IPv6
Design of National IPv6 Infrastructure and Transition to IPv6 Protocol Project

"Design of National IPv6 Infrastructure and Transition to IPv6 Protocol in Turkey"

ICTA
Information and Communication Technologies Authority

TÜBİTAK ULAKBİM

1982 Gazi Üniversitesi

Çanakkale Onsekiz Mart Üniversitesi 1992

Onur Bektaş (ULAKBİM)

Outline

Design of National IPv6 Infrastructure and Transition to IPv6 Protocol Project

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- Design of National IPv6 Infrastructure and Transition to IPv6 Protocol
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  - Objectives
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- IPv6-GO (Turkish IPv6 Test Bed Technology Research and Development Platform)
- IPv6-DN (IPv6 Traffic Exchange Point)
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IPv6 Deployment Activities in Turkey

Design of National IPv6 Infrastructure and Transition to IPv6 Protocol Project

- TÜBİTAK ULAKBİM, who is managing National Academic Network (ULAKNET) in Turkey, has been performing research on IPv6 since 2003.TÜBITAK ULAKBIM also set up ULAK6NET backbone to which IPv6 capable universities and research institutions are connected

- IPv6 Forum Turkey, established in 2007, is coordinated by Turkish Information and Communication Technologies Authority (ICTA) . IPv6 Forum Turkey set up economy, education, management, technical working groups with members from universities, government institutions, Internet Service Providers and nongovernmental organizations (NGO)

- 19 Turkish ISPs get their IPv6 addresses from RIPE but only 3 of them are visible in global IPv6 routing tables

Design of National IPv6 Infrastructure and Transition to IPv6 Protocol

- Project Overview
  - Funded by TUBITAK (The Scientific & Technological Research Council of Turkey) with the total budged of 620.000$
  - Supported by ICTA (Turkish Information Technologies and Communications Authority) as customer
  - Carried out under the coordination of ULAKBİM with the participation of Gazi University, Çanakkale 18 Mart University
  - The project started on February 2009 and will continue for 24 months. There are more than 30 researchers working for the project
- Project Objective
  - Draw a road map for the IPv6 transition process for Turkey
- Current Status
  - First 8 monthly period has been completed

Project Research Topics

Design of National IPv6 Infrastructure and Transition to IPv6 Protocol Project

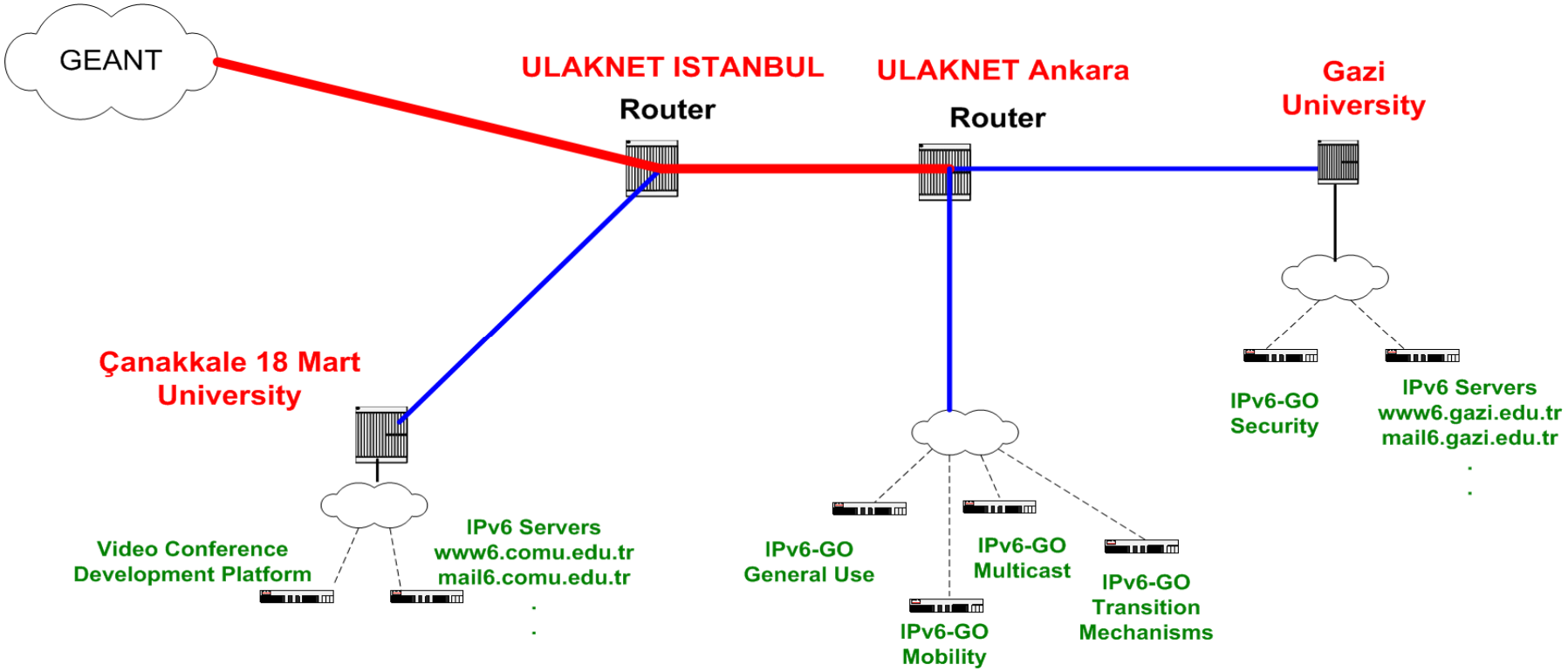
- IPv6 Advanced features
  - Mobility, Quality of Service, Multicast
- IPv6 Security
  - IPv6 transition security
  - Worm propagation in IPv6 networks
  - Development Of IPv6 Honeypot (Kovan) and establishment of IPv6 honeynet
- IPv6 applications
  - Development of IPv6 capable videoconferencing software (fi6en)
- IPv6-GO (Turkish IPv6 Test bed and Technology Research and Development Platform)
- IPv6-DN (IPv6 Traffic Exchange Point)

