Peering Chronicles in Japan: the book

2022 Peering Asia 4.0

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We made the book!

A book about
the history of peering in Japan

(Only in Japanese language)

Why and how we made the book

Some facts

A book about the history of peering in Japan: emphasis on 2010 onwards, but includes older history like how IXPs started

Written by a tech friendly writer in collaboration with a publisher of the same nature

It took 1 year and 10 months to make the book, released July 2022

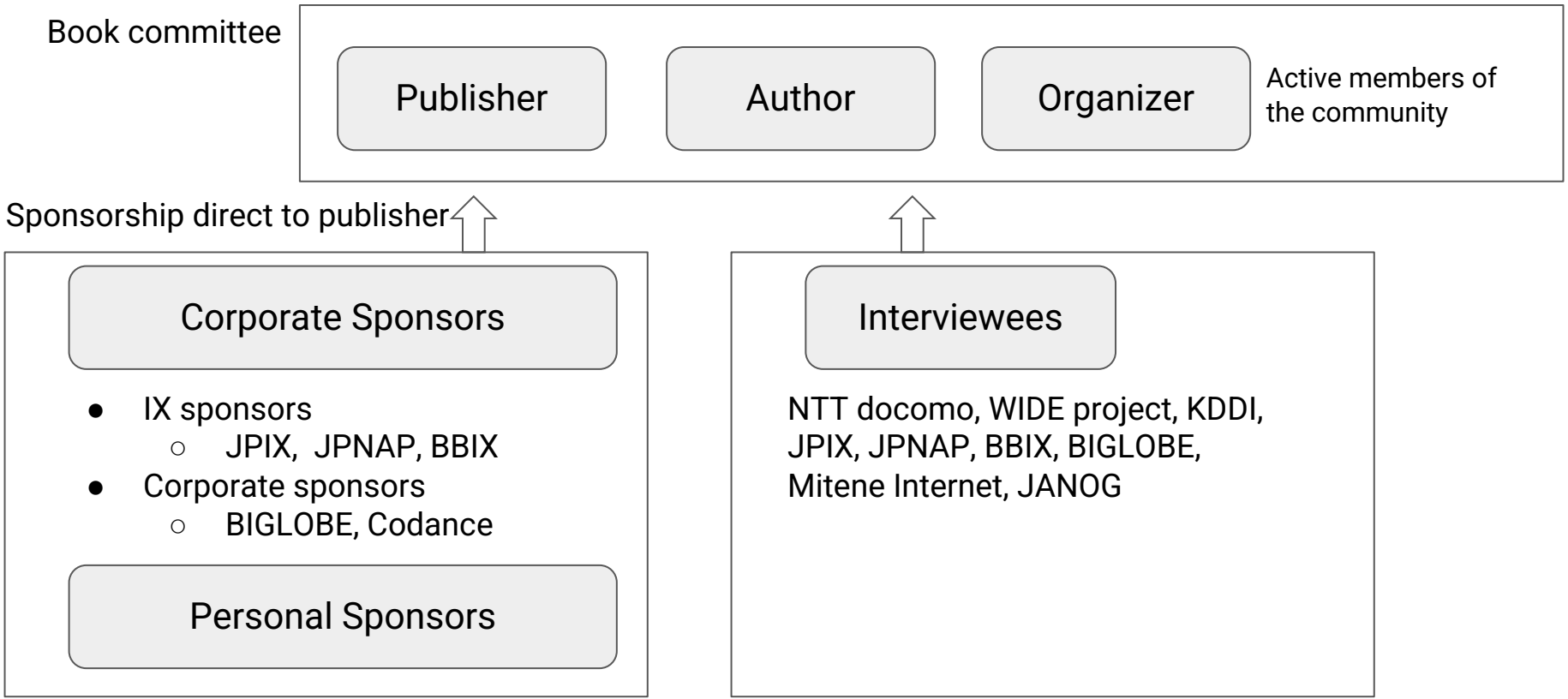
Why did we make this book?

1. The peering starter book for those new to the peering space (in Japan).

2. “How we got here” can drive further future success, but only if it is passed down generations
    a. Write it down before we forget!
    b. Don’t make the same mistakes

3. The local community worked hard the past 10 years to make Japan an APAC hub. We wanted to be like Singapore, Hong Kong.
   We wanted to record the history of our efforts.

