Mongolia Internet Exchanges

Design and Implementation

http://www.mix.mn

http://www.openmix.org

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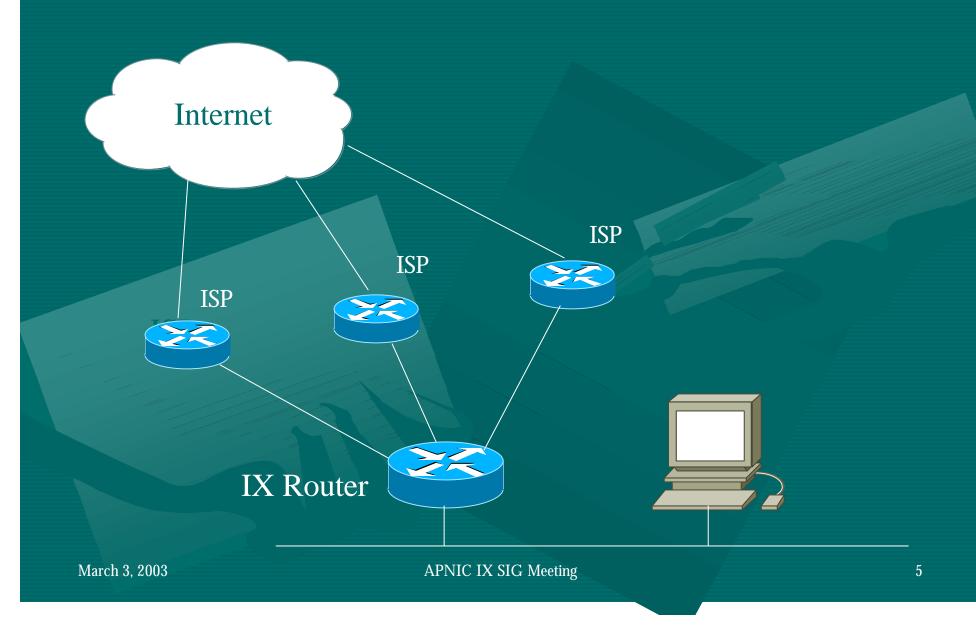Engineer of Network Operation

Micom Co., Ltd

Agenda

- What is MIX?
- MIX architecture
- What is OpenMIX?
- OpenMIX architecture
- Mongolia IX history
- MIX Tools
- Conclusions

What is MIX?

- **M**ongolia **I**nternet e**X**change is a *neutral* exchange point for transfer of local Internet traffic, bypassing the US, Europe and Asia based transit providers

- ErdemNet, BodiCom, MobiCom and MagicNet currently connected to MIX
  - Leased line connection speed at 1.5Mbps-2Mbps
  - Layer 3 Router based
  - Telco facility based
  - Commercial agreement must be sign

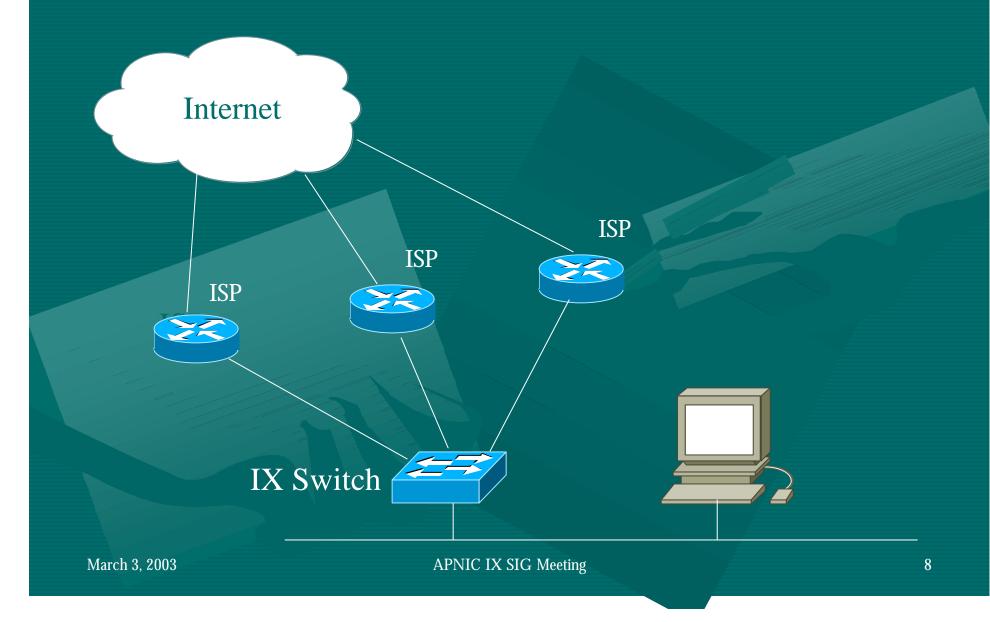# MIX architecture

Internet

ISP

ISP

ISP

ISP

IX Router

Connecting to MIX

- The MIX is co-located at Mongolia Telecom switching room

- Participants will be allocated a HDSL-E1 circuit into the MIX router, or an Ethernet port on the MIX switch

- Route exchange via BGPv4 or Static

What is OpenMIX?

- OpenMIX is a ***non-profit*** exchange point for ***high speed*** transfer of local Internet traffic
- MobiCom, BodiCom, MCSCom, MagicNet, Railcom and Micom connected to OpenMIX
  - Optical fiber connection speed at 10Mbps/100Mbps
  - Layer 2 Ethernet switch based
  - ISP network infrastructure based
  - No commercial agreement needed

OpenMIX architecture

Internet

ISP

ISP

ISP

ISP

IX Switch

Connecting to OpenMIX

- The IX is located at Micom NOC
- Participants will be allocated a 10Mbps/100Mbps Ethernet/FastEthernet connection port into IX switch
- Route exchange via BGPv4 or Static

Mongolia IX history

- January, 2001 ISPs meeting
  - IX Presentation from Mr. John Savageau, Pihana Pacific
- February, 2001 4-ISPs signed MoU
- 19 April, 2001 Start installation of MIX
- 25 April, 2001 MIX begin normal operation
- 25 December, 2001 MCSCom connected to MIX
- 11 March, 2002 Micom connected to MIX
- October, 2002 5-ISPs Engineering Team agree on OpenMIX project
- 25 December, 2002 OpenMIX begin trial operation
  - Static routing
- 15 January, 2003 OpenMIX begin normal operation

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MIX Tools

- Mailing List

  - announce-request@mix.mn for new network announcements, scheduled outage information, etc
  - discuss-request@mix.mn for general discussion between MIX participants

- Traffic Graphs

  - http://www.mix.mn/mrtg/

- Network Monitoring

  - http://www.mix.mn/netsaint/

OpenMIX Tools

- Mailing List
  - Coming soon
- Traffic Graphs
  - http://www.openmix.org/
- Network Monitoring
  - Coming soon

Conclusions

MIX to

APNIC IX SIG Meeting

Conclusions

OpenMIX

Thank you