Project Achievement in First 8 Months

IPv6 Design of National IPv6 Infrastructure and Transition to IPv6 Protocol Project

- An IPv6 readiness survey was prepared and applied to Turkish ISPs, Government Institutions and Universities to investigate:
  - End user systems IPv6 support
    - Operating Systems
    - Other software's working over IP
  - IPv6 support of Network infrastructure and Services
    - Routers, switch, security devices etc
    - WWW, VoIP etc
  - Their plans for IPv6 transition
    - If there is any plan
    - Roadmap
    - Expected cost of transition
- This survey also accelerated IPv6 dissemination activities in Turkey
- On July 2009, ICTA nominated for IPv6 transition and deployment activities by E-Transformation Turkey Executive Comity which is the highest level of scientific policy maker
- Minister of Transportation is also deeply interested the outcomes of the project
- IPv6-GO and IPv6-DN setup has completed.

IPv6-GO



IPv6-GO consists of IPv6 tests labs, dedicated data links between them and connected to not only academic but also commercial IPv6 backbone as well. IPv6-GO also serves as an IPv6 traffic peering point for Turkish Internet Service providers to test their networks infrastructure and services for transition.

IPv6-DN (IPv6 Traffic Exchange Point)

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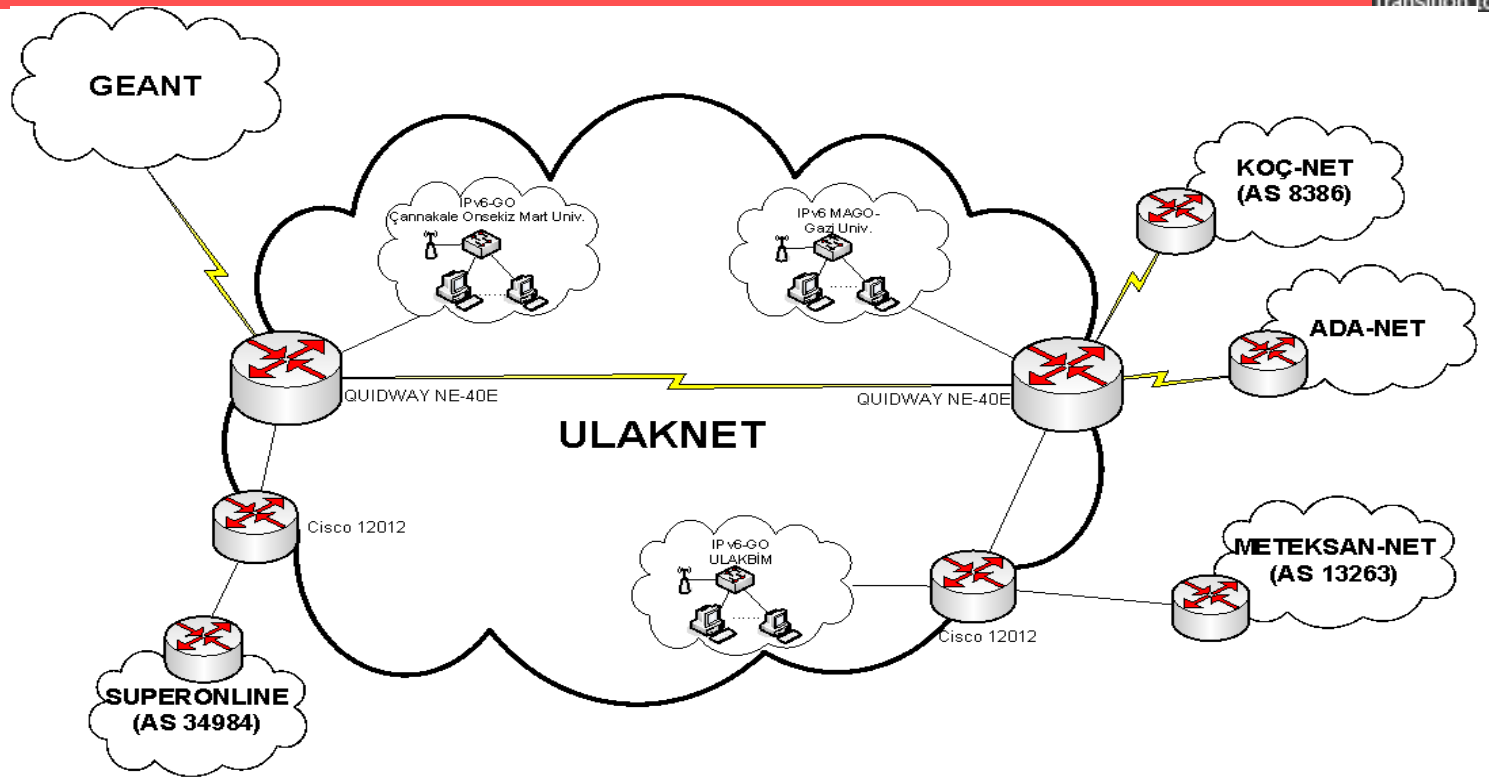

Currently four Turkish ISPs connected to IPv6-GO exchange point to make IPv6 conformance and interoperability tests with other Turkish Internet Service Providers and Universities

Questions & Comments

IPv6 Design of National IPv6 Infrastructure and Transition to IPv6 Protocol Project

- Any collaboration/cooperation opportunities are welcome on IPv6 based research

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