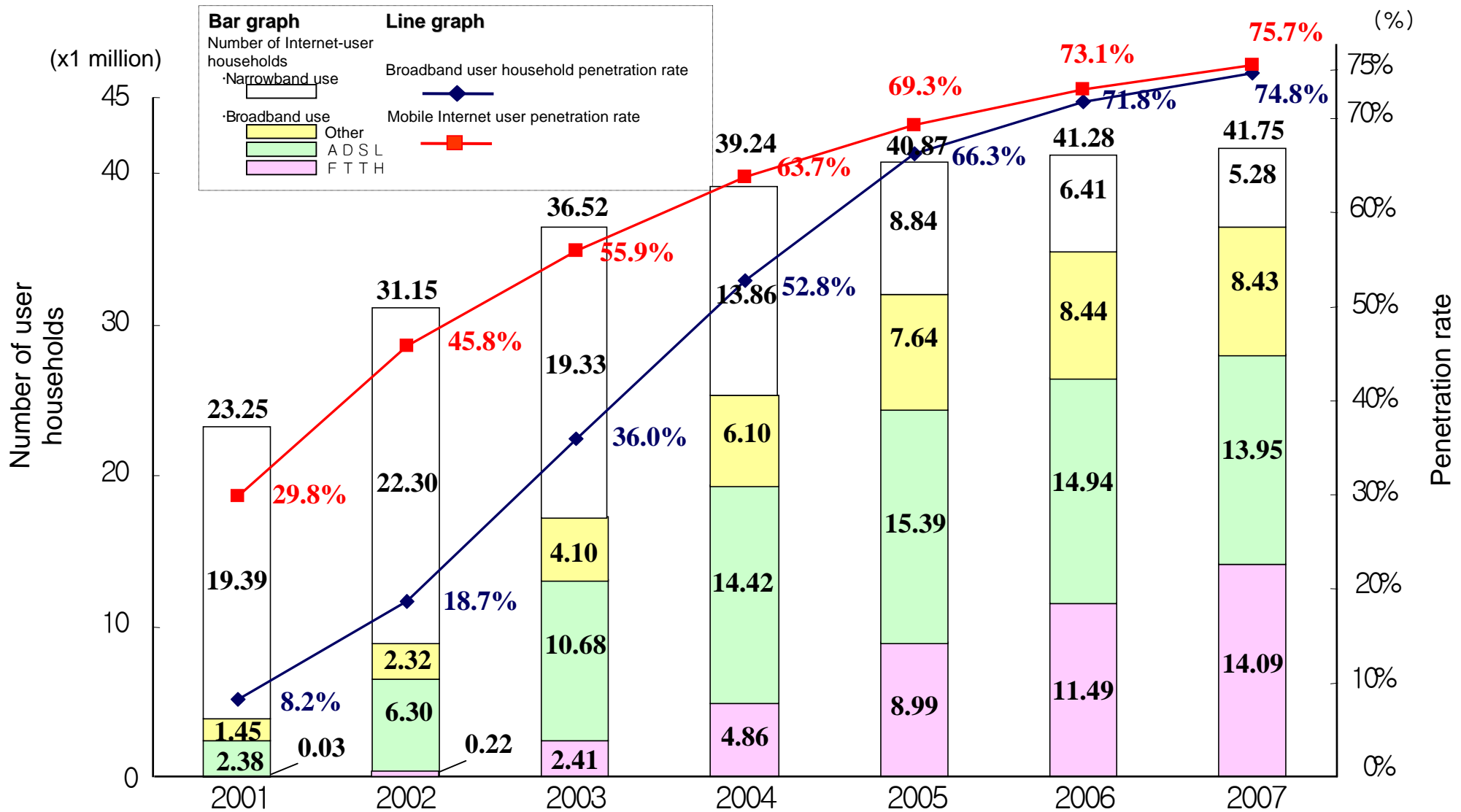

*Role of OpS for emerging broadband
telecommunication services*

Tadanobu OKADA

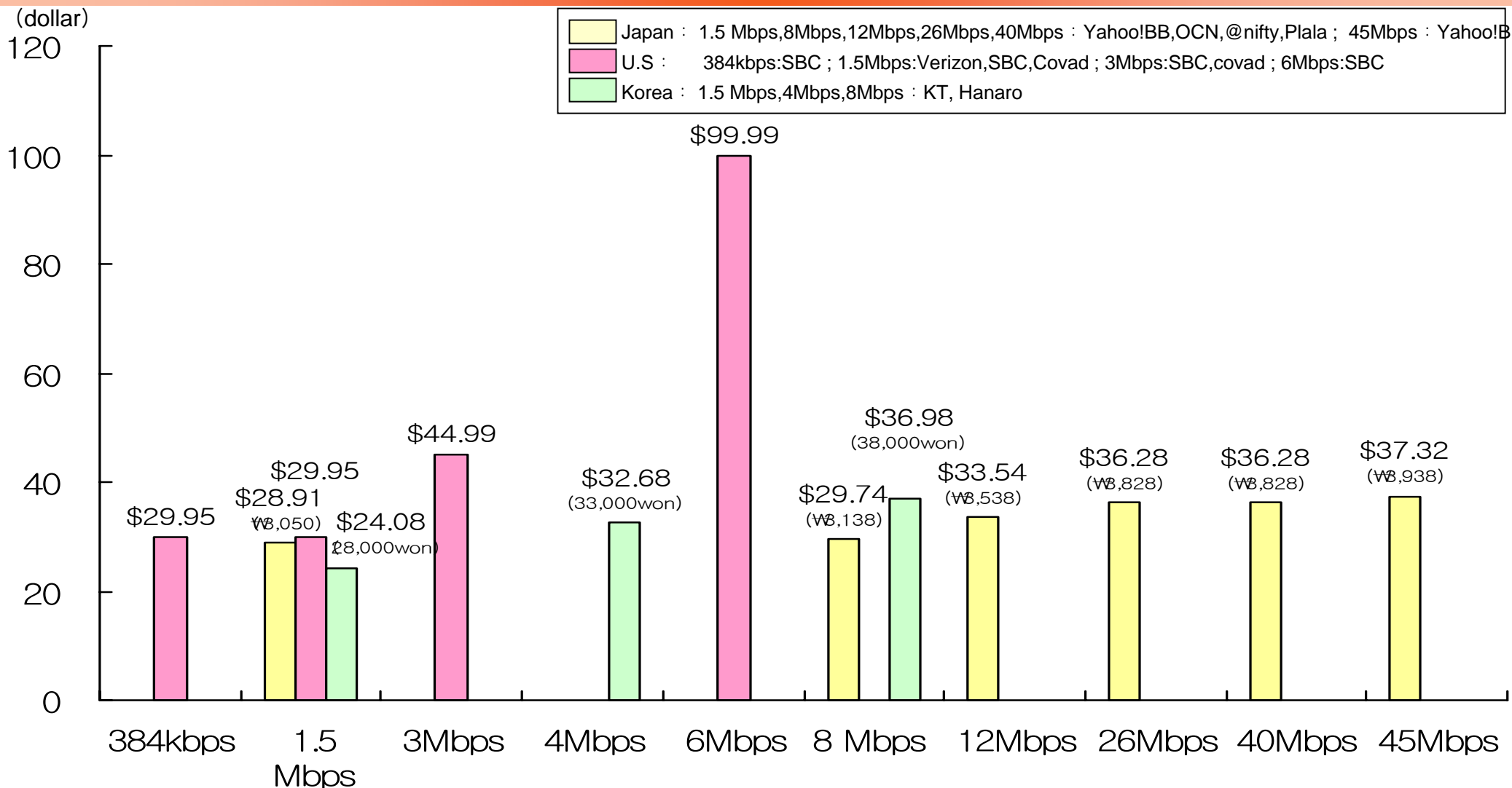
**Vice President, Director
NTT Network Service Systems Laboratories**

Internet-user household projections



(Source: InfoCom Research, Inc.)

