



The Egyptian IPv6 Task Force 2004 - 2006

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The Egyptian IPv6 Task Force

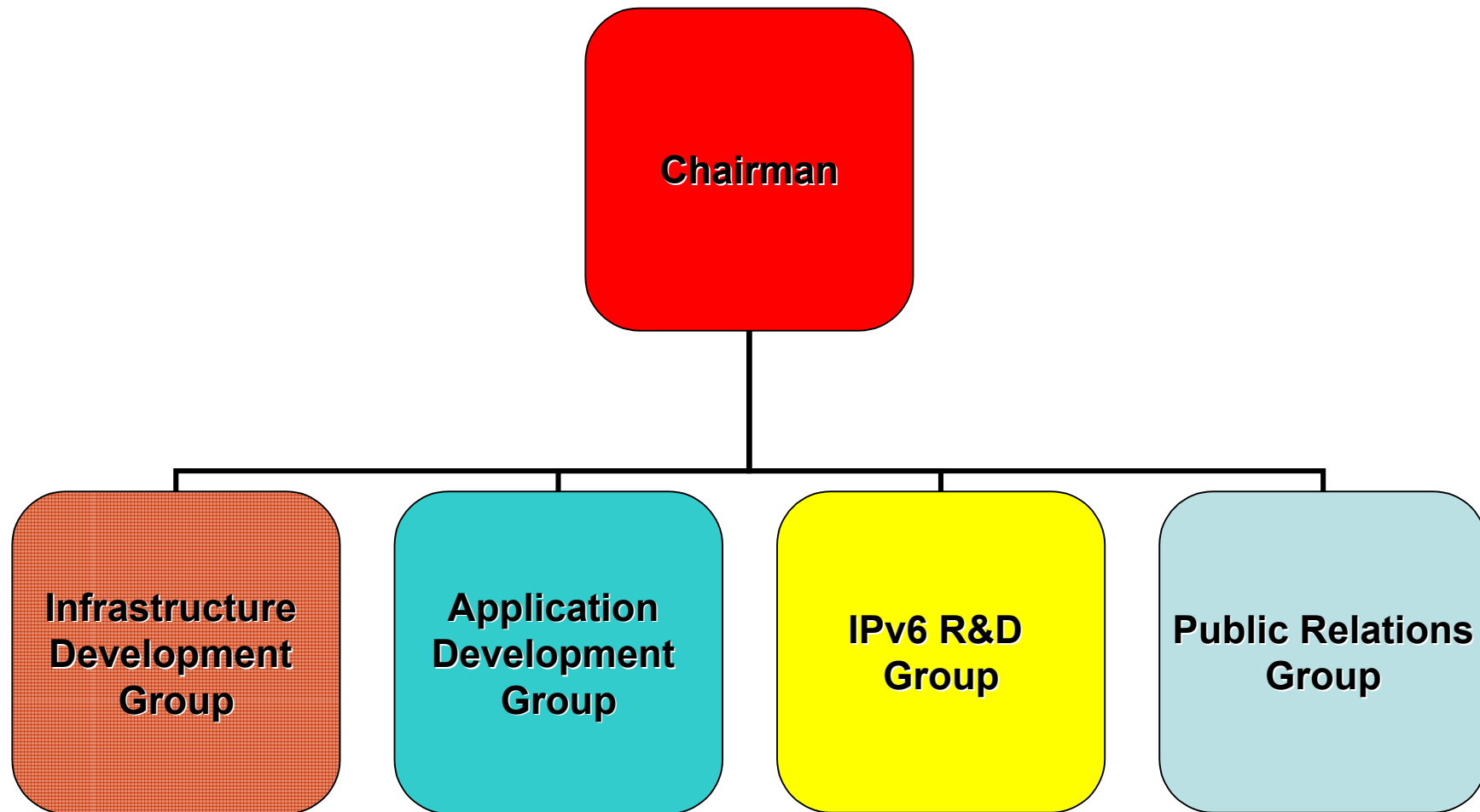


Agenda

- Quick Overview
- Egyptian IPv6 Milestones
- Egyptian IPv6 Test Bed
- Lessons Learned



