

JPNAP Update

Aug. 2004

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Internet Multifeed Co.

- Internet Data Center company in JAPAN
 - Established in Sep. 1997
 - Joint venture of IJ, NTT, japanese major ISPs and ICPs
- “Multifeed” concept
 - Direct broadband connection to the backbone of major ISPs (=many peers)
 - The best place for delivering content to the Internet
- “JPNAP” the Internet Exchange service
 - Launched in Jan. 2001

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JPNAP service overview

- A commercial Internet Exchange service in JAPAN operated by Internet Multifeed
- JaPan Network Access Point
<http://www.jpnap.net/english/index.html>
- History
 - Jan. 2001 in Tokyo (trial)
 - May 2001 in Tokyo (**JPNAP**)
 - Jan. 2002 in Osaka (**JPNAP Osaka**)
 - Jun. 2002 in Tokyo IPv6 (**JPNAP6**)
 - Jan. 2003 in Tokyo supporting **10GE**, and
 - Nov. 2003 in Osaka supporting **10GE**
- Directly connected to iDC named "Multifeed"

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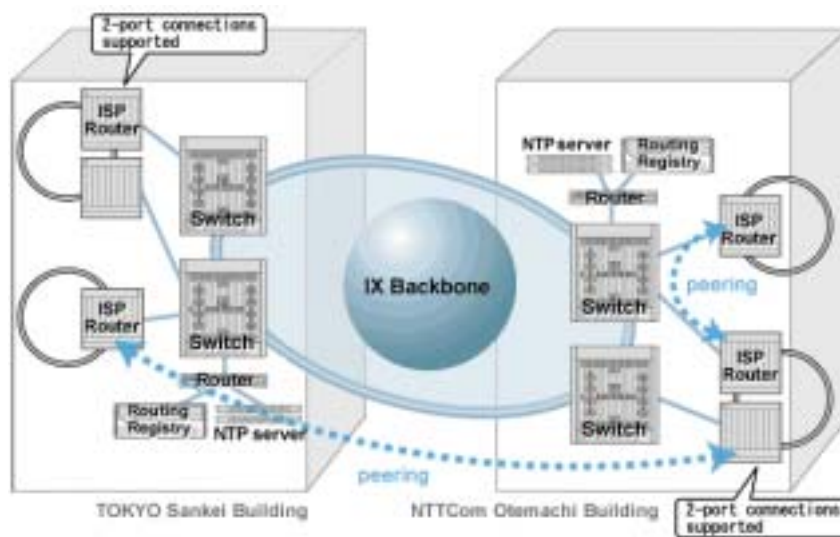
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JPNAP service overview

- Ethernet based Layer2 IX
- Distributed IX service
 - Interconnecting distributed two sites
 - Providing the same service at both sites



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JPNAP 10G Service

- JPNAP provides 10GE Interface (10GBase-LR only)
- The first commercial 10G IX in Japan since Jan 2003
- Have much experience connecting 10GE
- Number of customers are rapidly increasing
 - Most of the customers are interested in JPNAP 10G service.
- JPNAP Osaka 10G is also available
 - also have many customers

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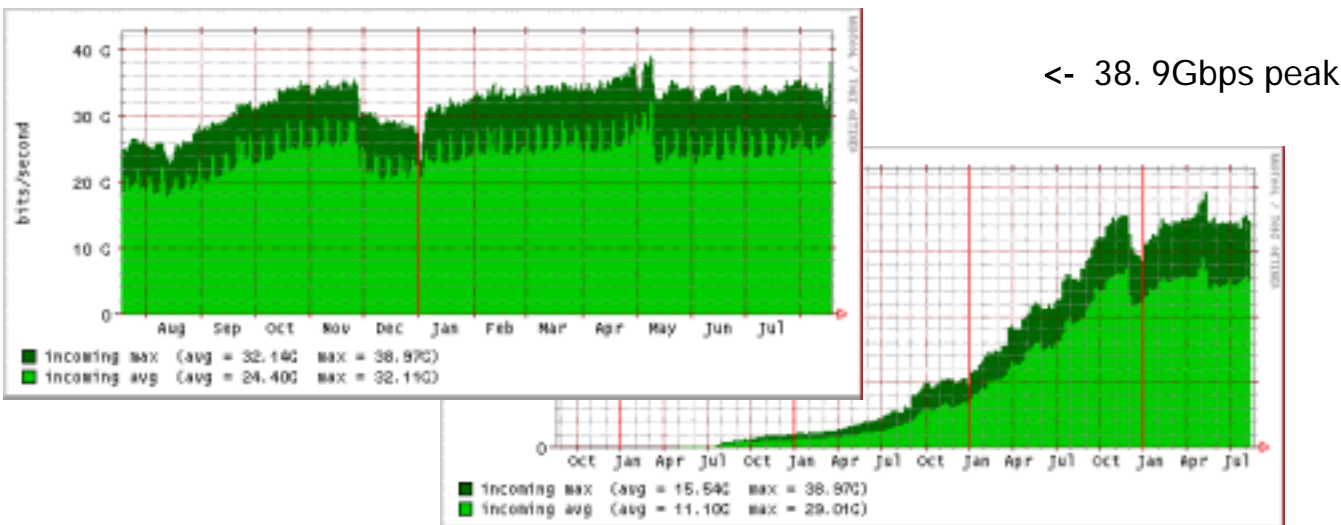
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JPNAP traffic trend in Tokyo