Monthly ADSL service fees in Japan, the US, and Korea

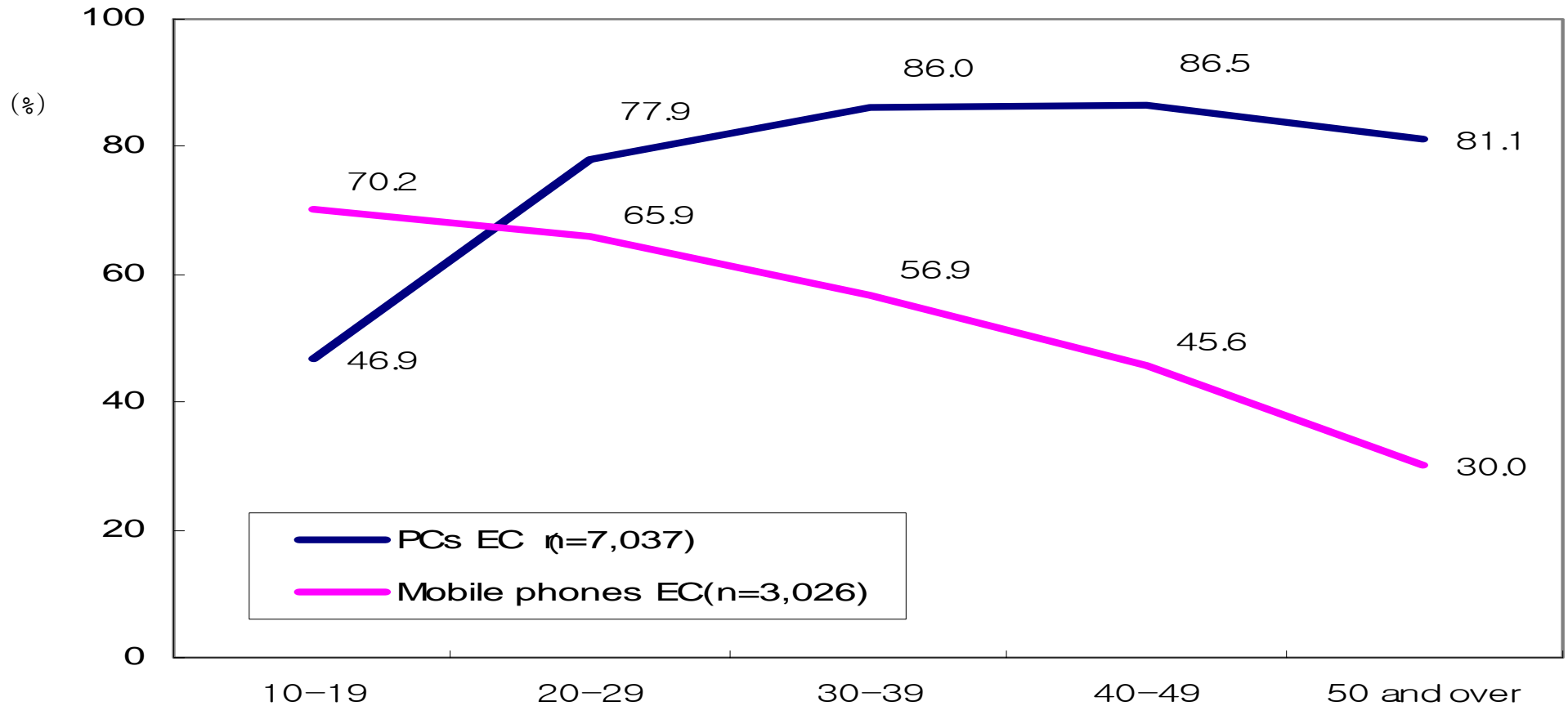


Note 1: Fees compared: ADSL subscriber fees, ISP fees and NTT line connection charge (applicable in Japan only).

Note 2: Dates of calculation: Feb 10, 2004 for fees in Japan and the US; February 2004 for fees in Korea.