Foundation & Structure





FACTS

- **Number of Addresses in IPv4:**
4,294,967,296
- **Population of Earth (2001):**
6,170,000,000



Vision

Number of Addresses in IPv6:

340,282,366,920,938,463,463,374,607,431,768,211,456

The Egyptian IPv6 Task Force is an essential step towards overcoming this challenge and generating interest in IPv6 for the national good



Mission

- Raise community awareness on the impacts of IPv6.
- Increase industry co-ordination to begin the initial phases of IPv6 readiness.
- Identify suitable transition scenarios.
- Promote the launching of IPv6 test beds to come across its technical problems and solutions.
- Encourage the private sector R&D co-ordination to promote the creation of an IPv6 center of excellence in Egypt.
- Serve as a reference on IPv6 on a national and regional levels.



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Milestones

- **Form** Egypt IPv6 Task Force
- **Obtain** /32 IPv6 Addresses from AfriNIC
- **Build** Test bed labs infrastructure
- Test **Connectivity** between labs
- Test **Applications**
- Build the Egyptian **IPv6 Backbone** network
- International **Cooperation**



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Egyptian IPv6 Test Bed

Phase 1:

- Build many test labs with native IPv6 & connect them together by using IPv6 over IPv4 Tunnels.

Phase 2:

- Connecting IPv6 test labs via dedicated leased lines. (Native IPv6 connectivity)

Phase 3:

- Building the Egyptian native IPv6 Backbone network.



Lab Implementation

- Host Implementation:

Operating Systems: UNIX (Solaris 10), Linux RedHat 9, Windows2003.

- Applications Servers:

DNS, Mail Server, Web Server, VoIPv6, Video Conference, Firewall.

- Routing:

For phase one, Using Dual Stack Routers to support both IPv4 & IPv6 stacks.

Lab Implementation (cont.)

- Applications:
 - DNS: BIND 9.3, on Solaris 10 and Win2003
 - Web: IIS on Win2003
 - Mail: Sendmail
 - VoIPv6: Vocal, *
 - Firewall: based on Snort

