



**QËNDRA
NDËRINSTITUCIONALE E
RRJETIT AKADEMIK SHQIPTAR**
Academic Network of Albania

RASH network and infrastructure services

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ALNOG2, 14 November 2018, Tirana, Albania



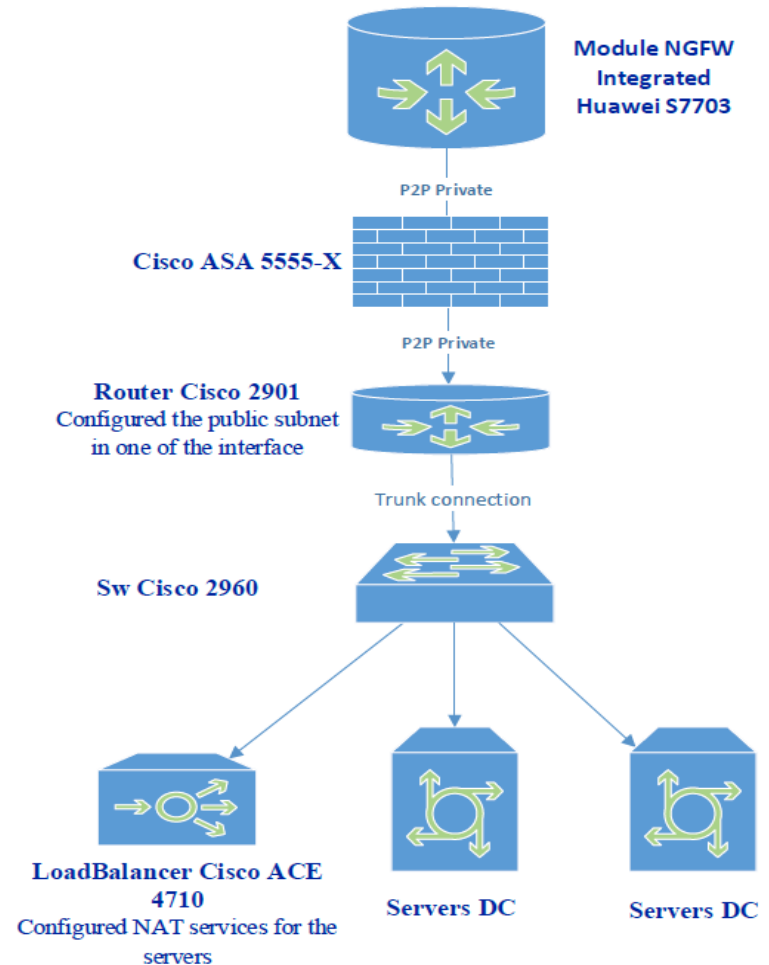
About RASH

- Albanian NREN
- Founded in 2009, active from 2011
- Mission:
 - Connect Albanian public universities in NREN and interconnect RASH to GEANT network
 - Provide services to universities & Ministry:
 - Software for University management
 - Portals for Ministry of Educations
 - Research and education interconnection
 - Datacenter, Hosting infrastructure



RASH Infrastructure

- Own Datacenter from 2016
- Datacenter network topology
- Three separated dedicated spaces:
 1. Server room
 2. Network room
 3. Electrical room
- N+1 UPS and on site generator
- Cooling system



Datacenter

- Hosting services for universities and ministry of education
- Offering different platform:
 - ESSE3 – Manage Alumni Curricula in the University (*)
 - UGOV ERP and Accounting Software – Manage University’s Finance (*)
 - IRIS Research Portal – Manage scientific publications(*)
 - U-albania – university admissions portal(**)
 - M-albania- teachers portal (**)
 - Research Census portal(**)
 - Training portal(**)

