

Emirates Internet Exchange **EMIX**

Providers, Peering & Customers

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Agenda

- **EMIX Overview**
- **EMIX International Connectivity**
- **EMIX Peering**
- **EMIX Capacity Statistics**
- **EMIX Customers**

EMIX Overview

From 1998 up to 2007

- EMIX is a Regional Network Access Point - NAP
- EMIX Launched in 1998
- EMIX has 8 POPs and 2 planned POPs:
 - Abu Dhabi
 - Dubai
 - 2 POP in Fujairah
 - New York
 - London
 - Amsterdam
 - Singapore
 - Germany in 4th Q 2007
 - West Coast of US in 1st Q 2008
- EMIX Network consist of 27xSTM-1 & 16 STM-4 equivalent to 14 Gbps

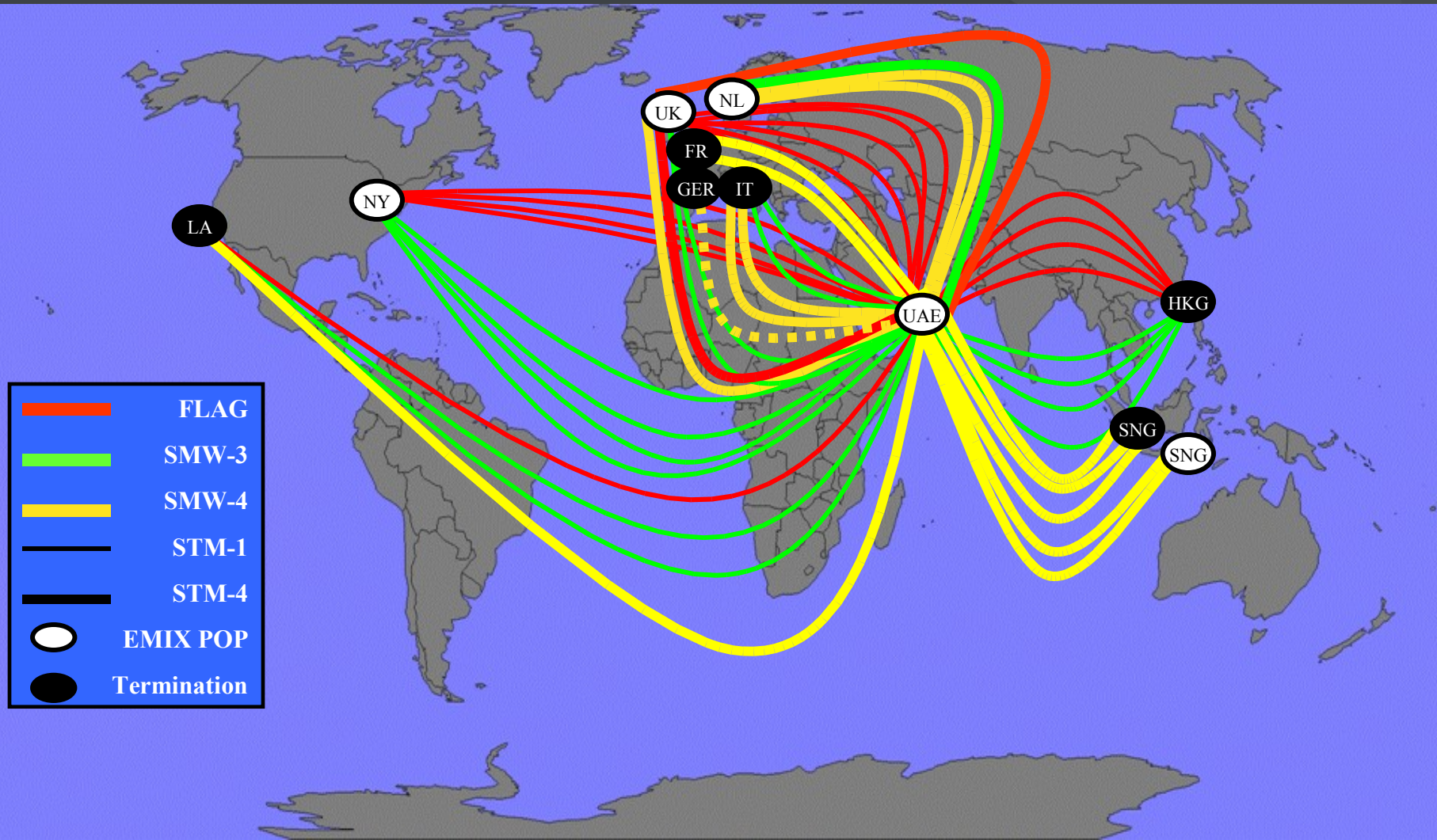
EMIX Overview

Carrying the Carriers

- EMIX has 3 types of connectivity
 - Providers
 - Peering
 - Customers
- EMIX 2007 forecasted capacity is equal to 19 Gbps
- EMIX makes use of the following cables
 - FLAG
 - SMW-3
 - SMW-4
 - FOG
 - Terrestrials Cable.
 - New Cables coming..

