

Encouragement of Facilities-based Competition

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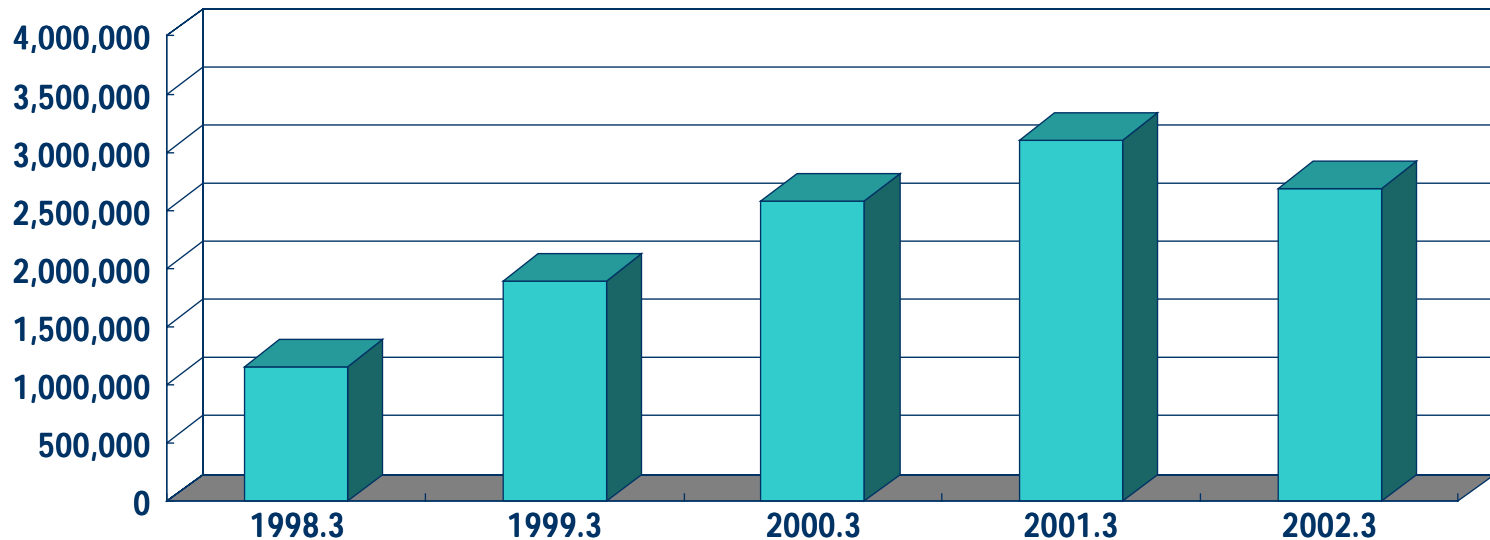


Two Types of Competitions

- Facilities-based Competition
 - Huge Investment Necessary
 - Slow to Start
- Competition based on Opening of Access Networks
 - Easy to Start
 - by Small Investment

