Broadband Networks in Japan

Winning Business Models

USA-Asia Technology Management Center
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Japan Broadband Networks Fast Growth

Subscribers in Japan '00

- DSL
- Cable Modem
- FTTH
More Growth Expected

Subscribers in Japan (’000)

- Narrowband (Dial-up)
- Broadband (Total)
Why Sudden Growth?

Spurred by much faster growth of broadband in Korea, the Japanese regulator set low rates for DSL operators to rent the copper local loop from NTT (the incumbent)

![Diagram of broadband network](image)

- User’s Residence
  - Telephone
  - ADSL Modem
  - Splitter

- NTT Exchange
  - PSTN
  - ISP Net
  - Telephone Exchange
  - MDF
  - Splitter
  - DSLAM

173 yen/mo. if shared with telephony
1933 yen/mo. if not shared with telephony

390 yen/mo. if shared with telephony

$1=¥120
NTT’s Fiber is Also Unbundled

Rates are relatively low, but higher than for the copper local loop:

- Dedicated fiber: 5,217 yen per core per month
- Shared fiber:
  - Passive optical double-star (8x4x) network: 2,327 yen/subscriber/month
  - Media converter based network:
    - With 16:1 concentration: 1,254 yen/circuit/month
    - Without concentration: 1,531 yen/circuit/month
Two different DSL business models

User’s Residence

NTT Exchange

Billing  DSL Access  Copper Loop  DSL Access  ISP

NTT East/West

1  Softbank/BB Technology

2  Other DSL Operators

ISPs
How is the DSL market share evolving?

**DSL Operator Share**

- BB Technology
- NTT East
- NTT West
- e-Access
- Acca Networks
- Others

**ISP Share**

- BB Technology
- Biglobe
- OCN
- @Nifty
- So-Net
- Dion
- ODN
- Hi-ho
- Others
Case Study: BB Technology

BB Technology has changed the basis of competition three times:

- Offered disruptive pricing: 2400 yen/month when other operators were at 5,000 to 6,000 yen/month
- Led with increasing speed: 1.5 to 8 to 12 Mbps
- Added VoIP over DSL service
  - Maintain own phone number
  - Free calls on-net; 2.5 yen/minute to any phone in Japan or US mainland
- Next push is probably to content, business services
- Break-even point: 2 million subscribers, ARPU increasing from 3700 to 4000 yen/month
## Competitive Response

ISPs offering broadband service have formed two groups to offer VoIP service, free calls within group.

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Probable Result

Rates for plain old telephony are approaching zero

Frantic move toward higher value added services:

- Business
  - Hosted IP PBX
  - Other SIP-enabled applications
- Consumer
  - Radical improvement of voice service
  - Streaming video
  - Integration with consumer electronics/home networks