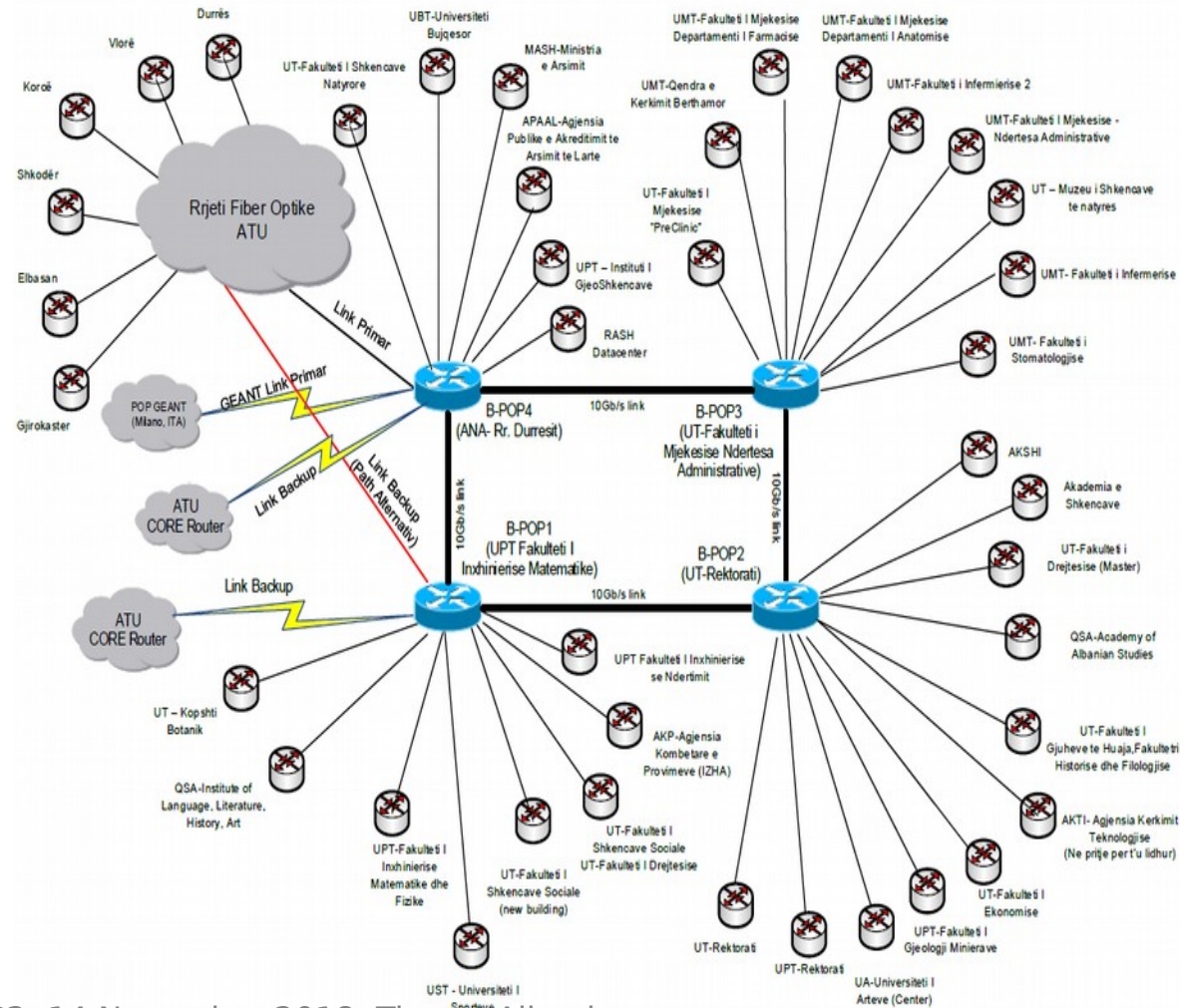




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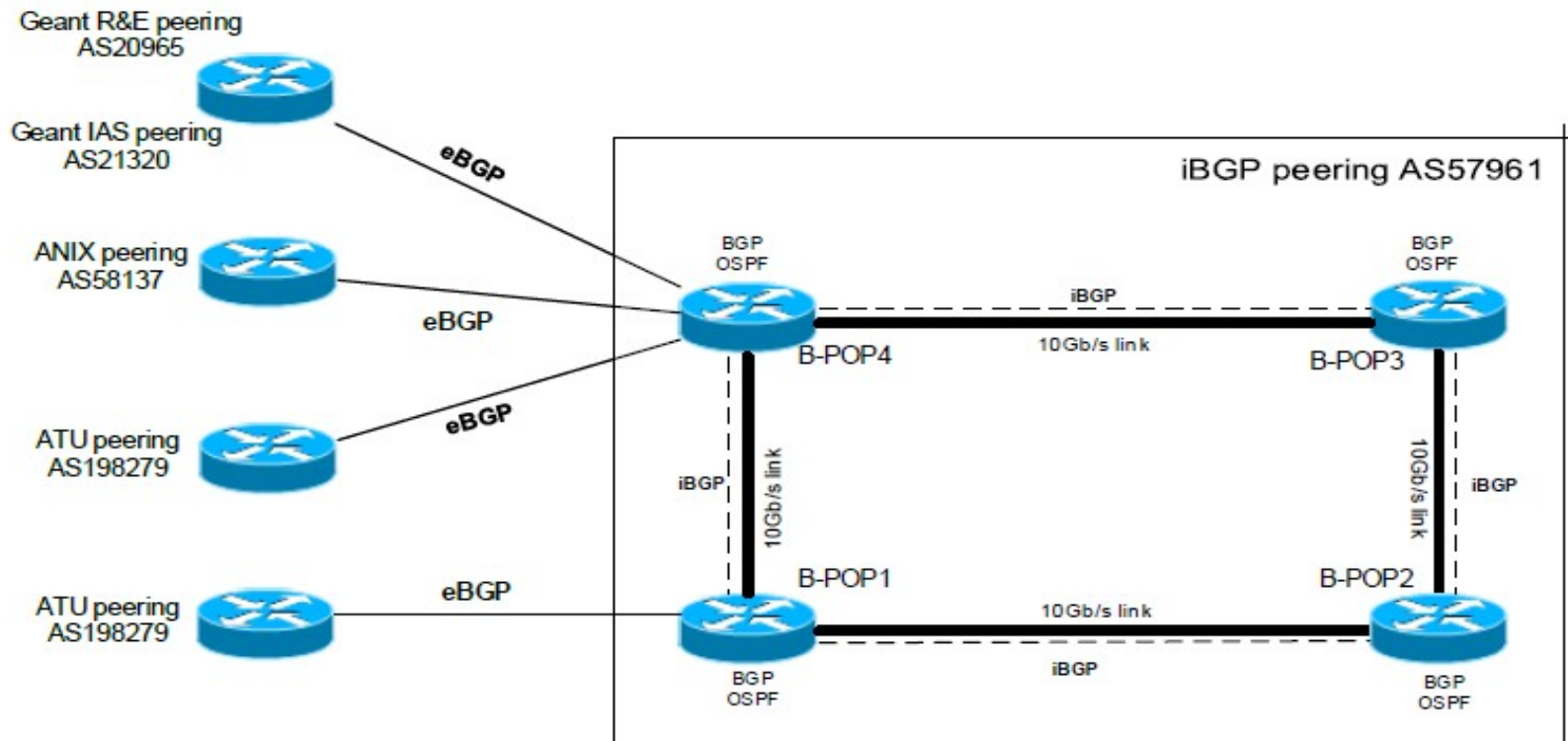
University Network

- Unet network topology
- Dark fiber network
- 4 Backbone area 10 Gbps
- 56 Point of presence, M-PoP + S-PoP with P2P 1Gbps
- MAN of Tirana & Regionals