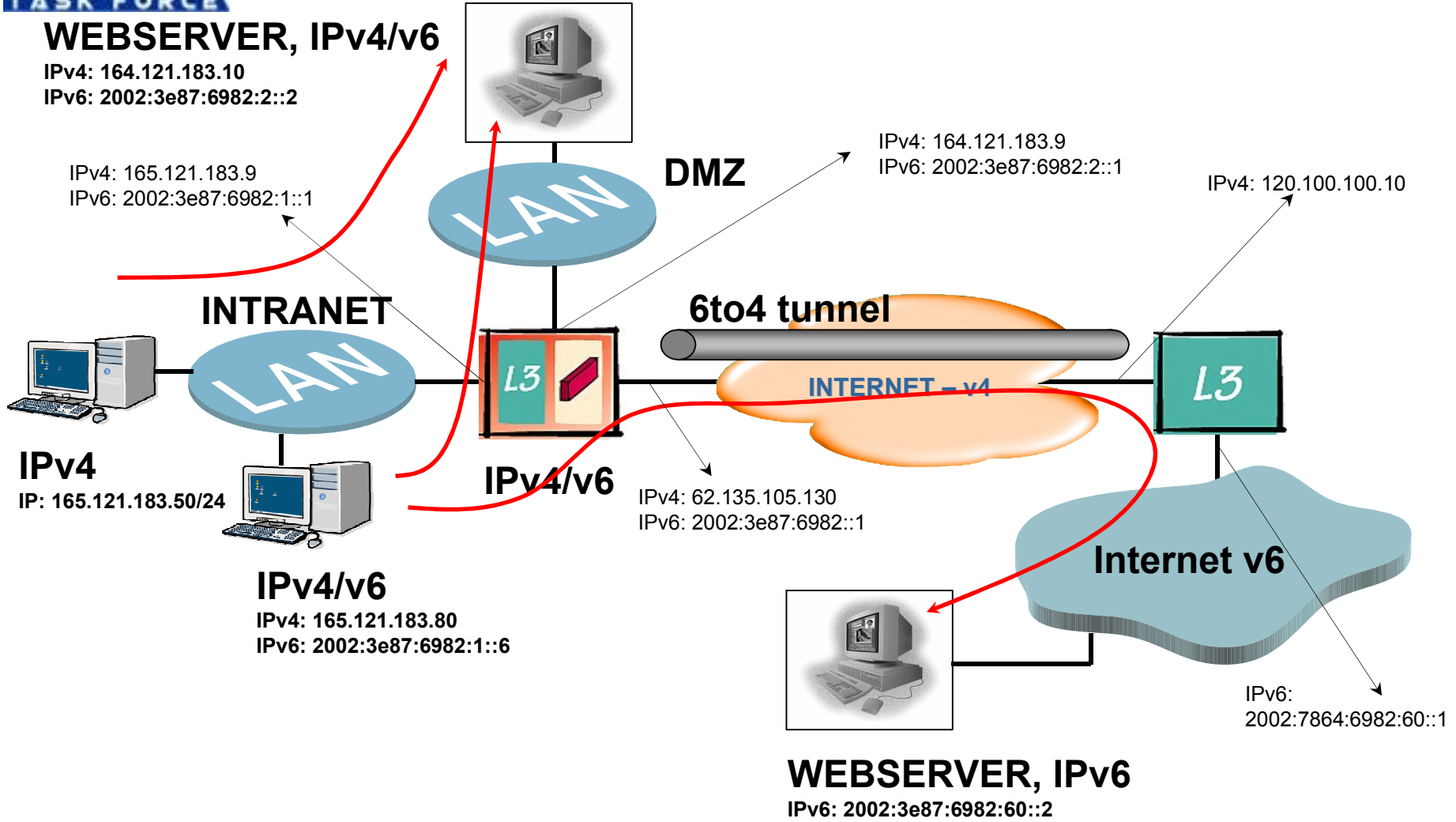




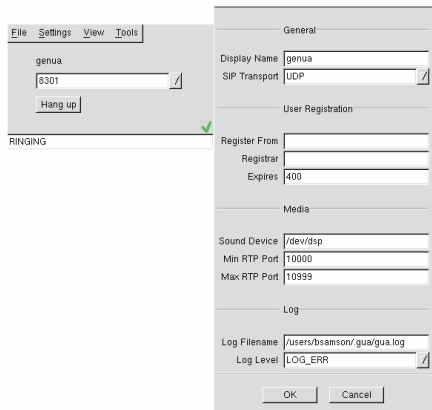
