

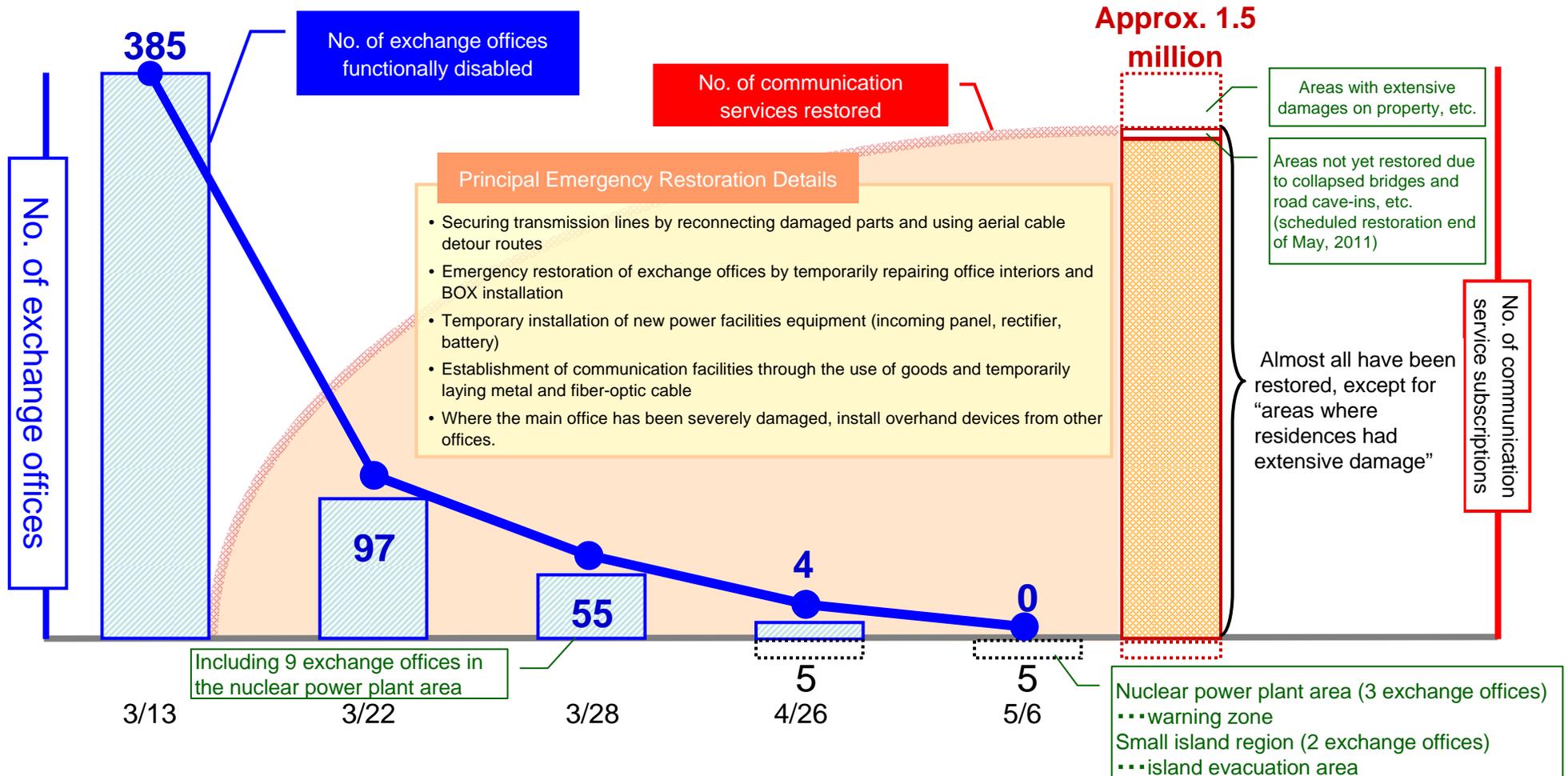
# Restoration Status and the Efforts Towards the Full-fledged Restoration of the Great East Japan Earthquake

May 13, 2011

Nippon Telegraph and Telephone East Corporation  
("NTT East")