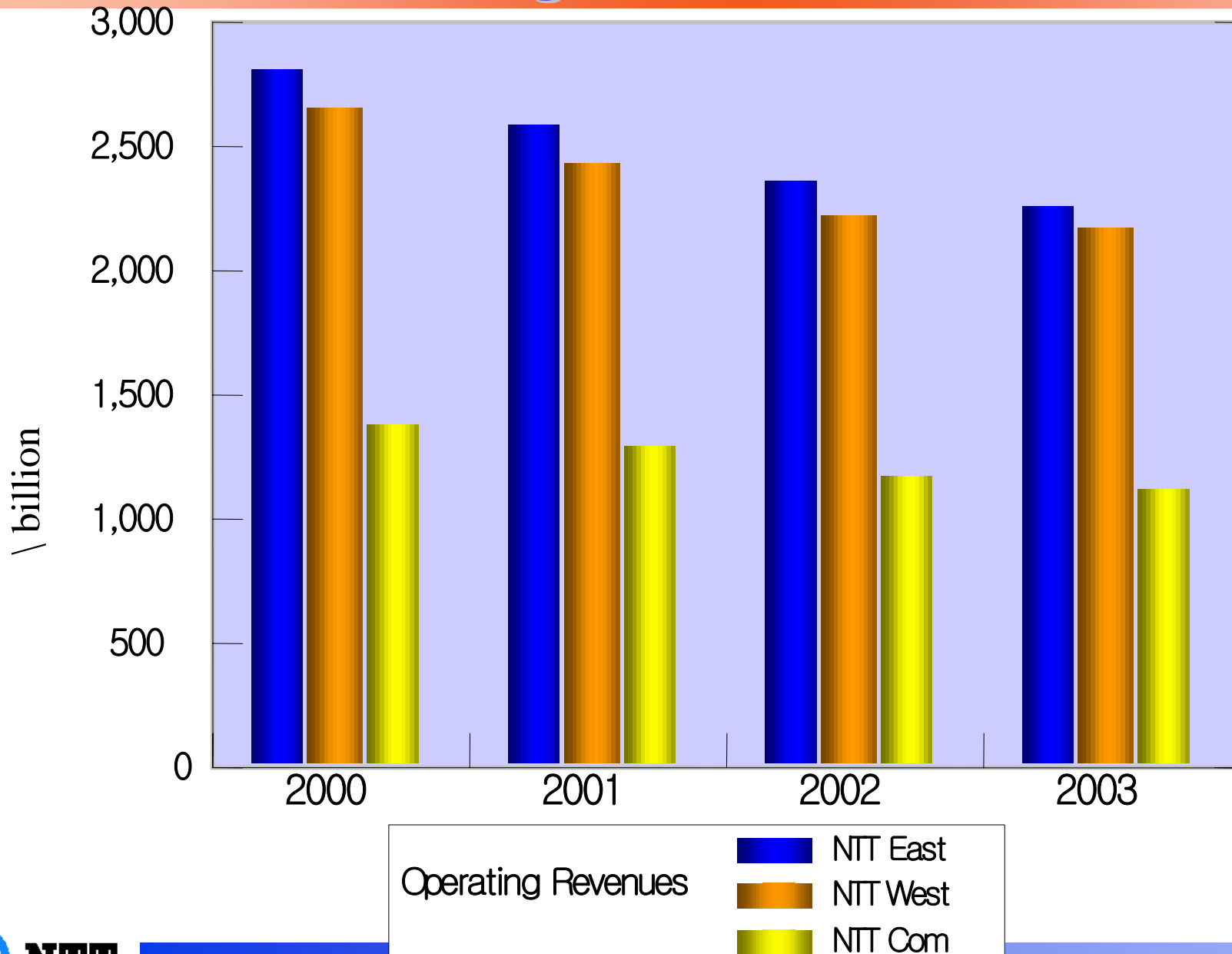
Note 3: Exchange rates: \$0.0094786 to the Japanese yen; \$0.000860 to the Korean won.

Ratio of e-commerce experience by age



Source: Created from the MIN "4th Survey of the State of Broadband & Internet Shopping Usage"; InfoCom Research, Inc. (survey conducted in May 2003)

Continuing decrease of revenues



NTT's vision for a new optical generation

Creating a full-scale resonant communication environment using optics

- Real and natural communication environment using video and other modes of communication which narrowband environment could not handle
- Environment that allows for safe, reliable and simple connection to general public, and enables information sharing, regardless of user environment

Issues in network management

- Frequent release of new IP services**
- Rapid replace of network equipments**
- More business partnering**
- Shift of profit source**
- Stronger needs for low cost**

Approach to better network management

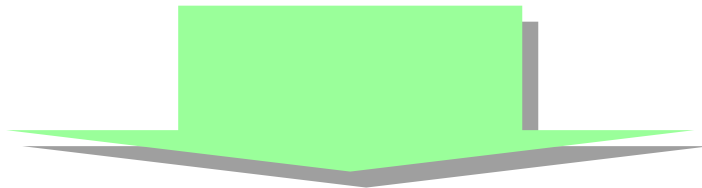
Layered structure

- Three layers of forwarding, service network control and user control

- Forwarding layer divided into “layer 2 and below” and “IP layer and above” sub-layers

Identification of operation functions

- network operation functions and service front operation functions



**An operation model that will meet changing
service/business/user requirements**

Network management architecture