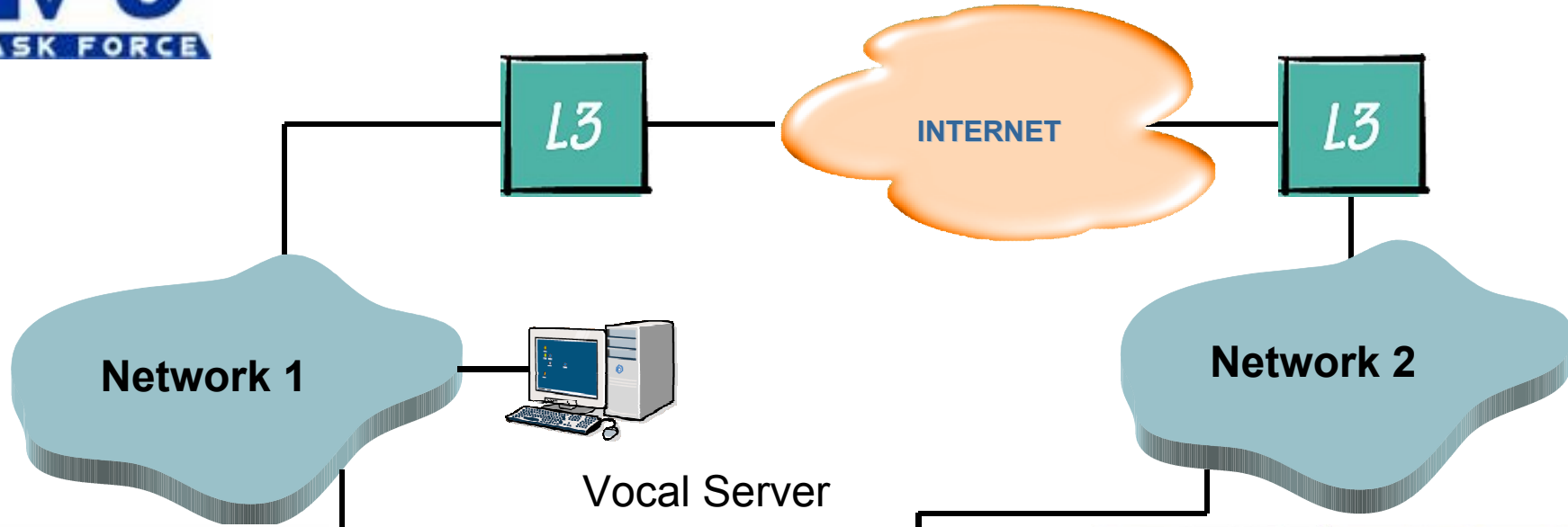
Lab Implementation (cont.)