EMIX Provider

EMIX International Connectivity



EMIX Peering

Peering definition and advantages

- Peering is the arrangement of exchange Local traffic between Internet service providers (ISPs).
- Settlement- Free Interconnection.

Advantages

- Improve Network Performance
 - Reduce Delay
 - Localize traffic between ISPs
 - Better utilization of international provider capacity.
- Cost Effective
 - Peering setup cost is shared between both parties.
 - No charge for IP port

EMIX Peering

- **Private “point to point peering”**

Private peering is point to point connection between two ISPs on a dedicated link.

- **Public “point to multi-point peering”**

Public peering is a place where multiple ISPs exchange traffic at one point.

Description	Private	Public
No. of Links	High	Low
Network Performance	Highest	High

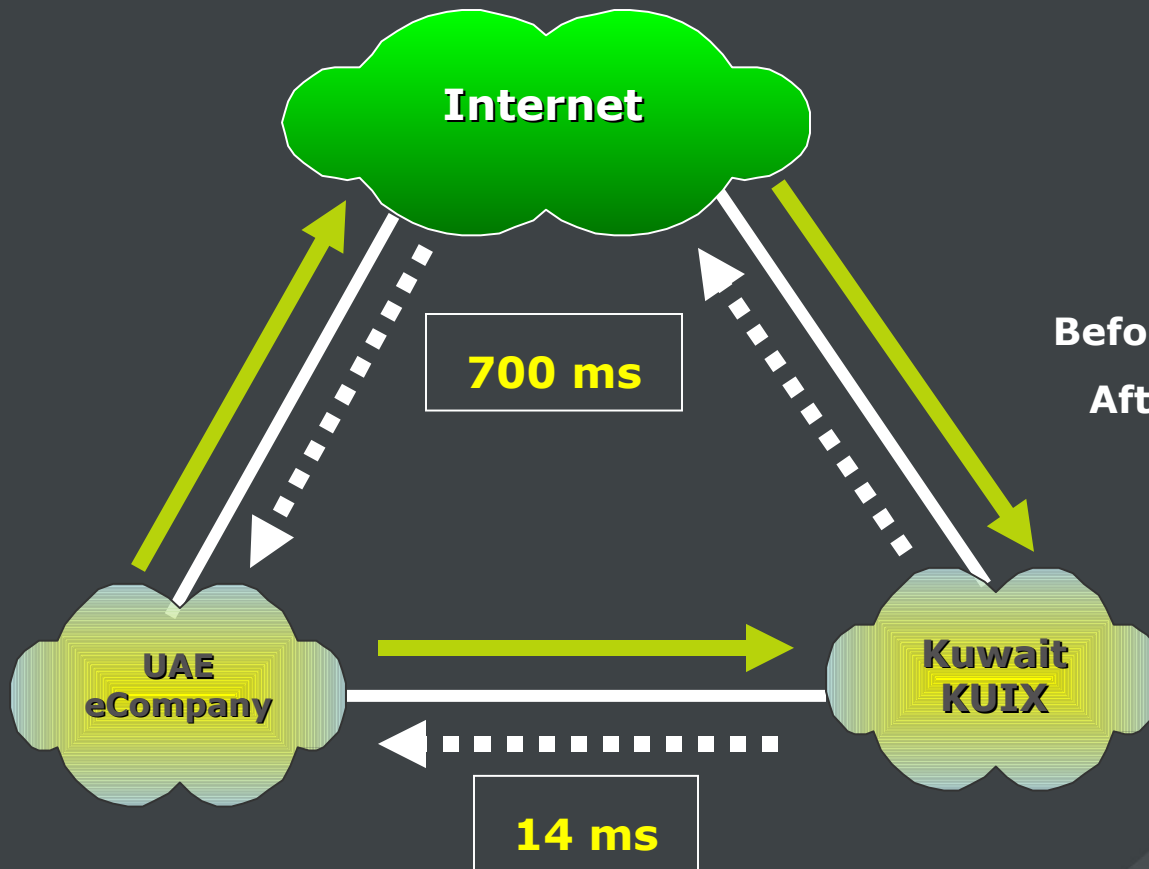
EMIX Peering

GCC Peering Connectivity



EMIX Peering

Delay before and after



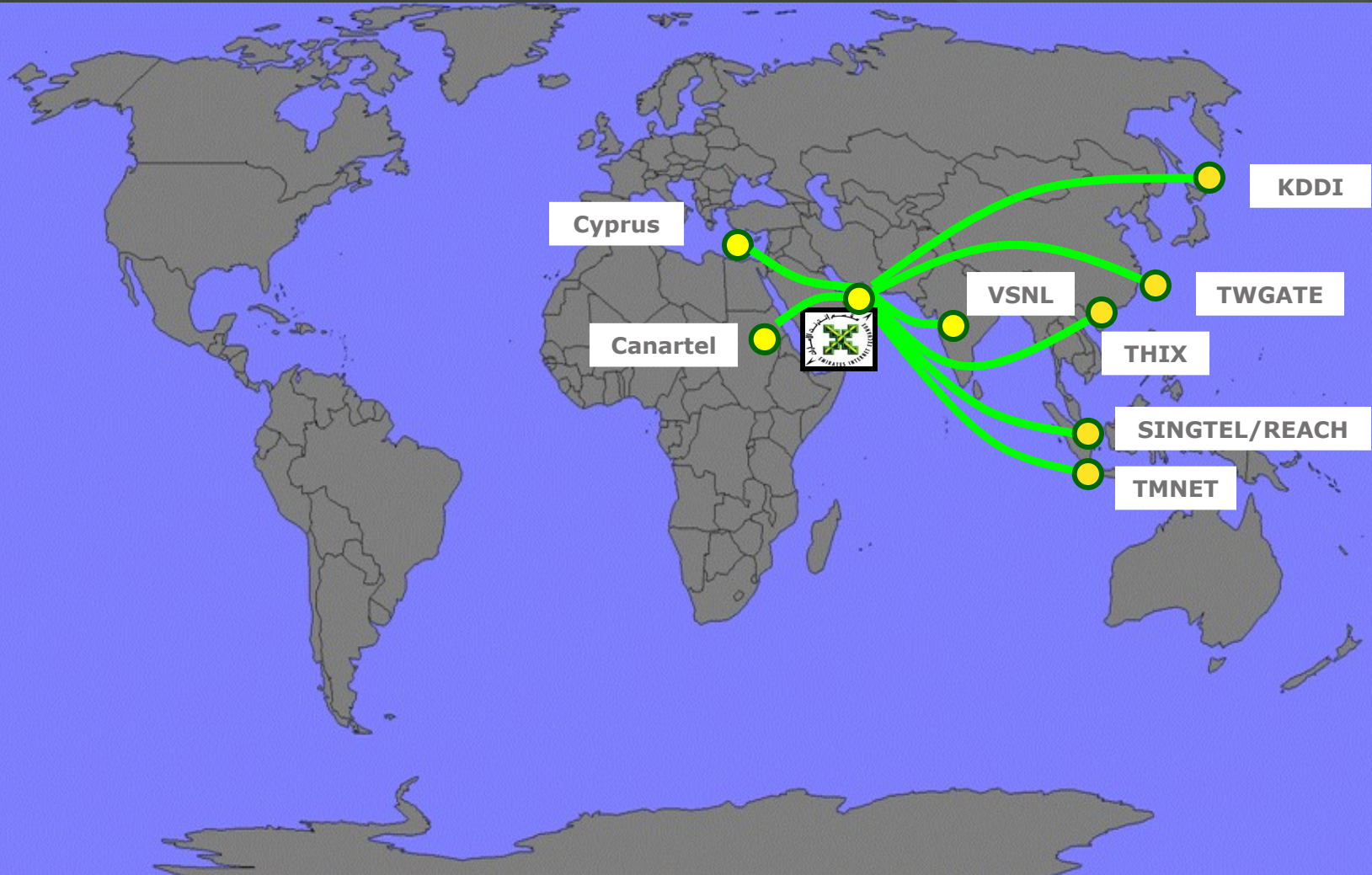
Before peering the delay = 700 msec

After peering the delay = 14 msec

700/14=50 times faster !!!

