JPNAP

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APNIC20, Hanoi, Vietnam

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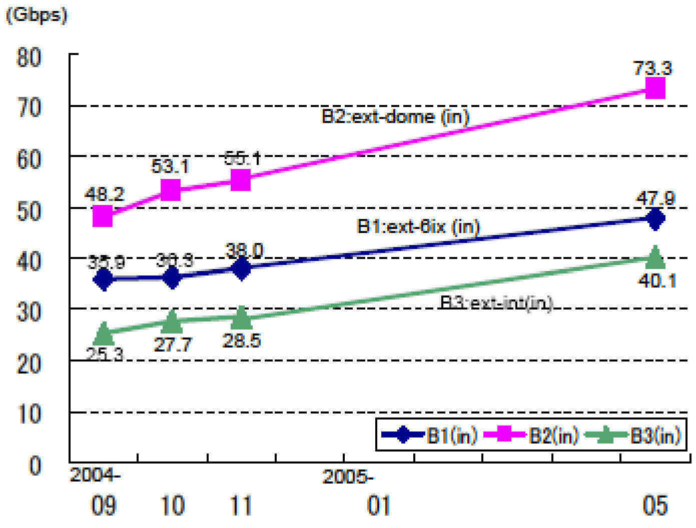
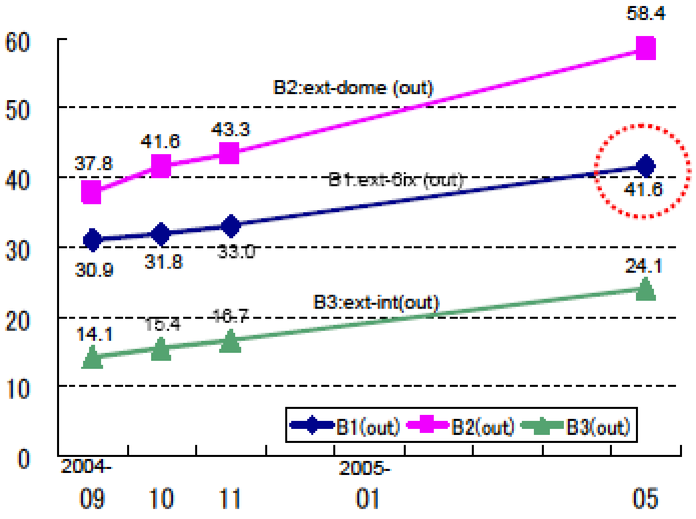
Traffic Trend in Japan

- The MIC in Japan surveys the traffic trend in Japan with major 7 ISPs and IXes.
- The traffic is classified with three that are between ISP and IX as B1, between ISPs as B2, and inbound from and outgoing to outside Japan as B3.



In-bound traffic of the 7 ISPs



Outgoing traffic of the 7 ISPs

cf. Press release of the ministry Internal Affairs and Communications on 27 Jul 2005