- Started commercial service in May 2001
- The traffic volume is huge
- Major ISPs send/receive more than 6Gbps peak traffic



Total traffic of JPNAP (IPv4 in Tokyo)

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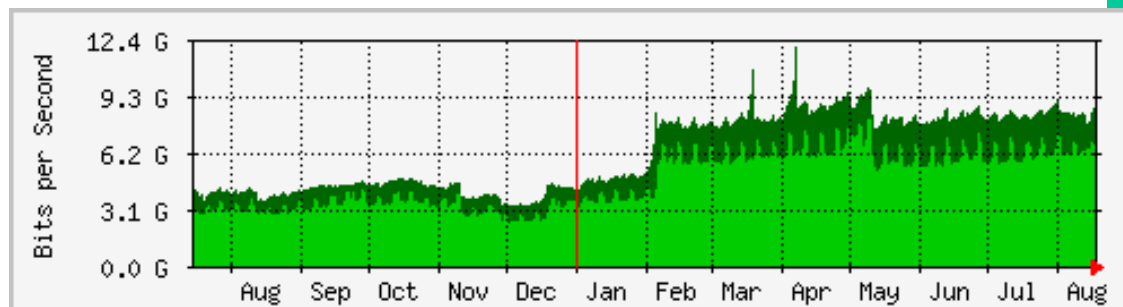
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JPNAP Osaka

- Since Jan 2002
- Not connected with JPNAP at Tokyo
 - Redundancy in case of disaster in Tokyo area
 - Hot-potato routing using JPNAP and JPNAP Osaka
- Osaka also supports 10G IF



Osaka Traffic (IPv4)

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JPNAP6 (in Tokyo)

- IX service supporting IPv6
- FastEthernet only
- Not dual stacked, not connected with JPNAP
- Since Jun 2002
- IPv6 Customers
 - OCN,NTT/VERIO
 - IIJ
 - DTI
 - BIGLOBE
 - MEX
 - XePhion/WAKWAKand more..

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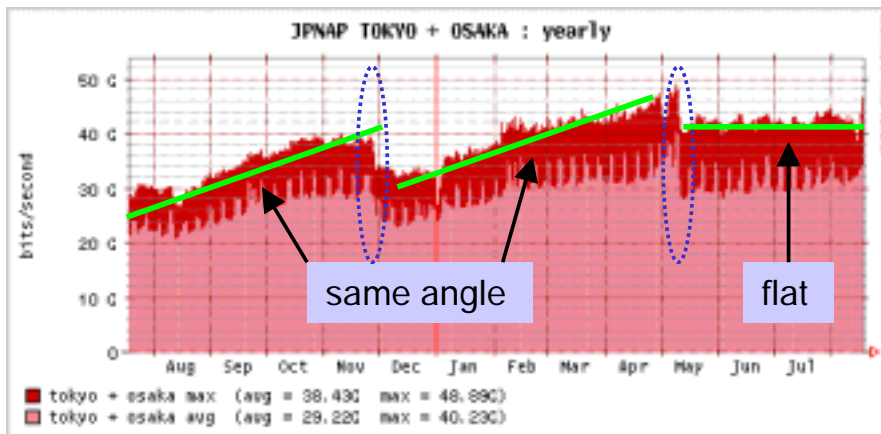
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P2P traffic ?

- Two P2P users were arrested on copyright piracy by Japanese police
 - They used same P2P software named "Winny".
 - "Winny" author was indicted on a charge of assisting copyright violations.
- Trend of total traffic is changed at the same date



Total traffic of JPNAP (Tokyo + Osaka)

<- Two users were arrested on 27 Nov. 2003

<- Author was arrested on 10 May 2004

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IXP segment hijack

- One of JPNAP customers leaked a prefix of JPNAP segment
 - Some users could not communicate at JPNAP
- Recommendation for ISPs
 - Use BGP **next-hop-self**, and not inject JPNAP's prefix into your IGP
 - Filter out JPNAP's prefixes by BGP prefix filter
 - OT: Are there any prefix list covers all IXEs? ☹

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JPNAP Users' Meeting

- Closed meeting for JPNAP users
- Every 4 months
- The past topic
 - 10GE Users Panel
 - Specification of 10 Gigabit Ethernet IEEE802.3ae
 - Introduction of WDM equipment
 - Broadband access line's structure in Japanetc...
(We are looking for the next topics ;-)
- Have a social gathering after the meeting

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Conclusion

- Especially 10GE users are rapidly increased
- The growth of aggregated traffic is slow down
 - We don't know the real reason of slow down
- Use `bgp next-hop-self`
 - It prevents you to be victim or victimizer

<http://www.jpnap.net/english/index.html>

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