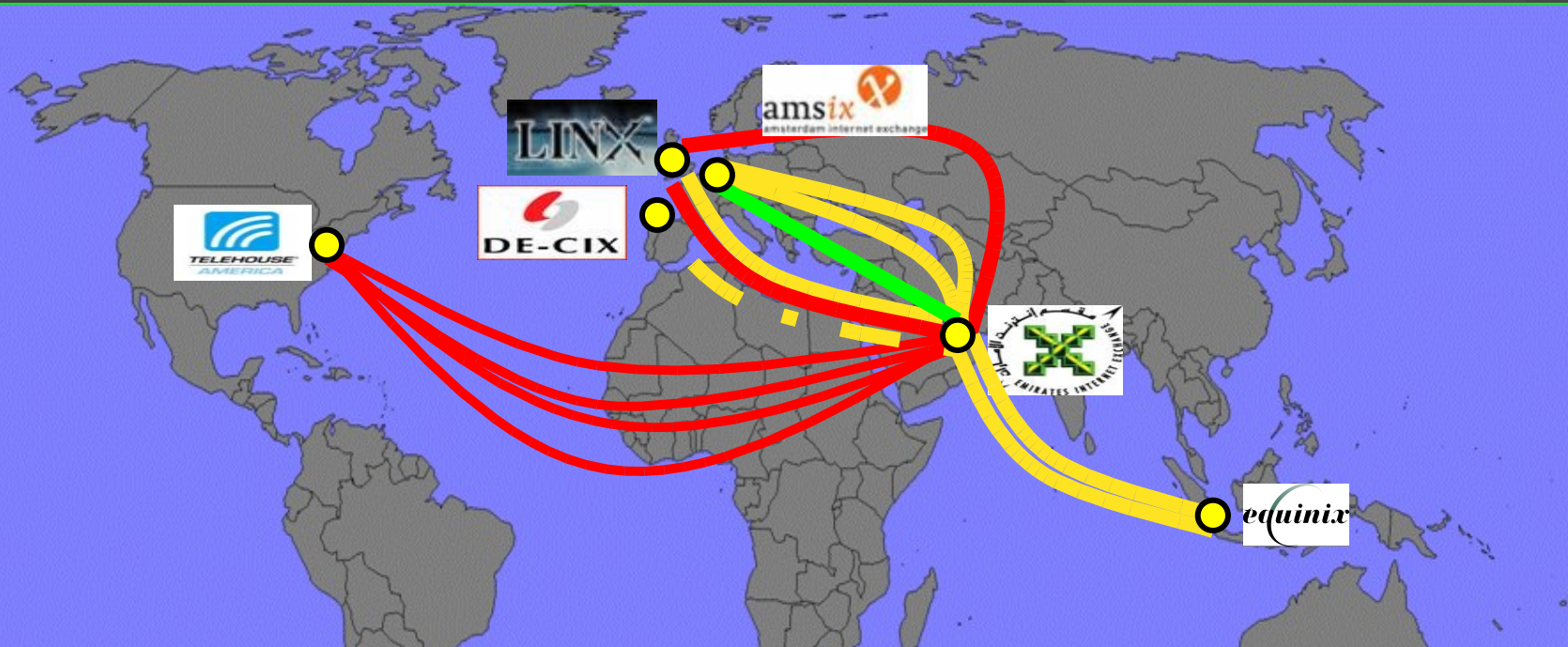
EMIX Peering





Far East Private Peering



EMIX Peering

Public Peering World Wide



-  London Internet Exchange
-  Amsterdam Internet Exchange
-  New York Internet Exchange
-  Equinix Singapore Internet Exchange

EMIX Peering

New York Internet Exchange (NYIIX)

- Bandwidth to Exchange = 1 Gbps
- Backhaul to our POP in Exchange = 4 STM-1
- Open Peering Policy
- Number of Neighbors = 75
- Route learned from NYIIX neighbor = 30000



EMIX Peering

London Internet Exchange (LINX)

- Bandwidth to Exchange = 2 Gbps
- Backhaul to our POP in Exchange = 3 STM-4
- Open Peering Policy
- Number of Neighbors = 160
- Route learned from NYIIX neighbor = 34000



EMIX Peering

Amsterdam Internet Exchange (AMS-IX)

- Bandwidth to Exchange = 2 Gbps
- Backhaul to our POP in Exchange = 3 STM-4
- Open Peering Policy
- Number of Neighbors = 167
- Route learned from NYIIX neighbor = 36500