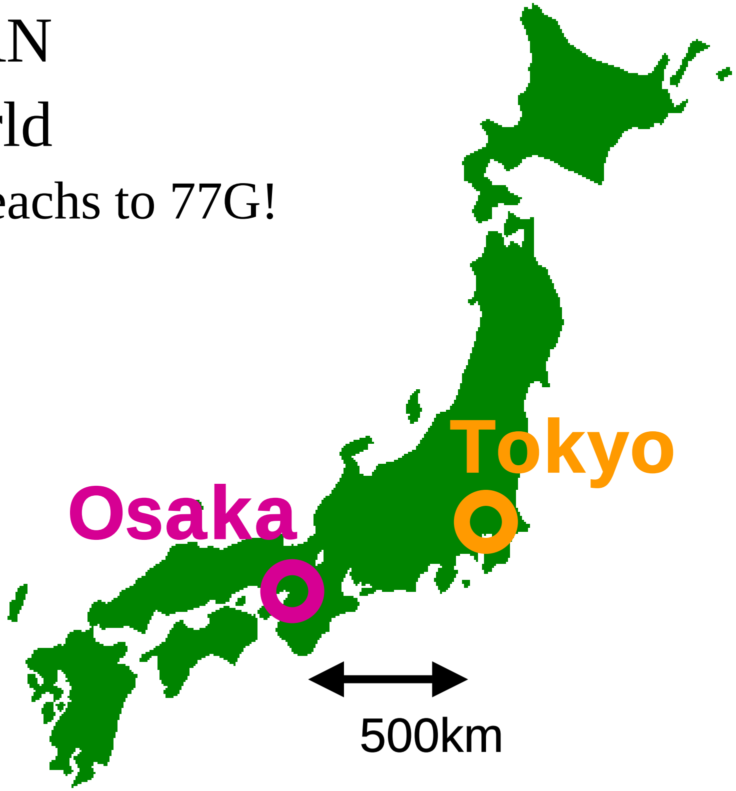
Major IXPes in JAPAN

	Dix-ie	JPIX	JPNAP	BBIX
When did the services start?	Oct. 1996	Nov. 1997	May 2001	Aug 2003
Commercial?	academic	commercial	commercial	commercial
Where are service are providing.	Tokyo, Osaka	Tokyo, Nagoya*, Osaka	Tokyo, Osaka	Tokyo, Osaka, Fukuoka, Nagoya, Sendai and more
Peak traffic	19Gbps (Tokyo) 5Gbps(Osaka)	50Gbps(Tokyo)	66Gbps(Tokyo), 17Gbps(Osaka)	N.A.
# of customers	N.A.	109(Tokyo), 5 (Nagoya), 8(Osaka)	49 (Tokyo), 17(Osaka)	N.A.
IPv6 support	Yes	Yes	Yes	No
10G interface support	Yes	Yes	Yes	Yes

*=JPIX Nagoya is connected with JPIX Tokyo. Other IXes is NOT connected with each other.