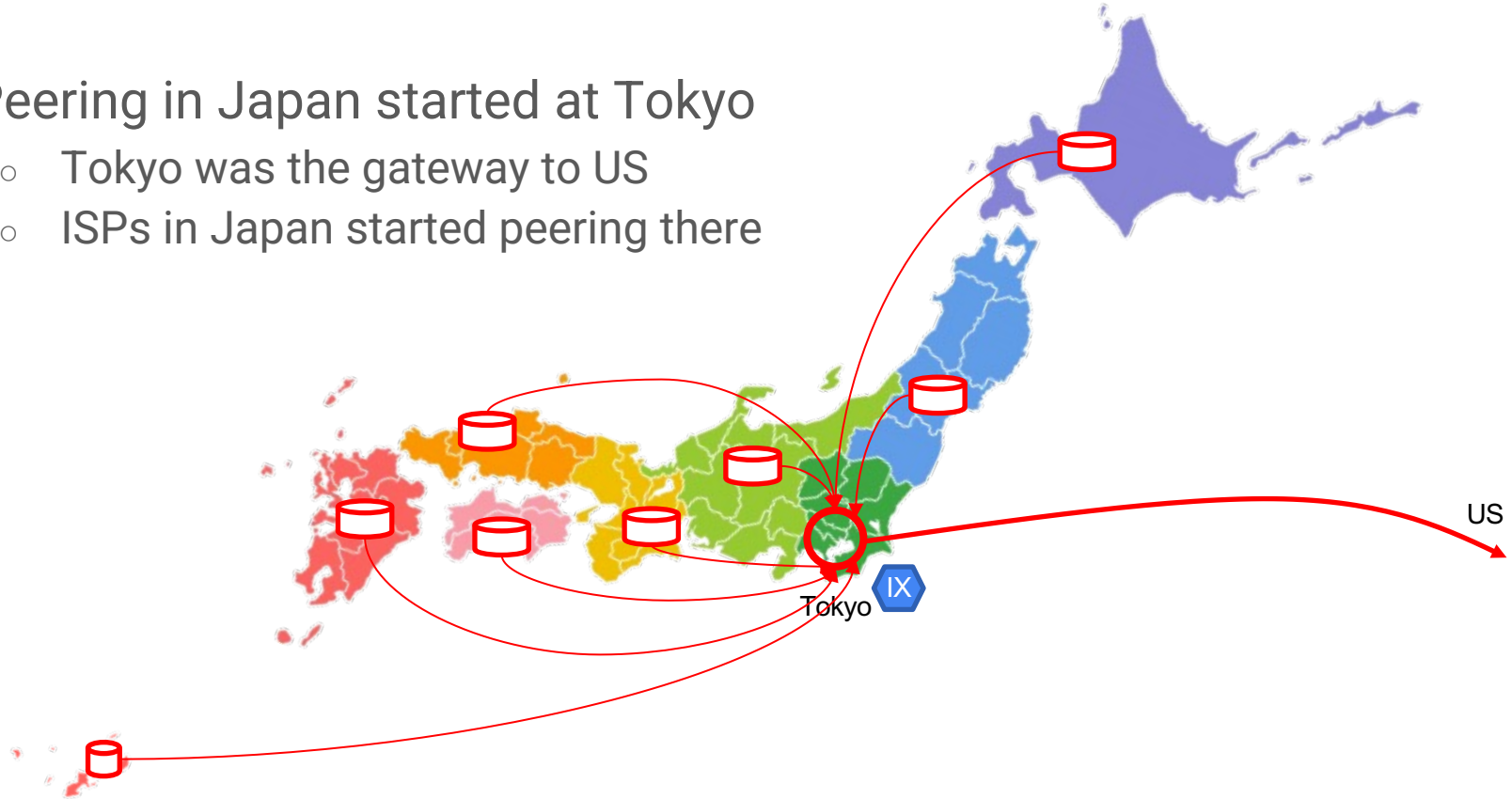
Book project structure : NOG style



Intro to the content of the book

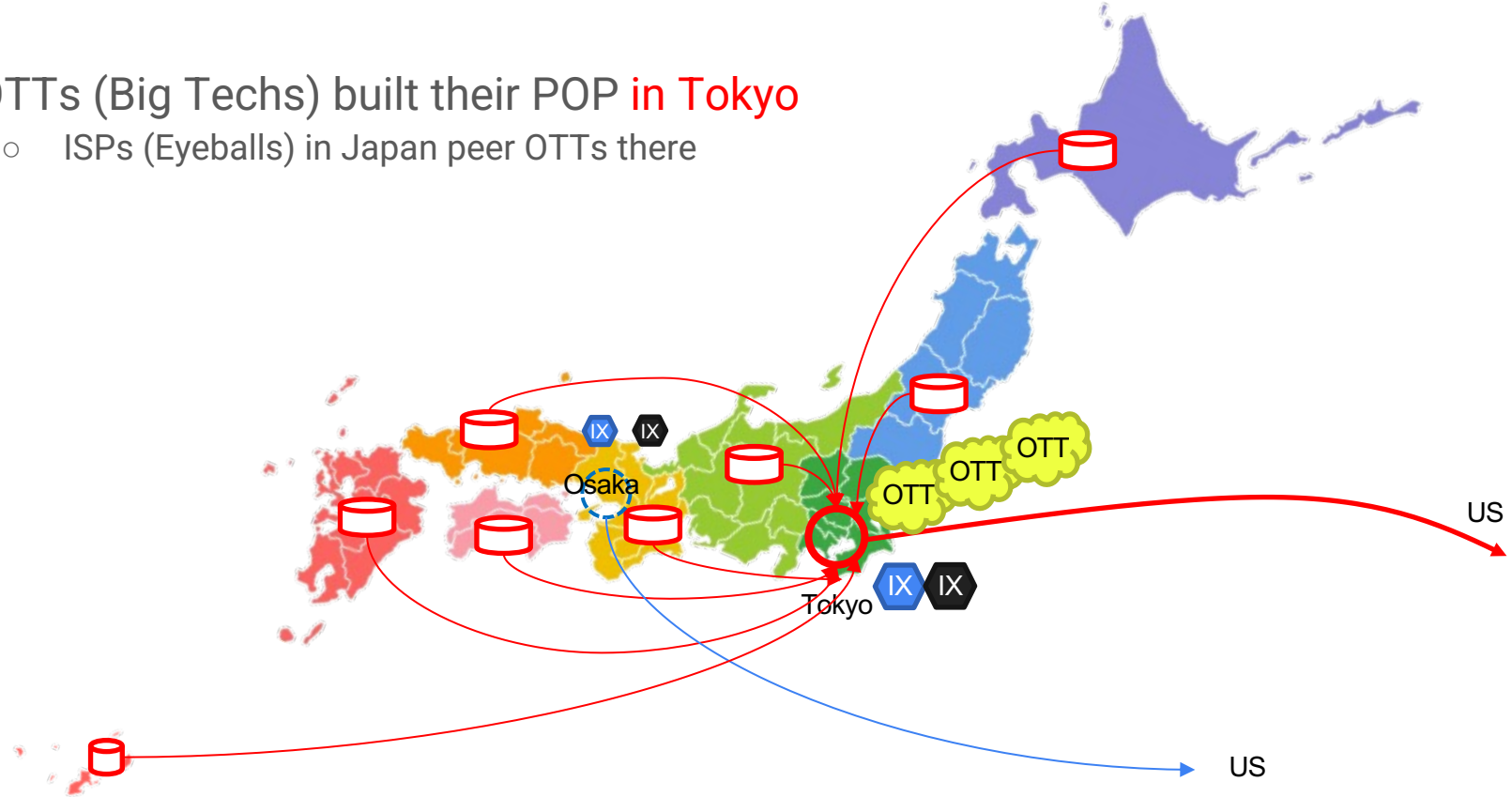
1990 to 2000

- Peering in Japan started at Tokyo
  - Tokyo was the gateway to US
  - ISPs in Japan started peering there



