Towards Network No. 1 in Smartphone Era

March 21, 2013
Masayoshi Son
Representative of the SoftBank Group
SoftBank’s connectivity is weak
Reasons for Churn (March 2010)

- Weak signal: 26%
- Others

Biggest weakness

*SoftBank data*
Platinum Band

Launched on July 25, 2012
Platinum Band Base Stations

Exceeded & achieved ahead of schedule

Approx. 20K

Target in FY2012 (submitted plan)

16K


16K

5
Even in heavy snow...

Installed base stations as planned

Installation work
As a result:
Smartphone Call Connection Rate (Japan)

*Surveyed by IPSOS. Actual connection rate on calls made to 12,400 smartphone users.
(SoftBank: 5,300 users, NTT DOCOMO: 3,400 users, au: 3,700 users)
Packet Connection Rate (Platinum band-compatible smartphones, Japan)

SoftBank

No.1

Packet Connection Rate

96.6%
96.2%
95.5%

*Statistics analyzed by Agoop Corp.
Total 108,000 smartphones were randomly selected for analysis (SoftBank:36,000, NTT DOCOMO: 36,000, au:36,000) from January 15 to March 19. Data of platinum band compatible smartphones was collected through the disaster warning app (by Yahoo Japan) and Ramen Checker app (by Agoop)
Are we No.1 just by chance?
To provide greater connectivity in smartphone era
Need to be No.1 in packet connectivity rate
Before the smartphone era

Call- and text-centric
Today

Data-centric

*Source: Smartphone market and usage report 2013 (Impress R&D/Internet Media Research Institute)
Mobile Data Traffic
(Indexed at traffic volume of April 2008 = 1)

60x in 5 years

Voice 1.3

April 2008

March 2013

*SoftBank data
Tremendous traffic growth in big cities
The Biggest issue in Smartphone Era
Packet Congestion
Packet Congestion

Good signal reception but no data flow
Which one do you want to use?

Unstable

Packet congestion

Stable at high speed

Effective speed

Speed

Time

Speed

Time

Effective speed

Packet congestion

Effective speed
Effective measures against packet congestion

Small Cells
Allocate Traffic to Small Cells

Regular base station design
1,000 users/cell

Small cell design
100 users/cell

*Conceptual diagram
No. 1 in number of base stations

The sum of the number of indoor and outdoor base stations

Number of Users per Base Station
(Subscriber number divided by base station number)

- **NTT docomo**: 600
- **au**: 350
- **SoftBank**: 150

*Created by SoftBank Corp. based on reports by Nomura Securities Co., Ltd. (as of March 2012)*
More Small Cells

AXGP base stations
25k

Public Wi-Fi spots
450k
Number of Wi-Fi Access Points (public + households) (as of March 20, 2013)

- **SoftBank**
  - Public: 0.45m
  - Household: 3.4m
  - Total: 3.85m

- **au**
  - Public: 0.22m
  - Household: 1.65m
  - Total: 1.87m

- **NTT Docomo**
  - Public: 0.1m
  - Household: 0.1m
  - Total: 0.22m

**Overwhelming No.1 in number of Wi-Fi spots**

*Source: au: Earnings results for 3Q FY 2012
NTT DOCOMO: Corporate website*
Moreover
Double LTE
Launched on March 21, 2013
Mr. Sachio Semmoto
Founder & Chairman
Emeritus, Director
eAccess Ltd.
Utilize 2 Companies’ LTE

2.1 GHz × 1.7 GHz

SoftBank
Access to Less Congested Network

Share congestion status

2.1 GHz

SoftBank

1.7 GHz

31
Double LTE for Greater Customer Experience

iPhone 5

iPad mini

iPad Retina display model
2.1G/1.7GHz LTE Base Stations

- **au**: 16k
- **SoftBank**: 21k
- **SoftBank + EMOBILE**: 38k

**Number of LTE base stations compatible with iPhone 5**

Increase rapidly

Source: The Ministry of Internal Affairs and Communications (update on March 11, 2013)
Imagine an expressway...
SoftBank

Comfortable LTE

Congested LTE

Competitor
Average Communication Speed by Region
(All OS / LTE+3G)

Kanto
- NTT DOCOMO: 3.0 Mbps
- au: 4.1 Mbps
- SoftBank: 6.8 Mbps

Chubu
- NTT DOCOMO: 3.9 Mbps
- au: 3.9 Mbps
- SoftBank: 7.7 Mbps

Kansai
- NTT DOCOMO: 3.1 Mbps
- au: 4.0 Mbps
- SoftBank: 7.8 Mbps

*Source: RBB TODAY survey (March 13, 2013)
Users' communication speed measured with a speed measuring app for smartphones “RBB TODAY SPEED TEST” (November 1, 2012 - January 31, 2013)
March 21, 2013

Mobile phone services become available in trains on all Tokyo Metro lines.