- Video Conference:
 - Video Conference: e-Conf (France Telecom)
 - V.C. Network Appliance
 - Tandberg 6000 MXP
 - Tandberg 990 MXP
- Video Streaming:
 - Windows Media Server
 - Network Appliance
 - VBrick 6000 (Oct 2006)

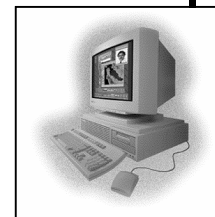
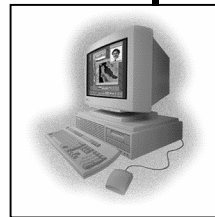
Open Source Lab



VoIPv6



SipSet Client

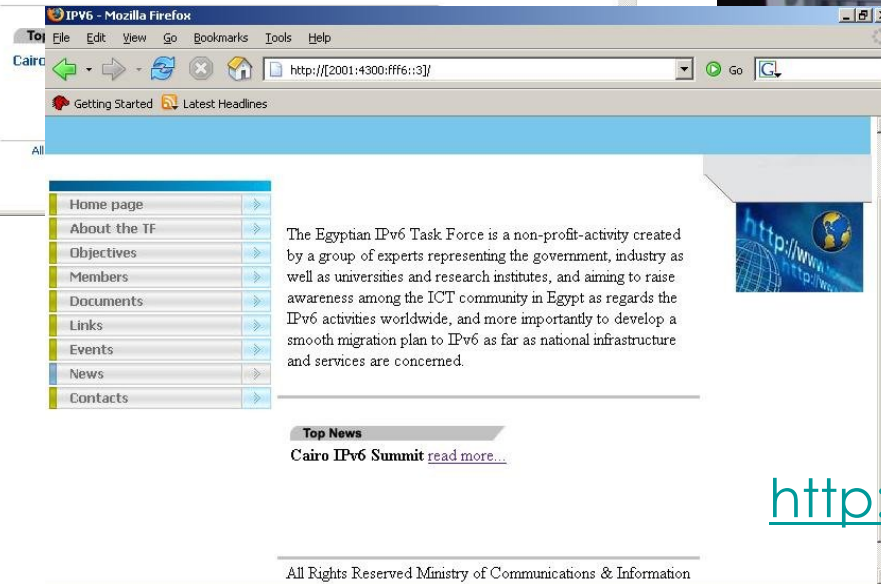


Kphone Client

VoIPv6 : Vocal + Kphone + SipSet



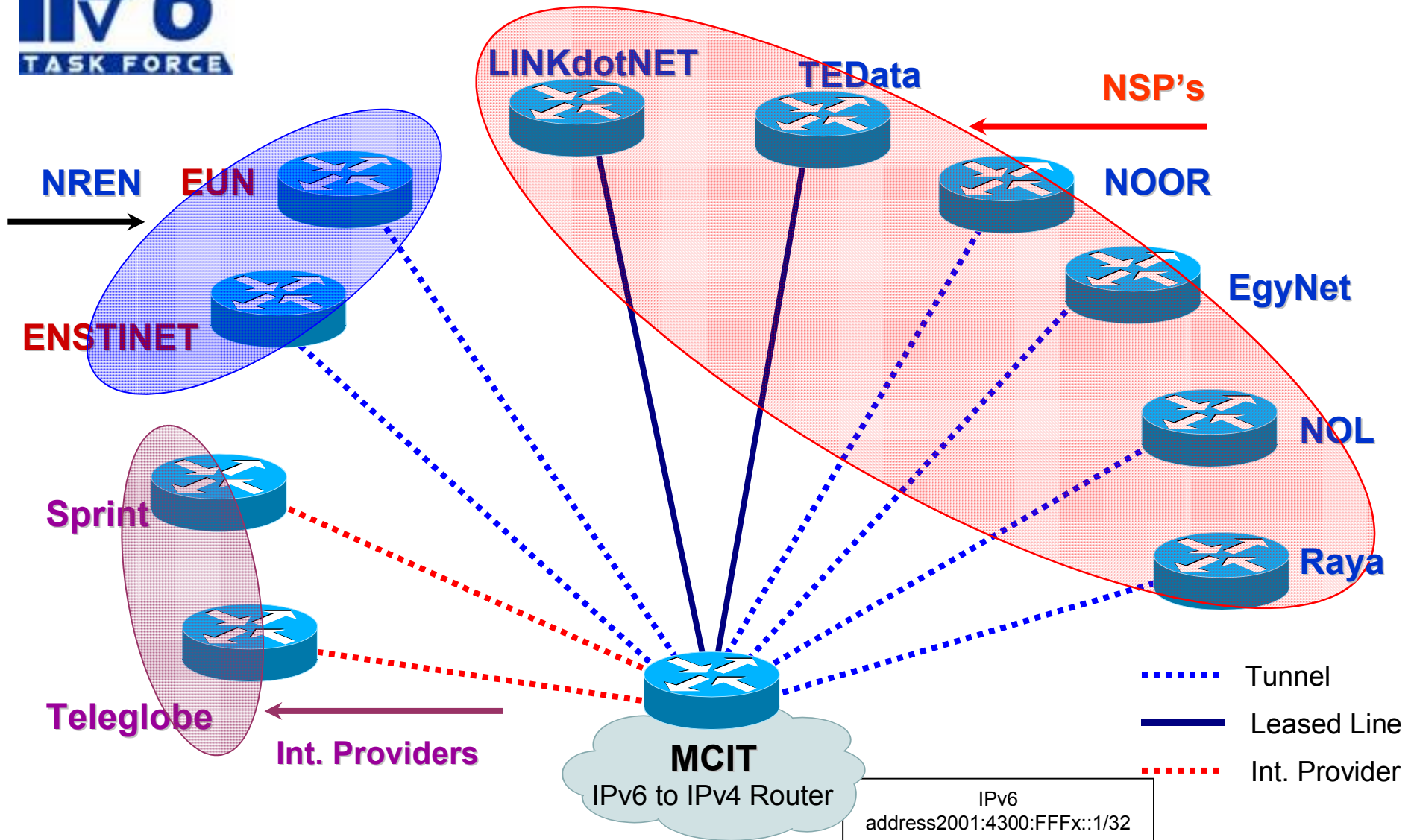
IPv6 Test Lab



<http://www.ipv6.org.eg/lab.asp>

The Egyptian IPv6 Task Force

Phase 2: dedicated leased lines