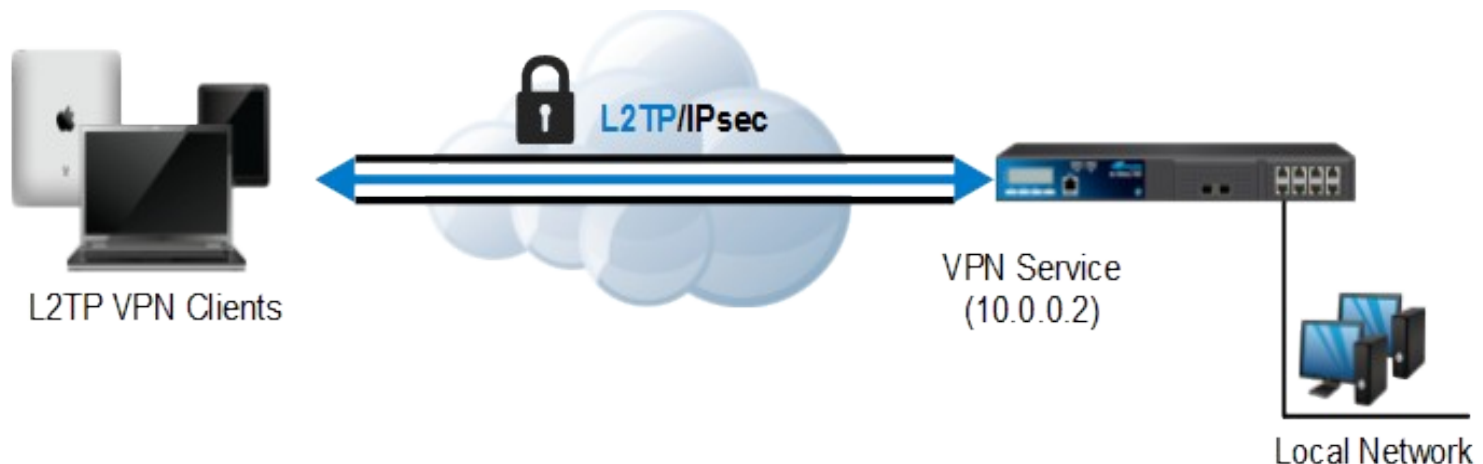
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eBGP and iBGP peering