# 1. Restoration of Communications Services

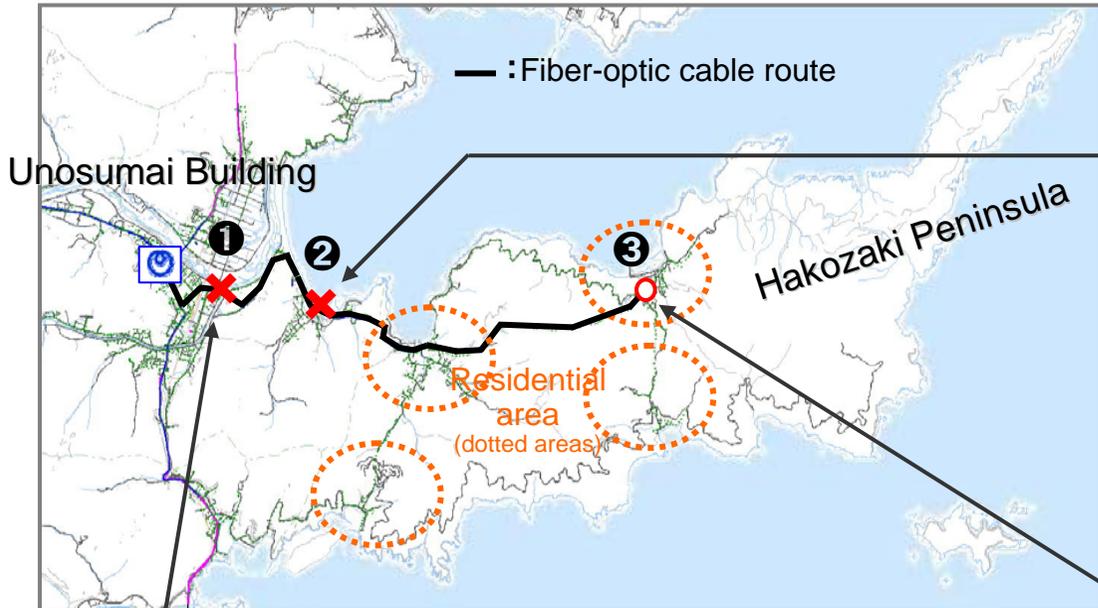
- Due to restoration efforts and the return of commercial power, functionality was restored, with the exception of three exchange offices in the Fukushima nuclear power plant area (within the warning zone), and two exchange offices in small island regions (island evacuation area), for subscriber lines and ISDN at the end of April, and FLET'S Hikari on May 6, 2011.
- ADSL and leased circuit services that are unavailable for certain exchange offices and areas that are partially unrestored due to collapsed bridges and road cave-ins are scheduled to be restored by the end of May.



# 2. Restoration of the Access Facilities in Unrestored Areas

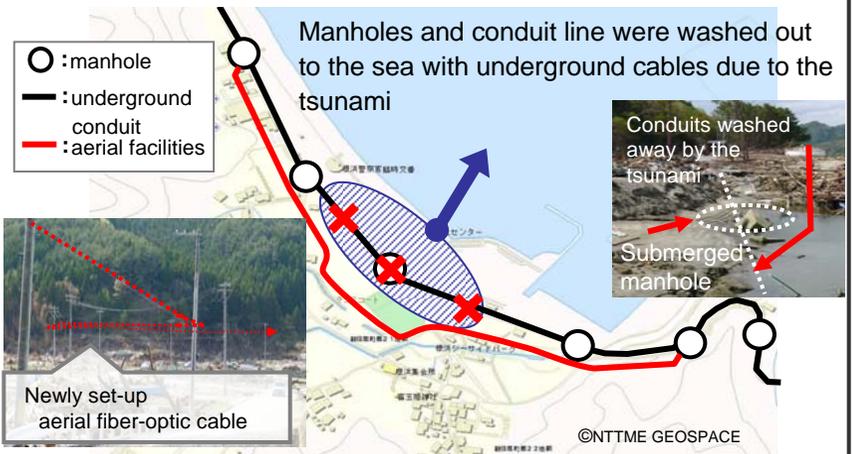
- Regarding areas for which services are unrestored due to the effects of collapsed bridges and road cave-ins, etc., (e.g., Unosumai-chiku, Kamaishi-shi, Iwate Prefecture) through the restoration of access facilities, it is expected that services can be restored by the end of May, 2011.