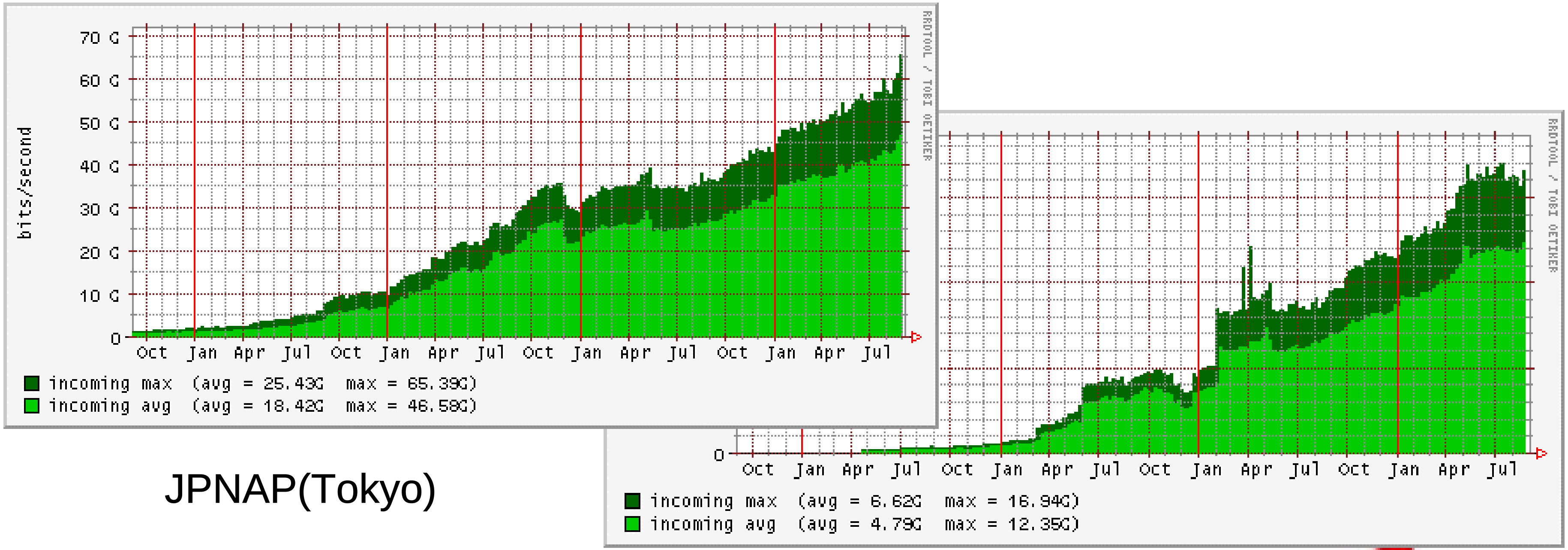
JPNAP service overview

- Started in May, 2001
- Located Tokyo and Osaka, JAPAN
- One of the biggest IXs in the world
  - The aggregate traffic of both sites reachs to 77G!
- JPNAP6(IPv6) is also provided



JPNAP traffic trend

- Peak traffic : 66G (Tokyo), 17G(Osaka)
- Traffic growing pace : 1.5 – 2.0 times in one year



JPNAP(Tokyo)

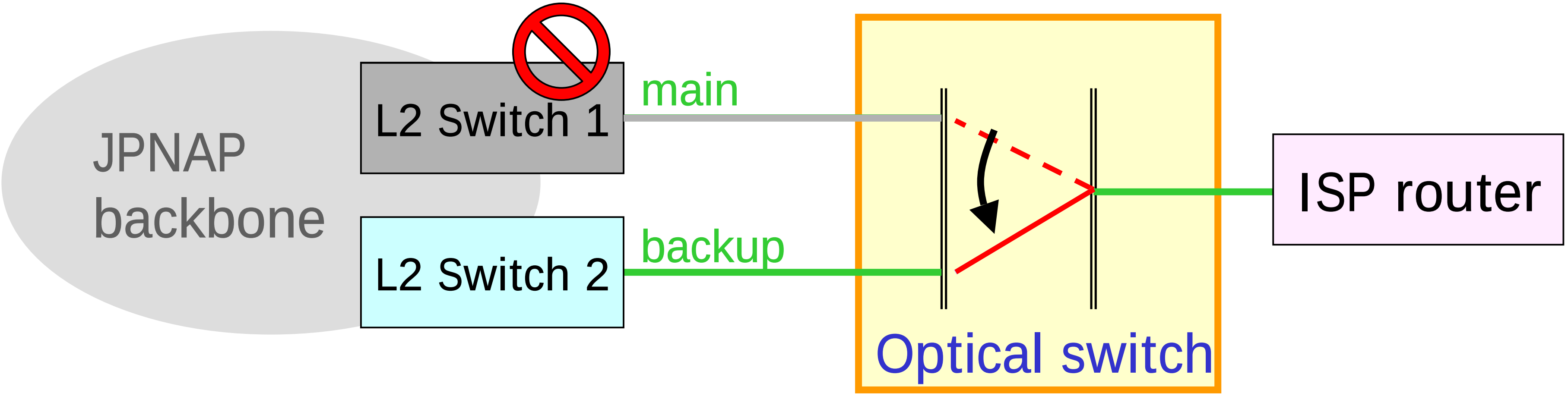
JPNAP(Osaka)

Recent topics

- Increase of the number of 10GbE port connections
  - Less than 30 port for more than 10 customers
- LAG connection of GbE ports
- deployment optical switch units
  - They work pretty well
- Launching “PeerWatcher” service in June, 2005 at JPNAP and in Sep., 2005 at JPNAP Osaka.
- Launching IPv4/IPv6 dual stack service in July, 2005 at JPNAP Osaka and in Oct., 2005 at JPNAP.