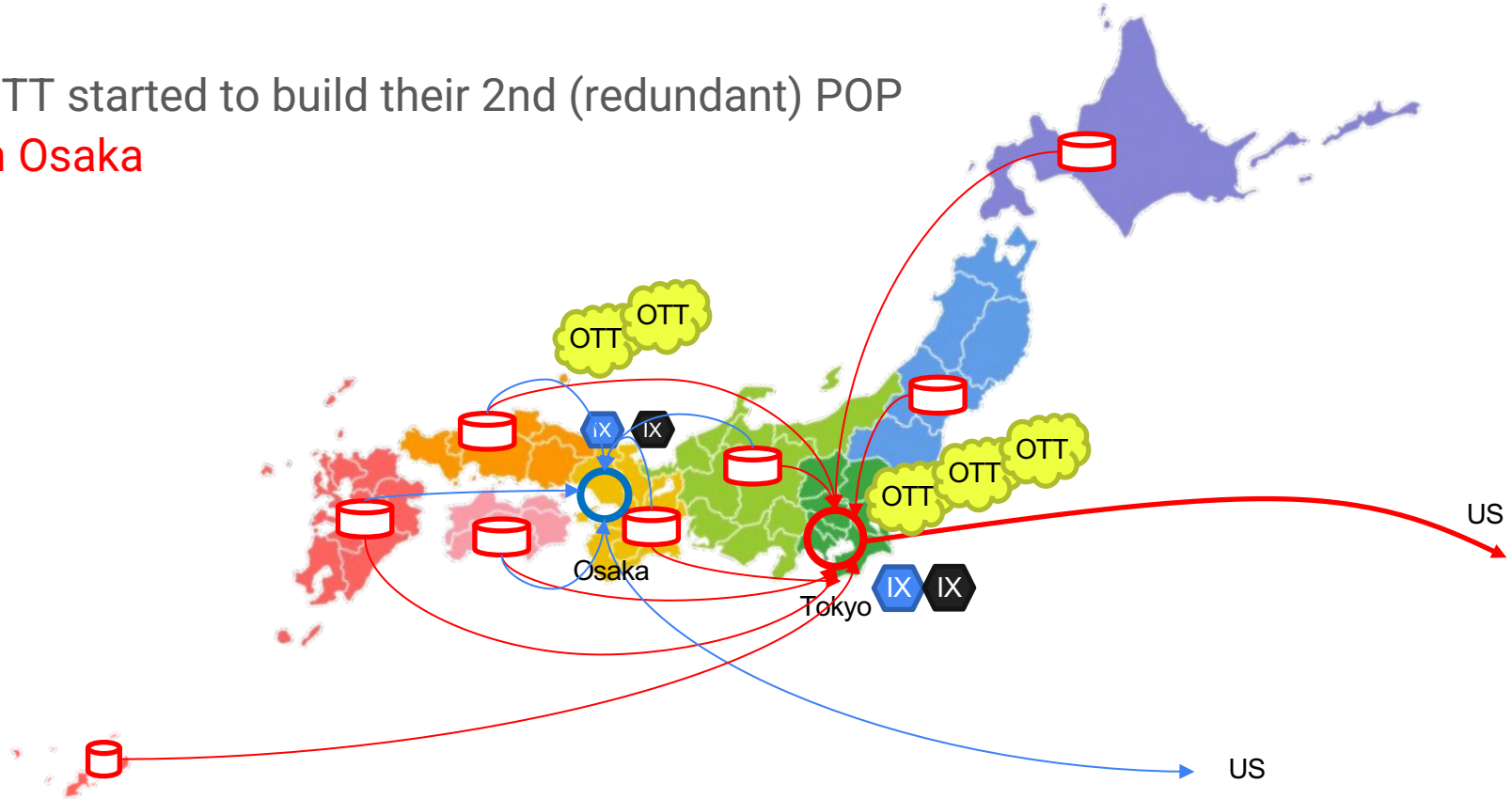
Late 2000s to Early 2010s

- OTTs (Big Techs) built their POP in Tokyo
  - ISPs (Eyeballs) in Japan peer OTTs there