*Excluding section between Kotakemukaihara and Senkawa stations (due to construction of connection lines)
Full IP Backbone

Osaka

Tokyo

1Tbps
80% of transmission lines for macro cells are already upgraded to Gbps
Network in Smartphone Era

Platinum Band + Small cells

Full IP backbone
<table>
<thead>
<tr>
<th>Date</th>
<th>Carrier</th>
<th>Affected users</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011/6/6</td>
<td>dōcomo</td>
<td>1.5m</td>
</tr>
<tr>
<td>2011/8/16</td>
<td>dōcomo</td>
<td>1.1m</td>
</tr>
<tr>
<td>2011/11/2</td>
<td>au</td>
<td>1.1m</td>
</tr>
<tr>
<td>2012/1/1</td>
<td>dōcomo</td>
<td>2.61m</td>
</tr>
<tr>
<td>2012/1/25</td>
<td>dōcomo</td>
<td>2.52m</td>
</tr>
<tr>
<td>2012/1/25</td>
<td>au</td>
<td>74k *</td>
</tr>
<tr>
<td>2012/2/9</td>
<td>au</td>
<td>1.3m</td>
</tr>
<tr>
<td>2012/2/11</td>
<td>au</td>
<td>6.15m</td>
</tr>
<tr>
<td>2012/12/31</td>
<td>au</td>
<td>Max. 1.8m</td>
</tr>
</tbody>
</table>

* including users of KDDI's fixed-line communications service  
** as of March 21, 2013

(Source: The Ministry of Internal Affairs and Communications “Telecommunication services accidents (FY2011)” and KDDI’s briefing session (January 16, 2013))
As a result:
Call Connection Rate
Call Connection Rate Survey
(IPSOS, Global No.2 research firm)

Calling system

Number of calls: 15 times/user per month

Users agreed to survey 30,000 users
(10k users x 3 carriers)
smartphone users included 12,400 users

Analyze 190k call test data per month
Smartphone Call Connection Rate (Japan)

*Surveyed by IPSOS. Actual connection rate on calls made to 12,400 smartphone users. (SoftBank: 5,300 users, NTT DOCOMO: 3,400 users, au: 3,700 users)
No. 1 in iPhone 5 call connection rate

iPhone 5 Call Connection Rate (Japan)

- **SoftBank**: 98.6%
- **Other company**: 97.1%

*Surveyed by IPSOS.
Actual connection rate on calls made to 2,500 iPhone 5 users nationwide. (SoftBank: 1,550 users, other company: 950 users)
Packet connection rate
Packet Connection Rate Survey

Analysis system
(Agoop Corp.)

150m data communication logs per month

*Users agreed to provide data
Packet Connection Rate Survey

(Grant applied for)

150m data communication logs per month

Analysis system
(Agoop Corp.)

Handsets send location data every 30 min. or when on the move. Out of coverage or out of connection for 10 sec. is regarded as no connection.

*Users agreed to provide data.
Packet Connection Rate Survey

150m data communication logs per month

- GPS data
- Building data
- Base station data
- Time data

Analysis system
(Agoop Corp.)

*Users agreed to provide data

(Patent applied for)
Packet Connection Rate Survey
(Patent applied for)

Use for optimization of base station design

Analysis system
(Agoop Corp.)
Packet Connection Rate
(Japan, platinum band-compatible smartphones)

SoftBank

No.1 in packet connection rate

*Statistics analyzed by Agoop Corp.
Total 108,000 smartphones were randomly selected for analysis
(SoftBank:36,000, NTT DOCOMO: 36,000, au:36,000) from January 15 to March 19.
Data of platinum band compatible smartphones was collected through the disaster warning app (by Yahoo Japan) and Ramen Checker app (by Agoop)
iPhone 5 Packet Connection Rate (Japan)