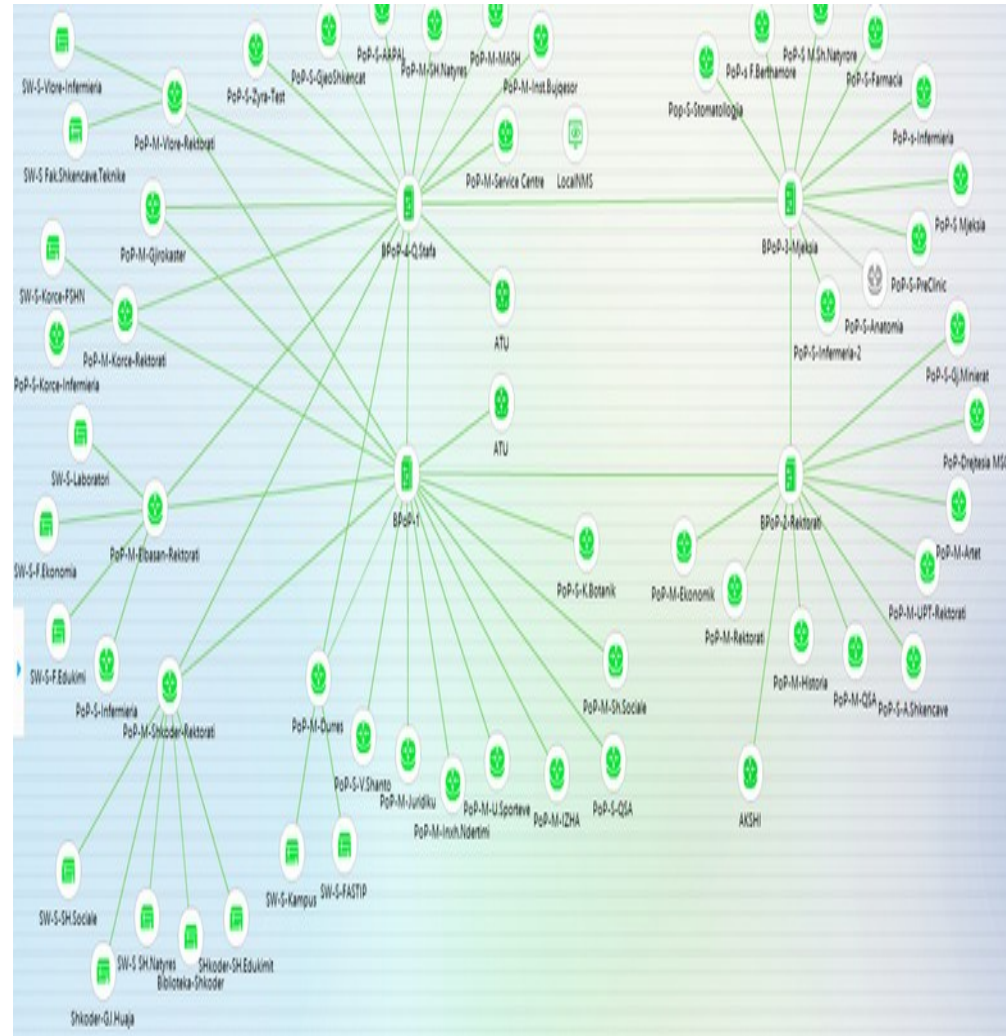
Our services

- Internet and data
- Public IP addresses
- VPN services
- DNS services
- RADIUS Server



