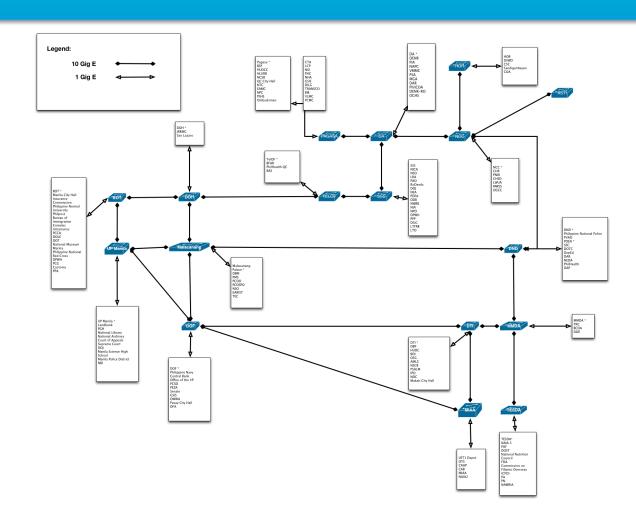


- Will run purely on ethernet with MPLS on top
- 10Gig Backbone with 1G drop to endnodes
- Metro Manila will run on a ring topology capable of recalculating path < ~50ms</li>
- Will be using Extreme x480 switches and Allied Telesyn fiber to copper converters



# iGOV ME Network





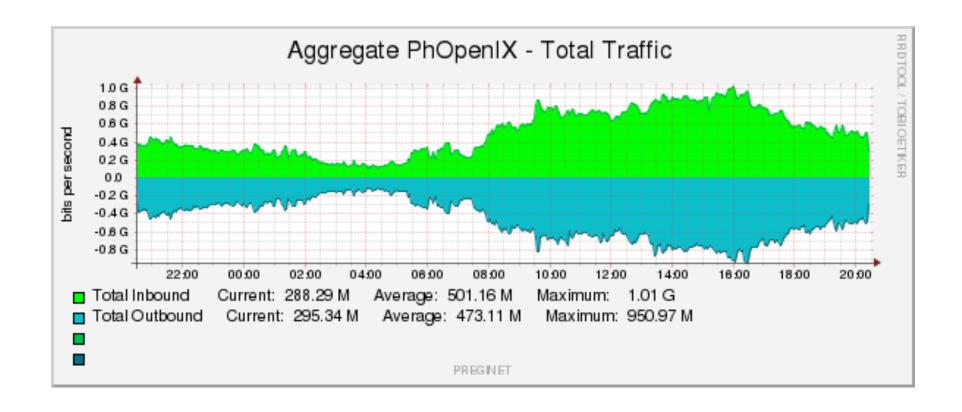




- We also operate the Philippine Open Internet Exchange
- Started on 2007 has started slowly
- Currently accessible from two locations
- Not-for-profit but interested partners must bring in their cable
- Main goal is to keep local traffic local
- Still having a hard time convincing the top ISP

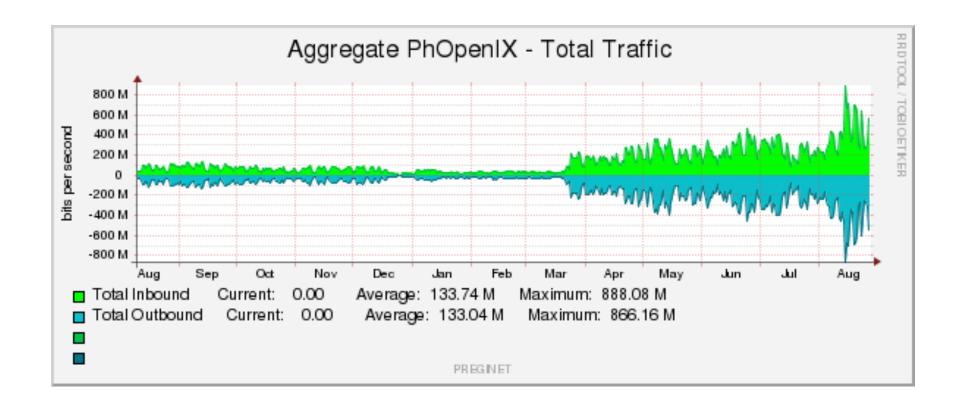
















- APAN and TEIN uplink upgrade.
- Getting an IRU outside the Philippines
- Upgrades to our backbone! We might skip 40G and go straight to 100G for datacenter interconnects
- Increase our fiber network footprint outside Manila and other Regions

#### Thank You!

http://www.pregi.net/phnoctein-2014.pdf