SoftBank 97.4%

No.1 in iPhone 5 packet connection rate

Other company 95.6%

*Statistics analyzed by Agoop Corp. Total 30,000 iPhone 5s (15,000 for each operator) were randomly selected for analysis from February 4 to March 19. Data was collected through the disaster warning app (by Yahoo Japan) and Ramen Checker app (by Agoop)
Fully Utilize 150m Data Logs / Month
Packet Connection Rate by Region

Kanto
SoftBank is No.1

Tokai
SoftBank is No.1

Kansai
SoftBank is No.1

*Statistics analyzed by Agoop Corp.
Total 108,000 smartphones were randomly selected for analysis (SoftBank:36,000, NTT DOCOMO: 36,000, au:36,000) from January 15 to March 19.
Data of platinum band compatible smartphones was collected through the disaster warning app (by Yahoo Japan) and Ramen Checker app (by Agoop)
Packet Connection Rate by Region

Hokkaido: SoftBank is No.1
- SoftBank: 96.9%
- docomo: 96.3%
- au: 96.0%

Tohoku: NTT DOCOMO is No.1
- SoftBank: 96.6%
- docomo: 96.7%
- au: 95.6%

Hokuriku: SoftBank is No.1
- SoftBank: 96.8%
- docomo: 96.7%
- au: 96.6%

Chugoku: SoftBank is No.1
- SoftBank: 96.2%
- docomo: 96.1%
- au: 95.8%

Shikoku: SoftBank is No.1
- SoftBank: 97.1%
- docomo: 96.9%
- au: 95.5%

Kyusyu: SoftBank is No.1
- SoftBank: 96.8%
- docomo: 96.7%
- au: 96.2%

*Statistics analyzed by Agoop Corp.
Total 108,000 smartphones were randomly selected for analysis (SoftBank:36,000, NTT DOCOMO: 36,000, au:36,000) from January 15 to March 19.
Data of platinum band compatible smartphones was collected through the disaster warning app (by Yahoo Japan) and Ramen Checker app (by Agoop)
Packet Connection Rate by Area

Urban
SoftBank is No.1

Suburb
SoftBank is No.1

Mountainous area
NTT DOCOMO is No.1

*Statistics analyzed by Agoop Corp.
Total 108,000 smartphones were randomly selected for analysis (SoftBank:36,000, NTT DOCOMO: 36,000, au:36,000) from January 15 to March 19.
Data of platinum band compatible smartphones was collected through the disaster warning app (by Yahoo Japan) and Ramen Checker app (by Agoop)
Packet Connection Rate by Hour
(at top 1,000 railway stations by number commuters, platinum band-compatible smartphones)

*Statistics analyzed by Agoop Corp.
Total 108,000 smartphones were randomly selected for analysis (SoftBank:36,000, NTT DOCOMO: 36,000, au:36,000) from February 15 to March 16.
Data of platinum band compatible smartphones was collected through the disaster warning app (by Yahoo Japan) and Ramen Checker app (by Agoop)
<table>
<thead>
<tr>
<th>Category</th>
<th>Number of locations</th>
<th>SoftBank</th>
<th>NTT docomo</th>
<th>au</th>
</tr>
</thead>
<tbody>
<tr>
<td>Railway station</td>
<td>1,000</td>
<td>☈ 96.0%</td>
<td>95.3%</td>
<td>95.6%</td>
</tr>
<tr>
<td>University</td>
<td>100</td>
<td>☈ 95.9%</td>
<td>95.4%</td>
<td>95.7%</td>
</tr>
<tr>
<td>Shopping mall</td>
<td>2,312</td>
<td>☈ 96.3%</td>
<td>95.9%</td>
<td>95.8%</td>
</tr>
<tr>
<td>Department store</td>
<td>231</td>
<td>☈ 95.7%</td>
<td>95.1%</td>
<td>95.2%</td>
</tr>
<tr>
<td>Electronics retail store</td>
<td>2,329</td>
<td>☈ 96.5%</td>
<td>95.8%</td>
<td>95.8%</td>
</tr>
<tr>
<td>Convenience store</td>
<td>33,322</td>
<td>☈ 96.6%</td>
<td>95.6%</td>
<td>95.9%</td>
</tr>
</tbody>
</table>