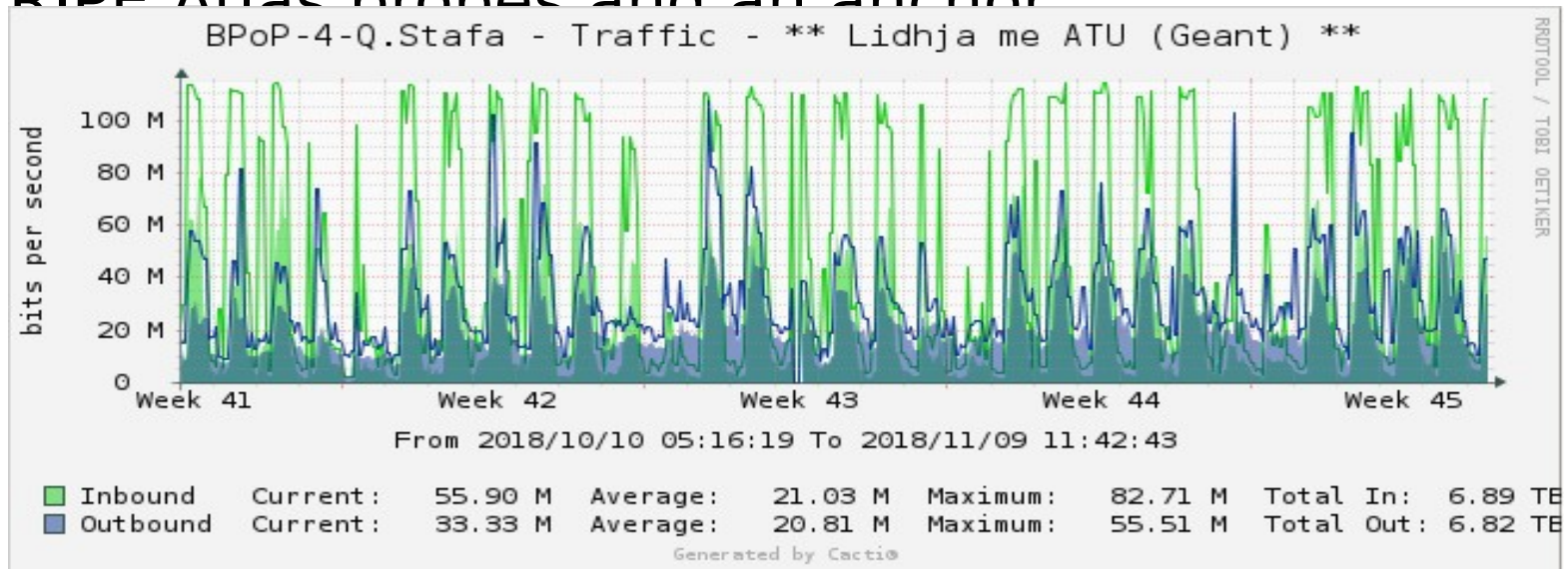
Esight Monitoring system

- Esight server from Huawei offers different measurement:
 - uptime, device configuration management&back up