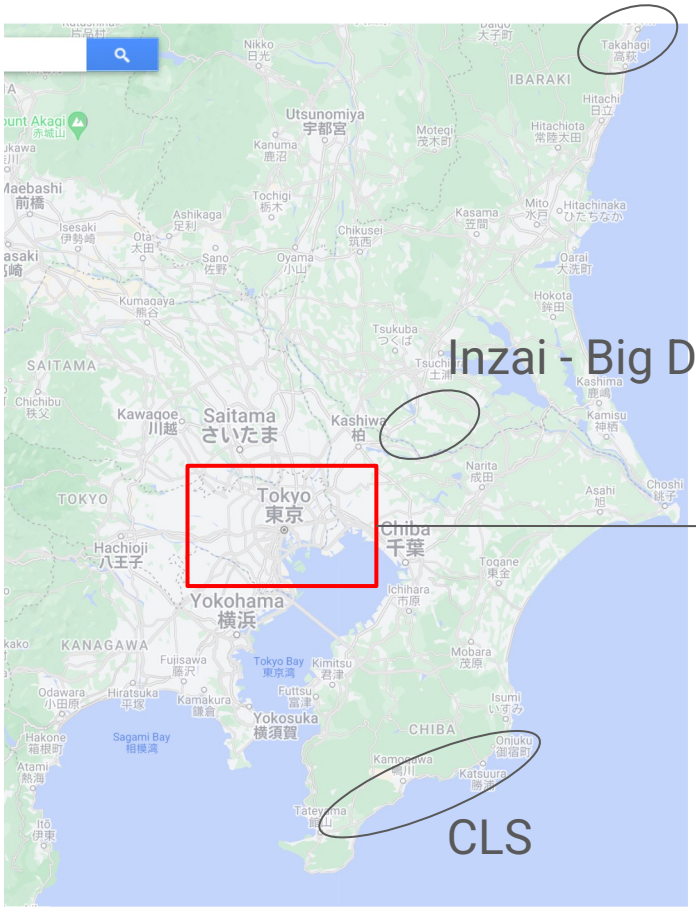


Late 2010s

- OTT started to build their 2nd (redundant) POP in Osaka



Background: Tokyo POPs/DCs overview



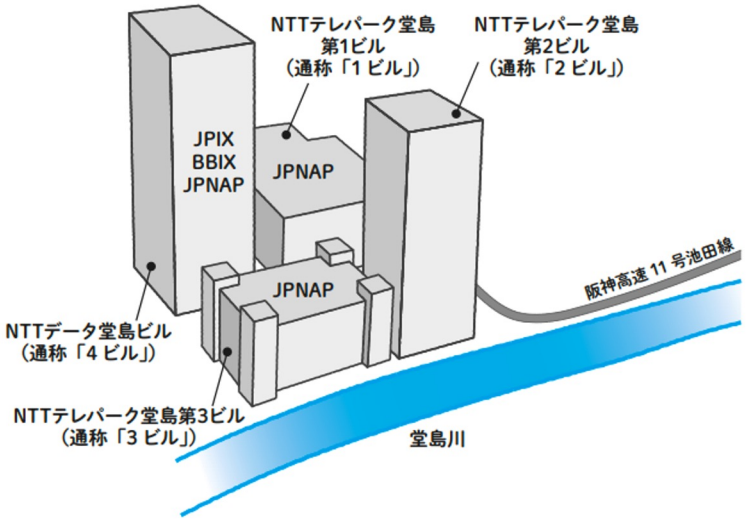
- Major peering colos are in central Tokyo
- It is a bit fragmented, but easy to lease dark fiber

Chapter 2: Historical evolution of peering colos in Tokyo

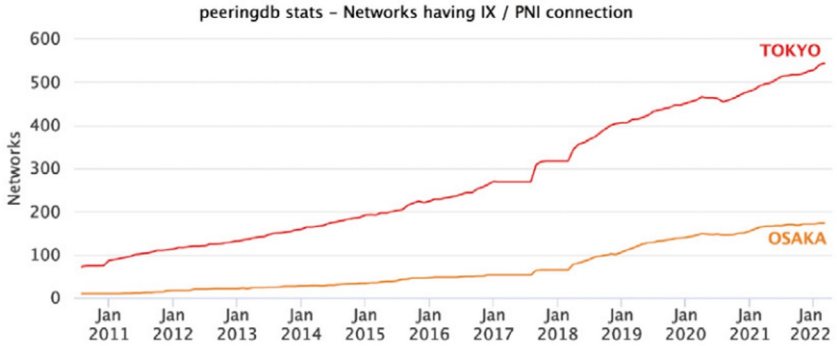
Facility	Interesting Notes
KDDI Otemachi	Pre 2000. Historical facility. Most ISPs initially built their POPs here.
Equinix TY2	Became popular as neutral facility late 2000s.
At Tokyo CC1/CC2	Originally an enterprise focused DC. Turned into one of the most popular peering colos mid 2010s by working closely with the community.
NTT NW1 (aka TK7)	A rather new peering location. Multiple large operators with POPs. Also driven by community contributions. Gaining popularity in 2020s.

Chapter 2: POPs/DCs - Osaka

“Dojima 問題 (Problem)”



Excerpt from the book



Excerpt from the book

- 4 buildings in the Dojima campus, owned by different NTT entities
- Problem - complicated policies made it nearly impossible to cross connect between 4 buildings
- Community got together to gather ideas on how to solve fiber interconnection problems
- Today: go to any building and a campus fiber connection can be ordered to get to most other buildings

Chapter 3: IXPs

First IXP in Japan: NSPIXP - was hosted in a publisher's HQ building

KDDI Otemachi - the first popular interconnection facility

Photos from the book

Major IXPs

Name	Founded	Shareholders
NSPIXP	1994	WIDE project
JPIX	1997	KDDI, ISPs
JPNAP	2001	NTT, IIJ, ISPs
BBIX	2003	Softbank
Equinix	2007	