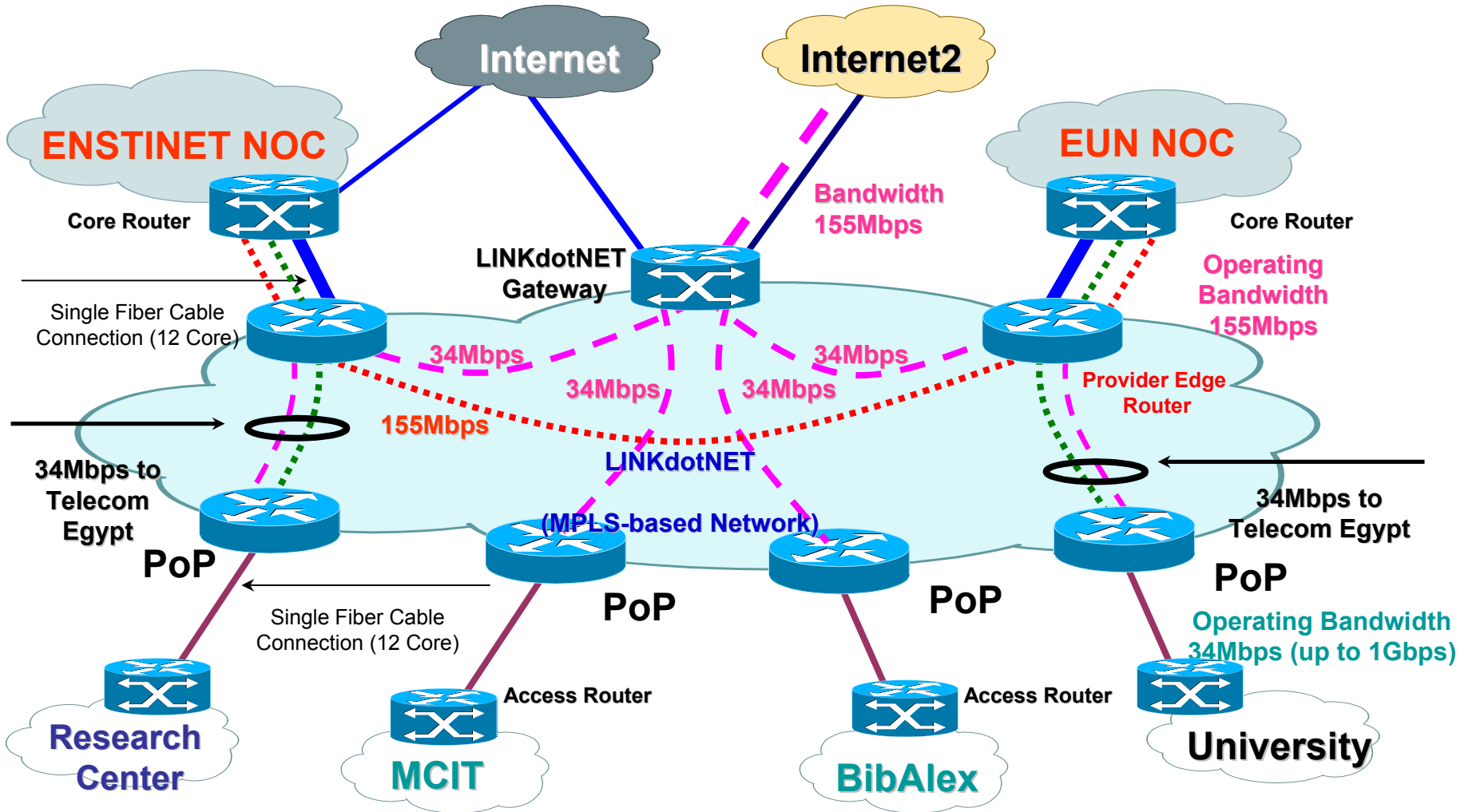




Phase Three

Building Egyptian IPv6 Backbone

The National Research & Education Network





International Cooperation

- Internet2 connectivity's:
 - MCIT to Abilene (USA) via dedicated 155 Mbps link, using native IPv6.
 - Mirror 34 Mbps link to GEANT at EUN via EUMEDCONNECT project.
- Entities currently connected:
MCIT – ENSTINET – EUN – AUC –
Bibliotheca Alexandrina.





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- Phases of Test Bed
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Lessons Learned !!





Lessons Learned !!