 - remote control (telnet, ssh, web)
 - alarm notification via mail



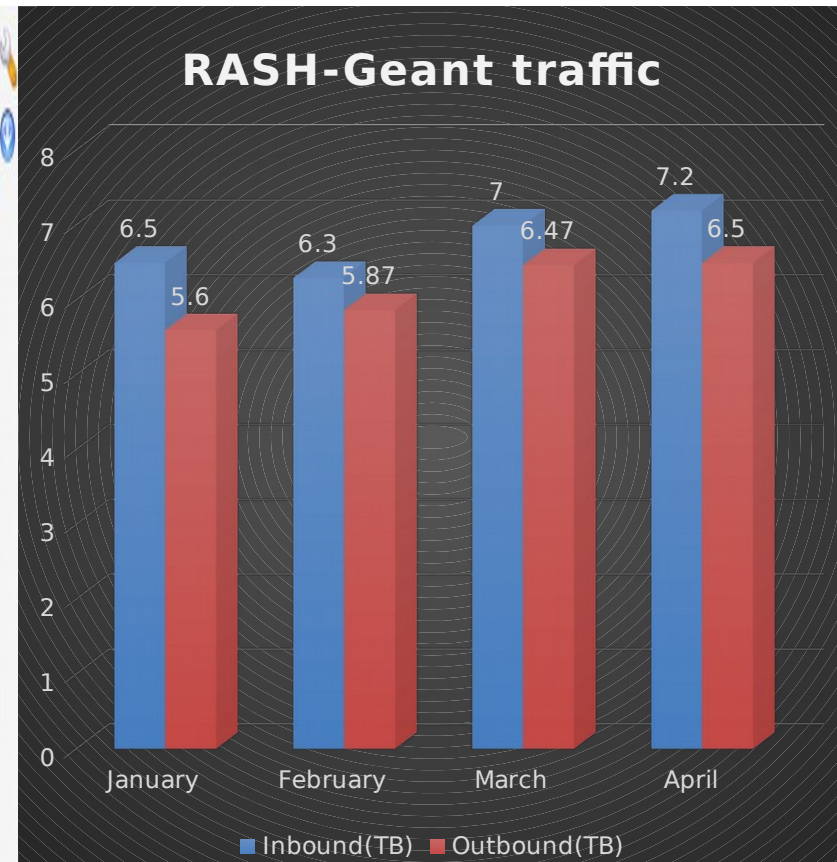
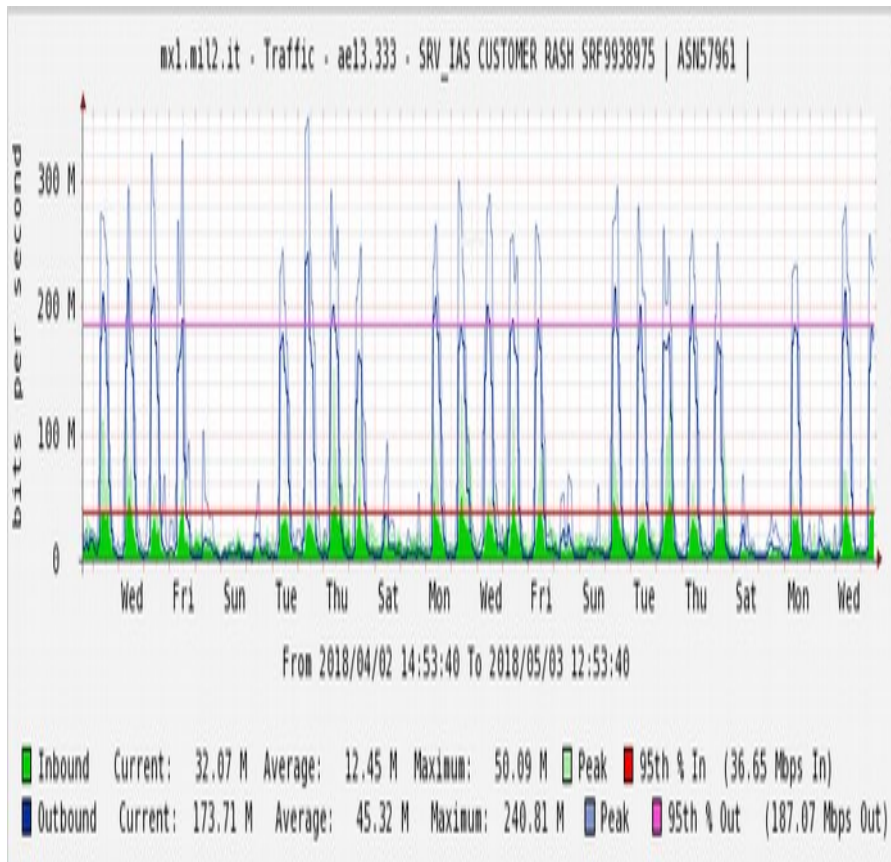
Other monitoring systems