CloudIX council

- Community of operators to 'democratize' peering, solve problems in Japan to make it easy for everyone to peer
- Led by members from BIGLOBE, IDC Frontier, NTT Docomo, and supported by BBIX

Chapter 4: Community and peering

JANOG

- Peering discussion were rare in JANOG until JANOG29 (2012)
- A session on the cost of IXP connectivity at JANOG 29
  - Expensive and limiting Japan's growth as a hub in APAC
  - A very good discussion about problems that need to be solved as a community

Peering Slack

- Group of about 400 members. Casual chatting, serious topics. - in JP language only
- Used to be a Google group - moved to slack several years ago

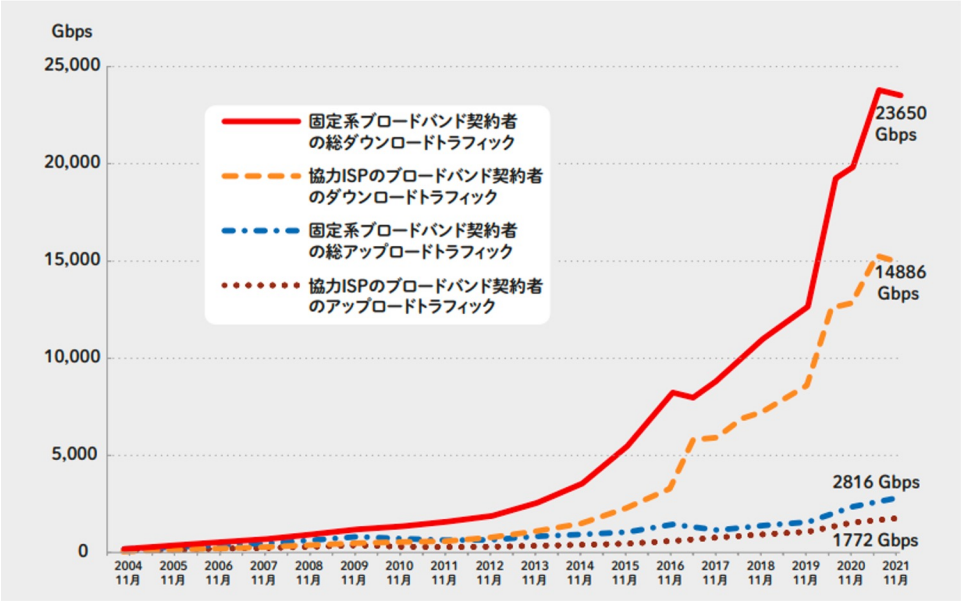
Peering BoFs

- Planned by the peering community (using peering slack)

Working with the Global community

- Promoting Japanese ISPs to attend GPF and APAC peering events
- First host of the **Peering Asia** (1.0 in Kyoto, Japan)

Chapter 5: Rise of content traffic



Excerpt from the book

The ISP and IXP industry work with the MIC (ministry) to publish the county's Internet traffic data regularly.

- (red) Estimated download traffic of all ISPs in JP
- (orange) Download traffic of 9 biggest ISPs - real data
- blue and violet represent upload traffic of same sample

Fixed broadband download traffic YoY growth
2022 May - 8.8%
2021 May - 25.6%
2020 May - 57.4%
2019 May - 17.5%
There's a mobile version of this as well

The Community (ISPs, IXPs, CAP/OTTs) works together to understand traffic exchange issues and addresses them as a community - open, neutral, and collaborative culture

Of course, No regulations on peering

Summary - Recipe of the Japan peering hub

- Strong academic activity that started it all (WIDE/NSPIXP)
- Active multi stakeholder community driven by engineers
- Neutral peering colos supported by the community
- Selection of IXPs that compete fairly and work with the community
- Ability to lease dark fiber and campus fiber
  - The community of Osaka and NTT group collaborated to solve the campus problem
- CDNs, CAP/OTTs, ISPs, Telcos work together to manage traffic load

Everybody is welcome to peer in Japan
and we now have a book about it

Final comments

1. Would you be keen to buy a translated copy if it was available?

2. Why don’t you publish your history of peering in your country/economy?
    - Feel free to adopt the idea for your country. It was a really good experience for us.

The book organizing committee volunteers

- Seiichi Kawamura
- Katsuyasu Toyama
- Michikazu Fukuchi
- Yoshiki Ishida
- Norisuke Hirai
- Junpei Yoshino
- Shintaro Kojima
- Yutaka Kumamoto