Nepal Research and Education Network

NOC Update

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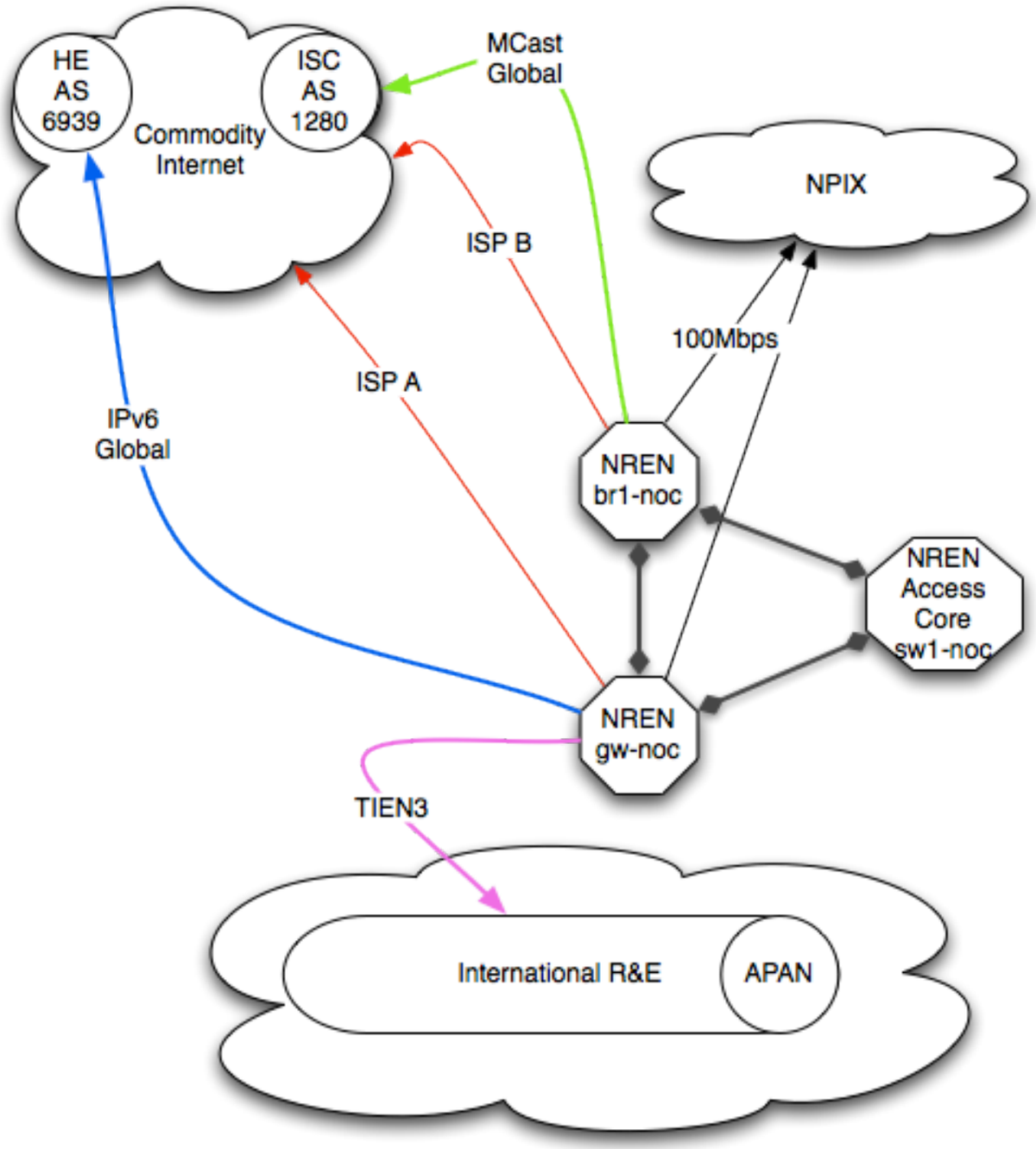
NREN Current Status