EMIX Peering

Equinix Singapore Internet Exchange

- Bandwidth to Exchange = 1 Gbps
- Backhaul to our POP in Exchange= 2 STM-4
- Open Peering Policy
- Number of Neighbors = 10
- Route learned from NYIIX neighbor = 14000



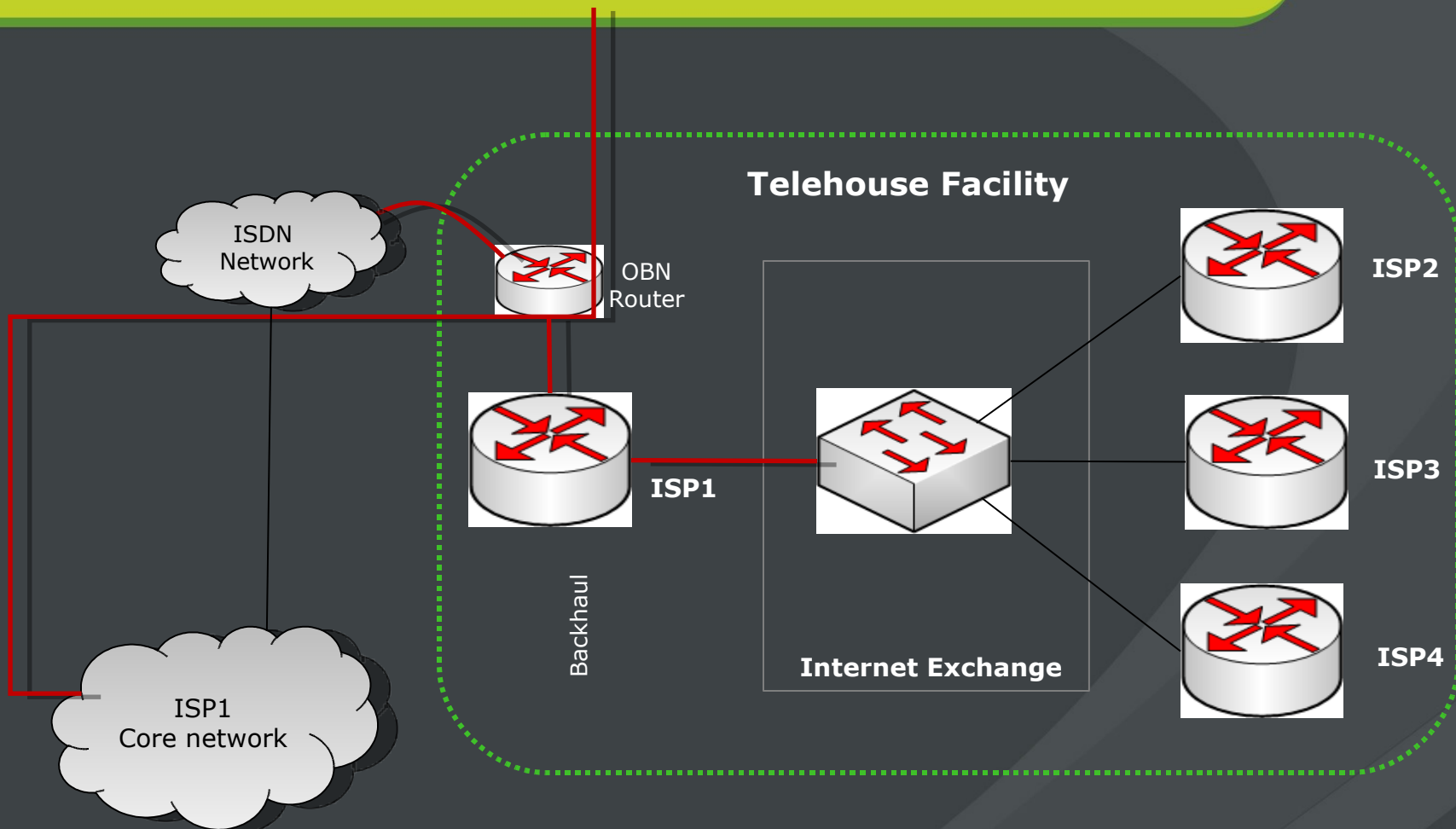
EMIX Peering

Why peering in internet exchange

- Improve performance toward that region
- Access to many ISPs and their direct routes
- Save cost
- Easy upgrade bandwidth
- Bandwidth optimization
- Easy to administer and manage
- Future services such as VPN and Voice..etc