Local Loop Competition by Open Access

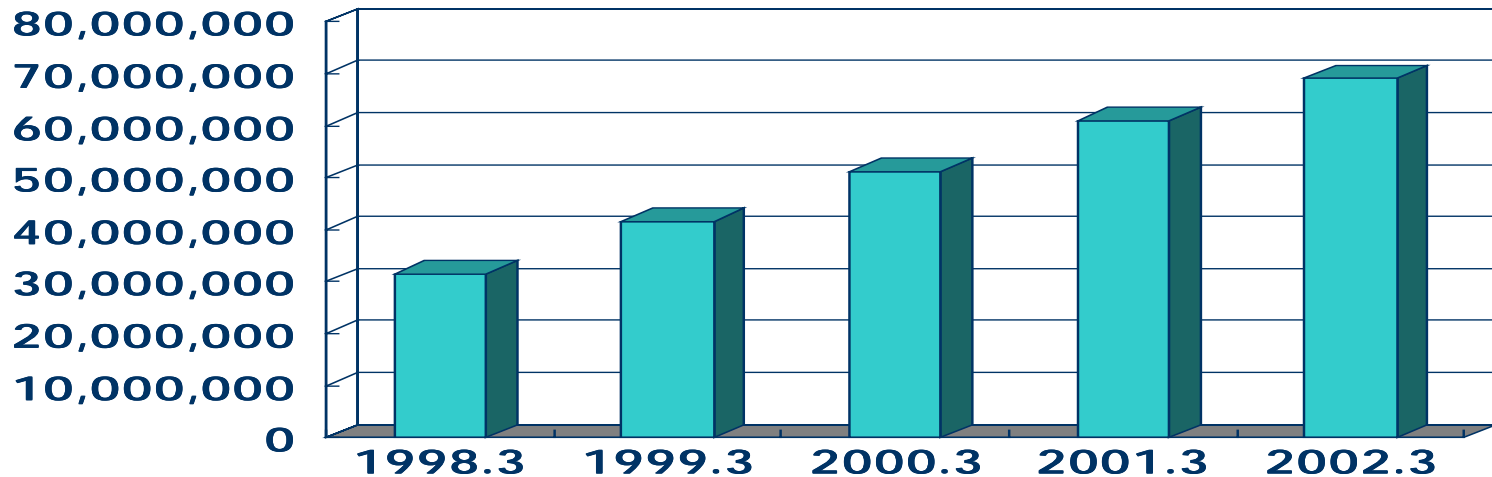
- # of Subscribers of Tokyo-Denwa



- Share of >10% Achieved after 5 Years of Operation
- “Price” is the Only Factor of Attractiveness

Local Loop Facilities-based Competition

- # of Mobile Subscribers



- Exceeded Wireline Subscribers in 2000
- Impact to Market Stronger than Open Access Comp.

DSL vs. Wireless LAN

- DSL
 - Competition based on Opening of Access Networks
 - “Price” is the Only Tool for Marketing
 - Depends on NTT Local Loops and its Facility Renewal Plan
- Wireless LAN
 - Facilities-based Competition
 - Variety of Services/Operation Arrangements Possible
 - Potential of Drastic/Destructive Change in Market Structure

Wireless LAN Operation Arrangements

- Installation and Operation Functions Provided by Separate Entities

Operation	Private Operator	Private Operator		Voluntary Group
Installation	Private Operator	Hot Spot Provider	Local Government	Individual

Potential Services over Wireless LAN Network

- Third Generation Mobile Services Encounter Difficulty in Market Penetration Because of
 - Expensive Data Service Price, i.e. over 150yen/MByte
 - Low Speed Not Enough to Send Video Stream
- Wireless LAN Networks Provide Various Information Cheap Enough and High Speed
 - Local/Community Public Information
 - Broadcasting
(Able to Substitute for Digital Terrestrial Broadcasting)

Community Wireless LAN Network

- MIAKO Network Project in Kyoto
(Mobile Internet Access in Kyoto)

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Town Guide

視覚障害者向けのアクセスホットラインサービス (

カメラを取り付けられたPDAを視覚障害者の方に持ってもらい、外出先で困ったことが
ます。誤った道筋や駅構内などまぎにくい場所では、ヘルパーがカメラの映像を見ながら
手帳や案内板の読み、ATMの文字などをカメラでうつしてもらい、ヘルパーが代わりに読み
ずでに「ナレスポットNET」で実験的に行われているサービスですが、あるこネット
とで通信コストを低減したいと考えています。

→2003年11月2日「アクセス・ホットラインサービス研究会」を設立しました。



- Navigation of Visually Impaired Person

きものdeまちあるき
着楽に歩こう京の街

きもので歡樂・・・
あこがれるけど、着付けが・・・
きもので、子連れで、電車を乗り継いで・・・
あるやっば無理

と、ためらっているあなた。
現地で着替えることもできます。



Minimum or No Regulation

- to Facilitate Various Combinations of Players
 - Simple and Effective Interconnection Rule
 - Lets Parties Decide
 - Only in Case of Dispute, Regulatory Body Intervenes
 - Reconsideration of Public Utility Privilege (“Rights of Way”)
 - Needs to Learn from the Case of Rejecting Access Point Installation in Railway Stations (Summer 2002)
 - Needs to Avoid Congestion of Access Points

Reorganization of Spectrum Assignment

- Clouded 2.4GHz Not Enough to Construct Area-wide Wireless LAN Network
- Inefficient Users of Old Radio Technologies Have No Incentive to Adapt New Technologies
- Only Width of 1 GHz Necessary to Provide Over 50 Mbit/s Services to All People in Japan