Through the Experience of Great East Japan Earthquake/Tsunami 3.11
– Social Information Infrastructure and eGovernment for Basic Citizen Life –

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NTT Corporation
Disaster Situation

Outflow of Shichigahama Telephone Office (Miyagi Pref)

Before Tsunami

After Tsunami

500m away

Tokura Telephone Office (Miyagi Pref)

Before

After

Satellite Photograph

Pipeline of Kesen-ohashi (Iwate Pref)

Kesen-Ohashi Bridge

Telephone Pole, Mobile Telecom Station (Miyagi Pref)
# Damage Situation and its Affected Amount

## Damage Situation

<table>
<thead>
<tr>
<th>Event Description</th>
<th>FY2010</th>
<th>FY2011-</th>
</tr>
</thead>
</table>
| **NTT EAST**

### Destruction of Telecom Bldg

- Telecom Bldg
  - Complete collapse: 18 Bldgs
  - Flood: 23 Bldgs

### Collapse of a telephone pole

- Telephone pole outflow, breakage
  - About 65,000 (area along the shore)

### Transmission line, Switchboard outflow

- Relay transmission line cutting
  - 90 routes (except for area of nuclear power plant)
- Aerial cable outflow, breakage
  - About 6,300 km (area along the shore)

### Collapse of mobile telecom station

- Station for restoration
  - 375 stations
  - (68 stations inside of 30 km of nuclear power plants)

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| **NTT Docomo**

### Collapse of mobile telecom station

- Station for restoration
  - 375 stations
  - (68 stations inside of 30 km of nuclear power plants)

- **Loss**
  - 20 billion yen
  - = 190 million euros*

- **Investment of Equipment**
  - 40 billion yen
  - = 380 million euros*

### Collapse of mobile telecom station

- Station for restoration
  - 375 stations
  - (68 stations inside of 30 km of nuclear power plants)

- **Loss**
  - 10 billion yen
  - = 95 million euros*

- **Investment of Equipment**
  - 10 billion yen
  - = 95 million euros*

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※ The affect in the 2010 fiscal year in the NTT Group consolidated accounts including other group companies is about 30 billion yen (profit and loss) [removes the contribution money].

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*1 Euro = 105 Yen
Restoration Situation – Telecom Services

- Carried out in organization exceeding 10,000 people for restoration of fixed and mobile services.
  - Relief by mobile power supply car and independent electronic power plant
  - Restoration of equipment by means of detour of transmission route etc

In the Case of Fixed Line Services

- The number of lines that fixed line services was affected (Unit: Line)

- Max Affected Lines
  - About 1.5M Lines
  - Max: 2011.3.13
  - Affected Lines: About 112K Lines (Recovery Ratio: 93%)

- The numbers of influences, such as line disconnect between a visitor's house and a telecom building, are not included.
**Restoration Situation – Telecom Equipment**

- **The bldgs/stations in the area that customers live has been restored mostly by the end of April**
- **About disaster stricken area where habitation is difficult, such as nuclear power plant area, we keep pace with recovery of other infrastructures, such as a road, and aim at restoration of communication equipment.**

### After Disaster

<table>
<thead>
<tr>
<th>Fixed</th>
<th>Mobile</th>
</tr>
</thead>
<tbody>
<tr>
<td>385 Bldgs</td>
<td>4,900 Stations</td>
</tr>
<tr>
<td>46 Bldgs</td>
<td>307 Stations</td>
</tr>
</tbody>
</table>

### Before Disaster

<table>
<thead>
<tr>
<th>Difficult Area</th>
<th>28th March</th>
<th>End of April</th>
<th>End of July</th>
</tr>
</thead>
<tbody>
<tr>
<td>9 Bldgs</td>
<td>68 Stations</td>
<td>0 Bldgs</td>
<td>6 Stations</td>
</tr>
</tbody>
</table>

**For Information**
- The number of buildings/stations in 3 prefectures that is disaster stricken area
  - About 560 telecom bldgs
  - About 6,000 mobile telecom stations

*1 The island part of a refuge-island outside area
*2 The area where construction is difficult by road cutting into pieces etc
Efforts/Activities – Offer of Comm Means

- Installation of especially prepared public phone by using portable satellite telecom equipment etc
  - About 3,900

