DoCoMo’s Vision on Mobile EC

OECD Emerging Market Economy Forum on Electronic Commerce

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Cellular/PHS market in Japan

- April 1994: Competition by NCCs and COAM*1 system introduced
- March 1993: Digital Service
- October 1993: Deposit abolished (100,000)
- July 1995: PHS launched
- As of Nov 2000:
  - 62.8M subs. (49.5% *)
  - Cellular Phone: 56.9M subs. (44.8% *2)
  - PHS: 5.9M subs.

*1 Customer Owned and Maintained
*2 Penetration rate per Total population
Total population = 126.8M (estimated as of September 1, 2000)

(Fiscal year)

Source: Statistical information available at Telecommunications Carrier Association

Rapid growth of the number of the Internet users in Japan

- Internet penetration rate per population, From 13.4% (in 1998) to 86.9% (in 2003)

Internet Users in Japan

(M = million)

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Source: InfoCom Research, Inc. (April 6, 2000)
### i-mode subscribers and information sites

- **Number of Subscribers (M=million)**
  - As of end December 2000:
    - Subscribers: 17.2M
    - i-mode Sites: 1,340
    - Voluntary Sites: about 33,100

- **Month:**
  - February 22, 1999: i-mode Service launched

### Information billing system for IP

- DoCoMo collects only information (contents) charge from users and forwards it to IP. (Also only for i-mode site.)

### Access ratio to i-mode contents (i-mode site)

- **Database (13.6%)**
  - Cooking recipe
  - Restaurant guide
  - Telephone directory

- **Entertainment (52.5%)**
  - Character/melody downloading
  - Network games
  - Fortune-telling

- **Transaction (20.7%)**
  - Balance inquiry
  - Bank transfer
  - Stock searching and trading
  - Airline ticket reservations

- **News/Information (13.2%)**
  - Business/Sports news
  - TV guide

*Each percentage as the number of accesses at the end of 1999.*
**IMT-2000 deployment strategy**

- **IC Chips, CA**
- **Java installed**
- **Color LCD Terminal**
- **Intranet Package**
- **Groupware**
- **Game**
- **Security features**
- **Portable TV Interactive TV**
- **Music**
- **Video**
- **Videophone**
- **Digital Signature**
- **Online Shopping**
- **Portal**
- **Intranet**
- **Rich Contents (Video, high-speed communications)**
- **Mobile EC (Various means of payment)**

**IMT-2000 terminals  DoCoMo plans to launch**

- **Standard Terminal** *(Voice + Data communications)*
  - Audio quality on a par with or better than the fixed network systems
  - Standardly equipped with a Web browser

- **Motion Picture Terminal** *(Visual Phone)*
  - Full-fledged support for image-oriented services (including motion pictures)
  - Terminal integral with a built-in camera

- **Data Communications Dedicated Terminal**
  - Terminal to allow incorporation into a PC and other devices
  - Terminal to support corporate communications such as SOHO

**Mobile commerce applications**

- **Transportation**
  - · Train/bus ticket
  - · Prepaid card
  - · r.t. ticket

- **Shopping**
  - · Coupon
  - · Shopping point card

- **Governmental Service**
  - · ID card
  - · ID web enrollment card

- **Bank**
  - · Bank card
  - · Credit card
  - · e-money

- **e-Ticket**
  - · Concert
  - · Sports event
DoCoMo’s Positioning on Mobile EC Business Deployment

<table>
<thead>
<tr>
<th>Item</th>
<th>Service Image</th>
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<tbody>
<tr>
<td>1. To improve users convenience</td>
<td>Providing Mobile EC service in both virtual and real market</td>
</tr>
<tr>
<td></td>
<td>Inexpensive payment commission</td>
</tr>
<tr>
<td></td>
<td>Loading multi EC applications (ex. Credit card) in one mobile phone</td>
</tr>
<tr>
<td>2. To provide various functions to other industries</td>
<td>Centralizing users’ multi bank accounts (ex. Aggregation service)</td>
</tr>
<tr>
<td></td>
<td>Providing a safe and secure EC Platform (Escrow, CA)</td>
</tr>
<tr>
<td>3. To utilize the new technology of IMT-2000 mobile phones</td>
<td>Filling electronic value from the bank account to IC chips in mobile phone via mobile network</td>
</tr>
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<td></td>
<td>Loading authentication functions and applications on UIM and/or IC chip of the mobile phone</td>
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Mobile EC Business

2 Chips solution in a smart phone for mobile EC

<table>
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<tr>
<th>UIM (User Identity Module)</th>
<th>(*) tamper-proof device : unable to read/write data for illegal access</th>
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<tbody>
<tr>
<td>(1) User Security: Difficult to take</td>
<td>Secure Communications</td>
</tr>
<tr>
<td>(2) Processing Speed: Slow and secure data for certification</td>
<td>Applications</td>
</tr>
<tr>
<td>(3) Small and easy to carry</td>
<td>Electronic Commerce</td>
</tr>
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Contactless IC Card R/W (Reader/Writer) |

| Secure card / high-speed processing |
| Applications for real shop |
| Applications for virtual shop |
| High-speed processing |
| Micro payment |
Mobile commerce players and smart phone

Shop
- Credit Card
- Contactless IC Card
- Payment through Smart Phone (e-Money, Credit, etc.)

Settlement Bank
- e-Money Issuer
- Net Shops
- Credit Card Comp.

Mobile EC Infrastructure
- EC Portal
  - Cyber Shops
  - Goods
  - Contacts
  - Certification Authority
  - EC Certification

The Okinawa Charter

The Okinawa Charter on Global Information Society
0 I Information and Communications Technology is one of the most potent forces in shaping the 21st century.
0 I Everyone at anywhere should be enabled to participate in and none should be excluded from the benefits of global information society.

EC presents opportunities for all consumers and small businesses to obtain easy access to the world market via Internet. The global eQuality can only be accomplished if member countries take balanced steps between consumers and businesses now and in the future to ensure that international framework related to EC benefits both developed countries and developing countries.

Key issues for mobile EC

DoCoMo’s stance
[DoCoMo Vision 2010]
- Stimulating further growth of the mobile communications market via mobile multimedia, and thus improving the quality of life and revitalizing industry.
- five key concepts “MAGIC”
  ① Mobile Multimedia
  ② anytime, Anywhere, Anyone
  ③ Global Mobility Support
  ④ Integrated Wireless Solution
  ⑤ Customized Personal Service

Japanese Government’s stance
[The Principle of “eQuality” Paper (2nd draft)]
- Taking into account the developing countries, harmonization and balancing the Competition Policy and Social Policy of E-Commerce will realize a vigorous society.
- To reconsider the Competition Policy and promote the Consumer Protection Policy and Security Policy.

Taking into account the Japanese Government’s stance, DoCoMo will contribute to realizing a rich and vigorous society.