Optical switch unit

- Detecting failure and automatically switching to backup system by optical monitoring

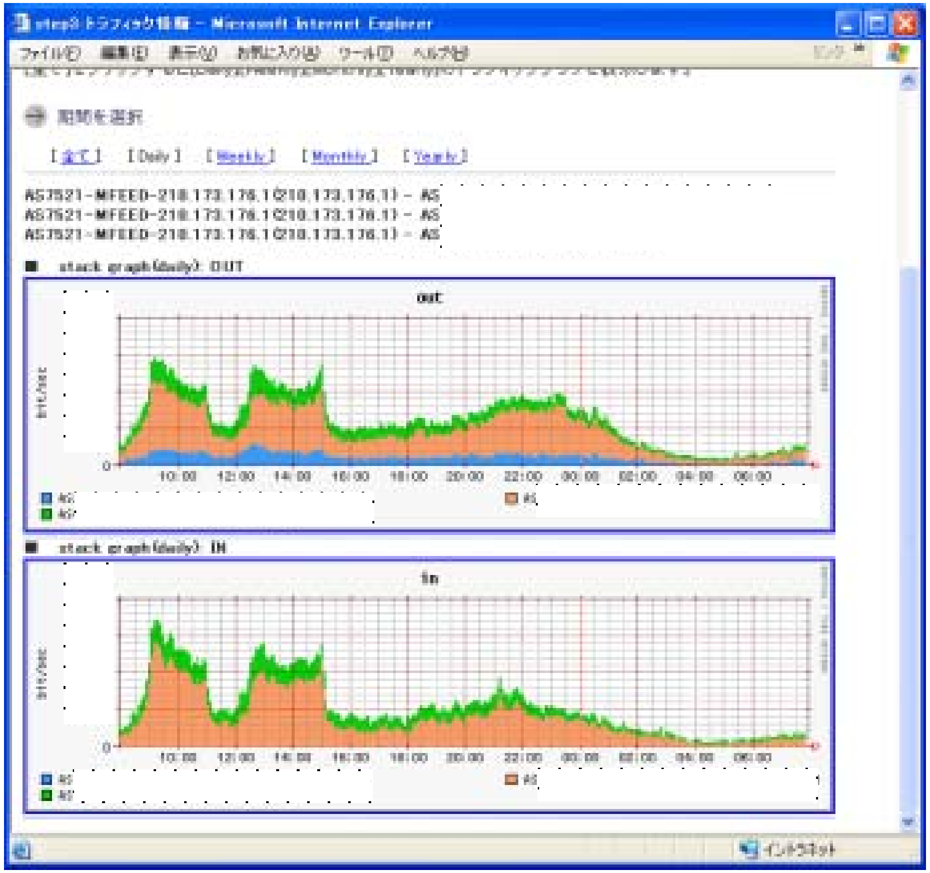

JPNAP backbone
L2 Switch 1
L2 Switch 2
main
backup
Optical switch
ISP router

- Manually switching by remote operators
  - It takes about10ms to switch
  - ISP routers didn't detect "BGP down"
- Power failure of the unit makes no impact for connection between IX and ISP router

PeerWatcher

- Enabling customers to visualize their peer-to-peer traffic volumes

The view from AS7521, iDC AS of Internet Multfeed Co.


step3 トラフィック情報 - Microsoft Internet Explorer
ファイル(F) 編集(E) 表示(V) お気に入り(A) ツール(T) ヘルプ(H)
期間を選択
[全て] [Daily] [Weekly] [Monthly] [Yearly]
out
bits/sec
0
10:00 12:00 14:00 16:00 18:00 20:00 22:00 00:00 02:00 04:00 06:00
in
イントラネット

AS7521-MFEED-210.173.176.1(210.173.176.1) - AS [redacted]
AS7521-MFEED-210.173.176.1(210.173.176.1) - AS [redacted]
AS7521-MFEED-210.173.176.1(210.173.176.1) - AS [redacted]

■ stack graph(daily): OUT

■ stack graph(daily): IN