*Railway station: top 1,000 by number of commuters  *University: top 100 by number of students
*Statistics analyzed by Agoop Corp.
Total 108,000 smartphones were randomly selected for analysis (SoftBank:36,000, NTT DOCOMO: 36,000, au:36,000) on March 12.
Data of platinum band compatible smartphones was collected through the disaster warning app (by Yahoo Japan) and Ramen Checker app (by Agoop)
## Packet Connection Rate by Landmark

<table>
<thead>
<tr>
<th>Category</th>
<th>Number of locations</th>
<th>SoftBank</th>
<th>NTT docomo</th>
<th>au</th>
</tr>
</thead>
<tbody>
<tr>
<td>Express way rest area</td>
<td>749</td>
<td>97.3%</td>
<td>97.2%</td>
<td>96.2%</td>
</tr>
<tr>
<td>Fast food eatery/family-oriented restaurant</td>
<td>12,374</td>
<td>96.8%</td>
<td>95.8%</td>
<td>96.1%</td>
</tr>
<tr>
<td>Hotel / inn</td>
<td>31,457</td>
<td>96.1%</td>
<td>95.7%</td>
<td>95.7%</td>
</tr>
<tr>
<td>Theme park/Leisure facility</td>
<td>1,071</td>
<td>95.8%</td>
<td>95.2%</td>
<td>94.9%</td>
</tr>
<tr>
<td>Golf course</td>
<td>1,044</td>
<td>93.7%</td>
<td>97.2%</td>
<td>95.0%</td>
</tr>
<tr>
<td>Ski resort</td>
<td>240</td>
<td>90.2%</td>
<td>92.6%</td>
<td>91.8%</td>
</tr>
</tbody>
</table>

*Statistics analyzed by Agoop Corp. Total 108,000 smartphones were randomly selected for analysis (SoftBank:36,000, NTT DOCOMO: 36,000, au:36,000) on March 12. Data of platinum band compatible smartphones was collected through the disaster warning app (by Yahoo Japan) and Ramen Checker app (by Agoop)*
Packet Connection Rate by Landmark

1,000 railway station

- SoftBank is No.1

- SoftBank: 97%
- au: 95.6%
- docomo: 95.3%

University

- SoftBank is No.1

- SoftBank: 99%
- au: 95.7%
- docomo: 95.2%

Shopping mall

- SoftBank is No.1

- SoftBank: 98%
- au: 95.9%
- docomo: 95.6%

Department store

- SoftBank is No.1

- SoftBank: 99%
- au: 95.7%
- docomo: 95.2%

Electronics Retail Store

- SoftBank is No.1

- SoftBank: 98%
- au: 95.8%
- docomo: 95.6%

Convenience Store

- SoftBank is No.1

- SoftBank: 98%
- au: 95.9%
- docomo: 95.6%

*Statistics analyzed by Agoop Corp.

Total 108,000 smartphones were randomly selected for analysis (SoftBank: 36,000, NTT DOCOMO: 36,000, au: 36,000) from January 15 to March 12. Data of platinum band compatible smartphones was collected through the disaster warning app (by Yahoo Japan) and Ramen Checker app (by Agoop).
Packet Connection Rate by Landmark

Fast food / family-oriented restaurant

- **SoftBank is No.1**
- **SoftBank**: 96.8%
- **au**: 96.1%
- **docomo**: 95.8%

Hotel / inn

- **SoftBank is No.1**
- **SoftBank**: 96.1%
- **au**: 95.7%
- **docomo**: 95.7%

Leisure facility

- **SoftBank is No.1**
- **SoftBank**: 95.8%
- **au**: 95.2%
- **docomo**: 94.9%

Express way rest area

- **SoftBank is No.1**
- **SoftBank**: 97.3%
- **au**: 97.2%
- **docomo**: 96.2%

Golf course

- NTT DOCOMO is No.1
- **NTT DOCOMO**: 97.2%
- **au**: 95.0%
- **docomo**: 93.7%

Ski resort

- NTT DOCOMO is No.1
- **NTT DOCOMO**: 92.6%
- **au**: 91.8%
- **docomo**: 90.2%

*Statistics analyzed by Agoop Corp.
Total 108,000 smartphones were randomly selected for analysis (SoftBank:36,000, NTT DOCOMO: 36,000, au:36,000) from January 15 to March 12. Data of platinum band compatible smartphones was collected through the disaster warning app (by Yahoo Japan) and Ramen Checker app (by Agoop)*
We are No.1 not by chance but by logic
We are not satisfied yet.
Video
Mission of Telecom Operator
Communications = Life line