- Cacti server – uptime, bandwidth utilization
- Nagios – uptime, ping, RTA, packet loss, latency, event logs
- RIDE Atlas probes and an anchor





Network traffic

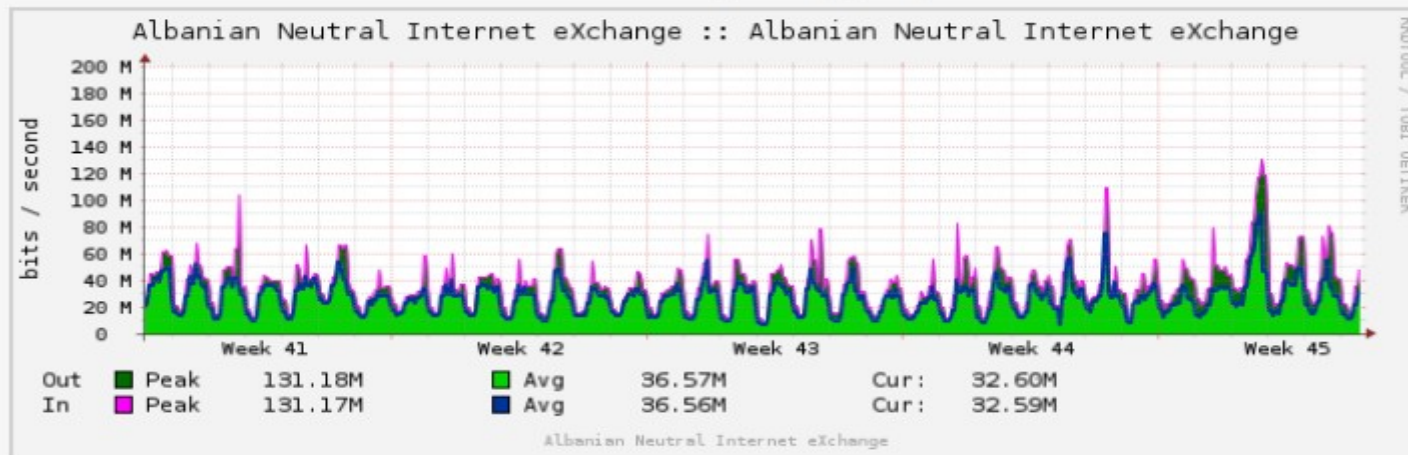




ANIX – Albanian Neutral Internet eXchange

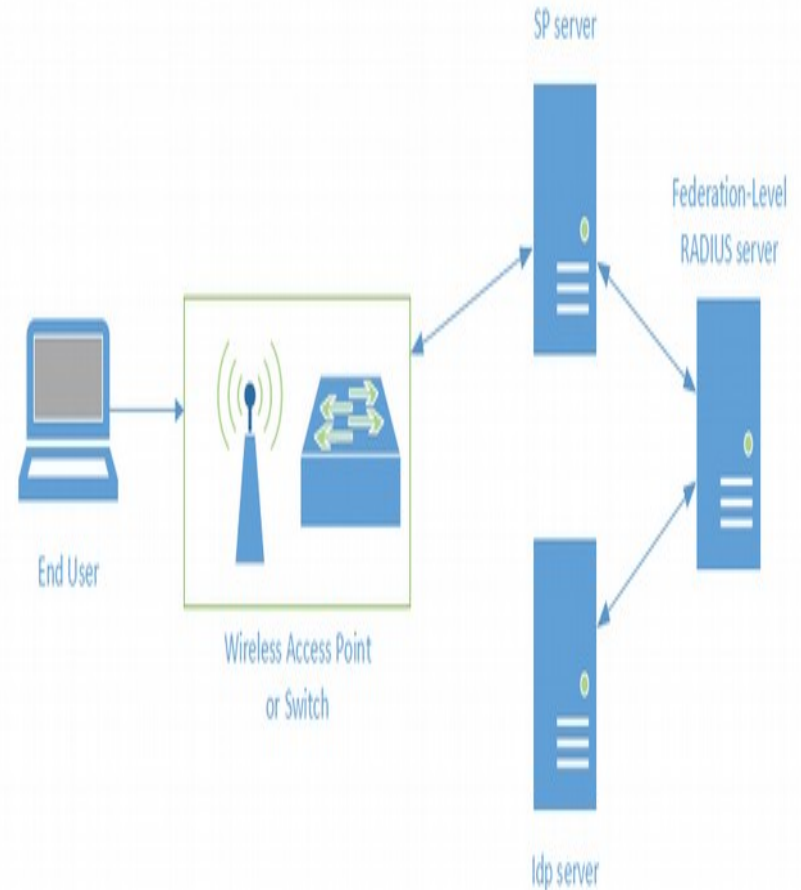
- IX hosted at RASH Datacenter
- 5 ISP connected

Albanian Neutral Internet eXchange Aggregate Traffic



eduroam- education roaming

- eduroam is the secure, world-wide roaming access service developed for the international R&E community
- 3 servers - SP, Idp, Flr (Freeradius 3.x)
- eduroam CAT tool and





Next step of eduroam



- Implementing eduroam in universities
- Installing and configuring APs
- Configuring CAT tool for every institution
- Data integration of users (students&researchers) with eduroam and Edugain
- Implementing eduroam in the center of Tirana



Future services

- Software-Defined Networking (SDN)
- PerfSONAR (on going)
- Edugain (on going)
- EduVPN
- VoIP system (on going)
- MPLS
- Cloud service



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THANK YOU!

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