- The loan of free mobile phone
  - About 2,100

- The loan of free satellite mobile phone
  - About 900

- Installation of free internet corner
  - About 410

- Offer of the internet environment by a tablet terminal
  - About 670

- Installation of a free charge corner
  - About 410
# Efforts/Activities – ICT based Support

<table>
<thead>
<tr>
<th>Category</th>
<th>Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government</td>
<td>● Gratis offer of the map information and aerial photograph before and after suffering a calamity to a governmental agency etc.</td>
</tr>
</tbody>
</table>
| Medical | ● Implementation of the remote health consultation by gratis offer of TV telephone to a refuge, etc.  
By supporting a volunteer group's "East Japan great earthquake stricken area support / continuous care cure network project (C3NP)" activity, we will provide with it in Kurihara in Miyagi Pref. and Tono in Iwate Pref. |
| Education | ● Gratis offer of the multicasting services from a school to parents and guardians  
● Provision support of a juvenile student’s learning environment  
Through cooperation with the partner company of education fields, or an academic expert, we are under examination of offer of the drill teaching materials on a tablet type terminal, etc. |
| Others | ● Disaster victims’ assisted living information, including refuge information, a water station information, operating condition of a store etc., is offered in a portal site. |

※（ ）: 3/30 the value at press conference

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## Efforts/Activities – Life Support for Victim

<table>
<thead>
<tr>
<th>Safety Check</th>
<th>Disaster Message Board (Voice)</th>
<th>About 3.3M Messages (3.17M)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Disaster Message Board (Internet)</td>
<td>About 0.26M Messages (0.24M)</td>
</tr>
<tr>
<td></td>
<td>Disaster Message Board (i-mode/Mobile)</td>
<td>About 4.25M Messages (3.79M)</td>
</tr>
</tbody>
</table>

**Message custody activities**  
Activity which keeps a message for disaster victims and tells a message instead of disaster victims

<table>
<thead>
<tr>
<th>Life Support</th>
<th>Offer of 54 company residences / about 3,400 houses (43 company residences / about 3,000 houses), and 12 affairs such as land</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Offer as a life space for victims who suffered a great deal of damage, based on the request from a self-governing body.</td>
</tr>
<tr>
<td></td>
<td>Gratis offer of the telephone to a makeshift house etc.: 30,000-set preparation for the beginning</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Others</th>
<th>Contribution of 1 billion yen (=9.5M Euro, 1 Euro=105 Yen) as NTT Group.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>About 1 billion yen contribution through point exchange of a stricken area support charity site or membership system service</td>
</tr>
<tr>
<td></td>
<td>Non-charge of the basic usage fee etc. for a period which communications service was not able to be used</td>
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<tr>
<td></td>
<td>Use in the company cafeteria of the agricultural products which was made in a stricken area</td>
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</tbody>
</table>

※ ( ) : 3/30 the value at press conference
In this East Japan great earthquake, communication equipment was influenced by the unprecedented following matters, and diversification of the information connection means became to be remarkable.

- **Occurrence of a 4th world observed super-massive earthquake in history, Tsunami, and much aftershocks**
  - Serious damage caused by tsunami (wetted surface area is almost equivalent to Tokyo’s 23 Wards)
  - Entry is impossible because of huge heap of rubble, road cutting into pieces, etc. for a long period of time.
  - A wide area and prolonged power failure (almost whole Tohoku region and Kanto bloc more than 7 million households in Kanto region)

- **Implementation of the Scheduled blackouts in metropolitan area**

- **The information connection means of the safety check, and restoration / disaster victim support are diversified (mobile, Internet).**

Since communications service is an important infrastructure socially, we advance the study towards future countermeasures against calamities based on the above-mentioned viewpoint.
The fundamental view towards future countermeasures [2/2] NTT

① provision of making a network strong against a disaster, and an early restoration means
- The preparation to the broader-based disaster by promotion of local distribution of an important function, formation of many routes, etc.
- Improvement in the power-proof over a wide area and a prolonged power failure etc.

② Early communication reservation of local relief base
- Practical use promotion of a satellite and radio, etc.

③ Reservation of the information sharing means after suffering a calamity
- Correspondence strengthening to needs, such as a safety check immediately after suffering a calamity (measure against congestion)
- Correspondence to a visitor's needs that is being diversified from voice to mail and internet etc.

④ Offer of the service/solution which is useful at the time of a disaster and revival
- Local government support, school support, and medical support etc.

Realizing those goals, and coordination, collaboration and cooperation with central/local government are important
Thank you for your Attention