- Network is behind AS45170
- IPv4 and IPv6 from APNIC
- TEIN Connected
- IPv4 and IPv6 Unicast and Multicast
- Tested vClass with CanaIAVIST & DVTS with APAN-JP.
- DS3 circuit to Mumbai (MB)

Network Architecture



Nepal Research and Education Network (NREN)
Current Core Logical Network
v2010080201

- AS45170
- Global v6
- Tunnel to Hurricane Electric
- World Link (ISP -A) has provided native transit
- Global Multicast
- Tunnel to ISC (AS1280) through Greg Shepard

NOC Activities

- Expanding Network
- Rural Networking
- Telemedicine
- Multicast and IPv6 Deployment to members
- Sensor Network provisioning
- Other Activities

Expanding Network

- Connected to 15 members by Fiber, including TU Central Campus and KU campus in Dhulikhel - 30 KM from City.
- Bandwidth allocation on network varies from 2Mbps to 10Mbps, can be increased with little additional costs. Few nodes used for Telemedicine already at 100Mbps, plan to get dark fiber.
- All fiber connections are specially negotiated pricing with the local service providers
- Network already extended to Pokhara to facilitate Nepal Wireless Project.
- Tryig to expand to the eastern part of Nepal

NREN

Rural Networking

- Supporting additional networking on wireless networks for telemedicine, tele-teaching.
- Trying to expand sensor networking into rural areas for environmental monitoring.
- Training on wireless networking and other activities to support other NGOs working on this field.
- Currently testing on performance metrics on wireless networks.

Telemedicine

- NOC actively supports the Telemedicine Medical Working Group.
- Recently provisioned a 100Mbps circuit from NOC to the Kathmandu Model Hospital.
  - Plans already made for dark fiber provision.
- Telemedicine Workshop in collaboration with CanalAVIST.
- DVTS has been tested with Seoul National University Bundang Hospital on 26 July 2012

Multicast and v6

- R&E v6 and Multicast prefixes received from TEIN3
- Global v6 prefixes received from Hurricane Electric tunnel
  - Our commodity upstream plans to provide native v6 global prefixes in November 2010.
- Global v4/v6 Multicast prefixes received from Internet Systems Consortium (ISC), with help from Greg Shepard.
- NREN will facilitate v6 deployment at NPIX and other Nepali ISPs

v6 and Multicast Deployment to Members

- Given the lack of commodity v6 and multicast transit, NREN plans to provide full v6 and multicast transit to all it's members and connected institutions.
- Currently upgrading routers software and gradually providing routers donated by PCH to members.
- We are not able to have v6 multicast work properly on Linux based routers used by some of our members.
- We plan to deploy v6 multicast in our rural networking component for tele-teaching.

Sensor Networking

- Working on formation of the Sensor Networking Working Group.
- Waiting on our rapid deployment v6 to all nodes to enable v6 based sensor networks
- Working with the IP-USN group.

Other NOC Activities

- NOC Management of the Nepal Internet Exchange
- Technical support for Nepal Wireless Project.
- Various projects to support Internet development in Nepal
  - support in deployment of Project Gulliver, i.root-servers.net anycast, PCH anycast servers deployment, RIPE Test Traffic Management System with NTP time clock, hosting a secondary for .np etc.

Member Organizations

- Kathmandu Model Hospital
- Institute Of Medicine, Teaching Hospital Kathmandu
- Nepal Wireless Pokhara
- Advance Engineering College
- Acme Engineering College
- Kantipur City College
- Kathmandu University, Dhulikhel
- Khwopa Engineering College

Member Organizations

- Prime College
- Kathmandu Model Hospital
- Kirtipur Model Hospital
- Center for Energy Studies, IOE, Pulchowk
- WhiteHouse College
- Gandaki College of Engineering and Science, Pokhara
- Pokhara Uinversity, Pokhara
- Tribhuwan University Central Library

Thanks

- If you have questions, please write to info@nren.net.np
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