EMIX Peering

Setup required to build POP in IX



EMIX Capacity Statistic

Social Network

- The New Trend
- 10 % of Total traffic
- DNS & Proxy utilization affected

EMIX Capacity Statistic

Facts and Numbers

- 143000 routes learned from peering
- 16% out of total bandwidth utilized by EMIX customers
- Upgrade capacity if bandwidth exceeds 70%
- 1st STM-16 will be activated next month
- EMIX peers with all GCC countries

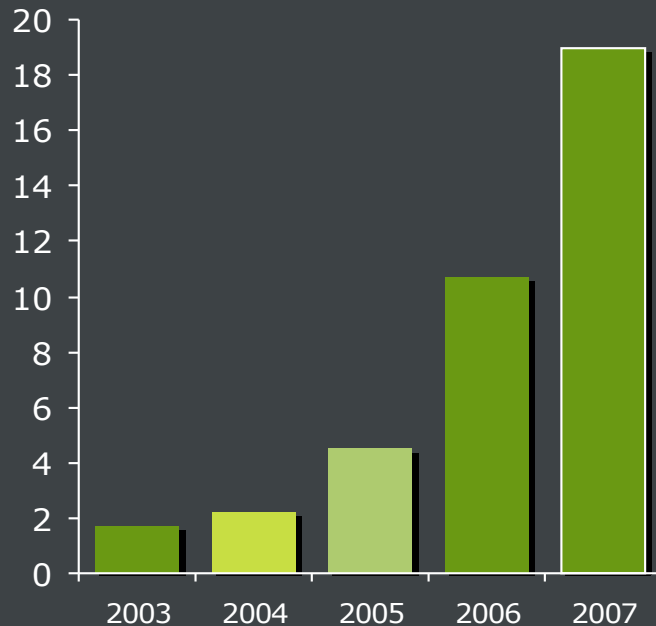
EMIX Capacity Statistic

Region Problem

- Most of region ISP's problem will solved by localizing traffic
3. Localize the content
 4. Peering (Private or IX)

EMIX Capacity Statistic

EMIX international Capacity Statistics



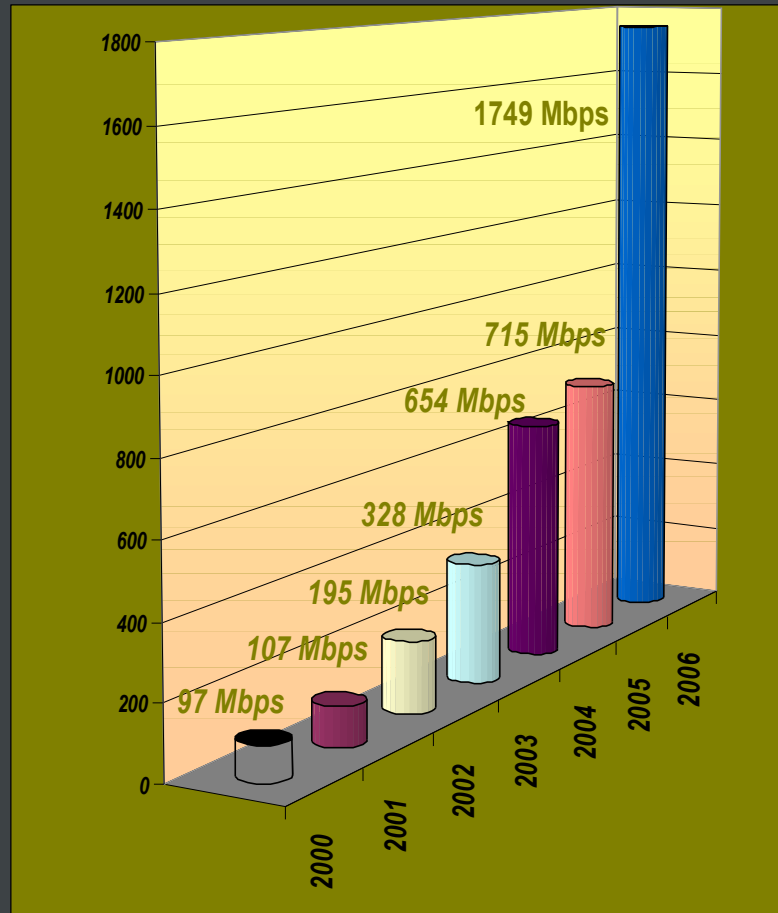
- 2003
- 2004
- 2005
- 2006
- 2007

2005
Capacity is more than
double compared to
2004

2006
Capacity is more than
double compared to
2005

EMIX Customers

Customers Performance 2000 - 2006



Thank You