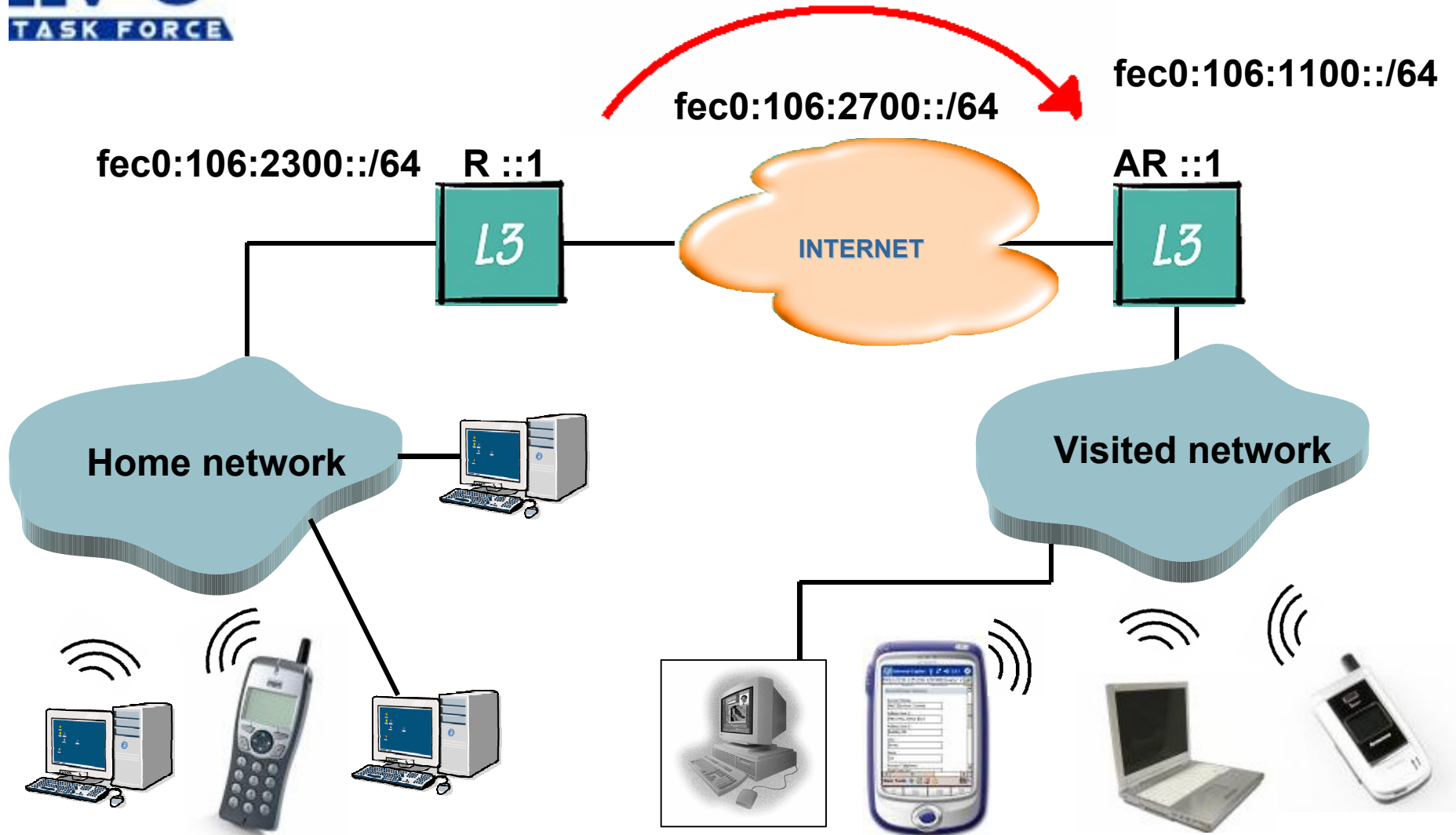
- IPv6 will take years to fully deploy, “penetrate slowly”.
- Can setup training labs easily.
- Start purchasing only IPv6 compatible devices.
- Open Source vs. Ready made Packages.
- Source of Fund.





What's after ?

Mobile IPv6





.. IPv6 still have more

Thank You