Example of service restoration in an area isolated due to underground facilities having been washed away by a tsunami: Unosumai Building



## Restoration point ②

- Newly installed aerial cables and fiber-optic cable detour



## Restoration point ①

- Conduit attached to a bridge was damaged, affecting underground cable as well as enclosing conduit
- Restored by installing underground cables to bridge rail



## Restoration point ③

- Newly install RT\* device and provide services by connecting to metallic cables that can be extended to residential areas.

\*Remote Terminal  
(metal cable multiplexing equipment)



# 3. Efforts Towards Complete Restoration

- Through efforts directed at the full-fledged recovery, NTT East aims to restore the pre-earthquake reliability level in affected areas as those provide stable communication services responding to the demand in expanding living areas going forward.
- NTT East will also consider policies covering all of eastern Japan going forward “to further enhance reliability of communication networks” in light of the March 11 earthquake.

Emergency  
Restoration

April 2011

## Phase I July 2011

- Exchange office maintenance
  - Repair external walls and windows, install new air conditioning equipment
- Secure two routes for relay transmission lines
  - Connection of disconnected places, etc.



<Air-conditioning is newly installed and plywood is replaced by a complete wall to ensure the effects of air-conditioning>

## Phase II

- Restoration of facilities to pre-earthquake reliability levels
  - Bury underground transmission lines to BOX installed in damaged buildings, ensure security
  - Removal of temporary restoration facilities (temporary aerial cables, equipment accommodated in other stations)
  - Deal with power facilities equipment (replace deteriorated batteries, relocation to electrical rooms, etc.)
- Respond to the expansion of living areas occurring in conjunction with the restoration of affected areas (address demand in affected areas)



Full-fledged restoration of temporary power facilities equipment

March 2012

Complete  
Restoration

Further  
Enhance  
Reliability

- Nationwide implementation of reliability-enhancing policies in response to the March 11 earthquake
  - Improve reliability of relay transmission lines on the basis of wide-area disasters
  - Improve reliability through network function distribution (achieve earlier restoration when there is a disaster)
  - As disaster countermeasures, install important routes for access facilities in the ground, and surge relays from underground
  - Reinforcing measures for water resistance at exchange offices, etc.

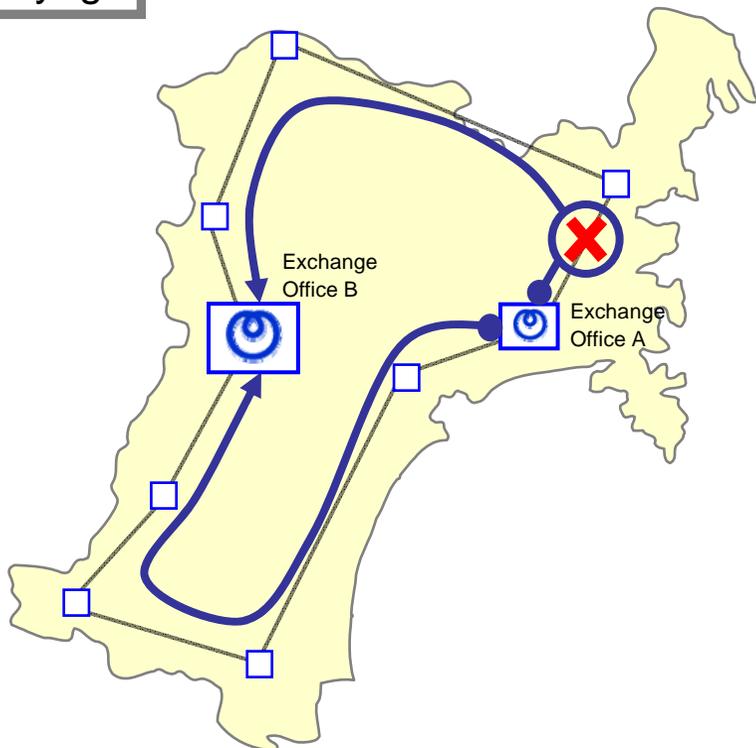
## 4. Full-fledged Restoration of Temporarily Restored Facilities (Relay Transmission Line)

- The relay transmission line that had been operated as a single route due to temporary restoration, has been restored to two routes. (Even when one of the relay transmission lines is disconnected by a secondary disaster, etc., the other route can be secured.)

<Legend> Communication from Exchange Office A to Exchange Office B

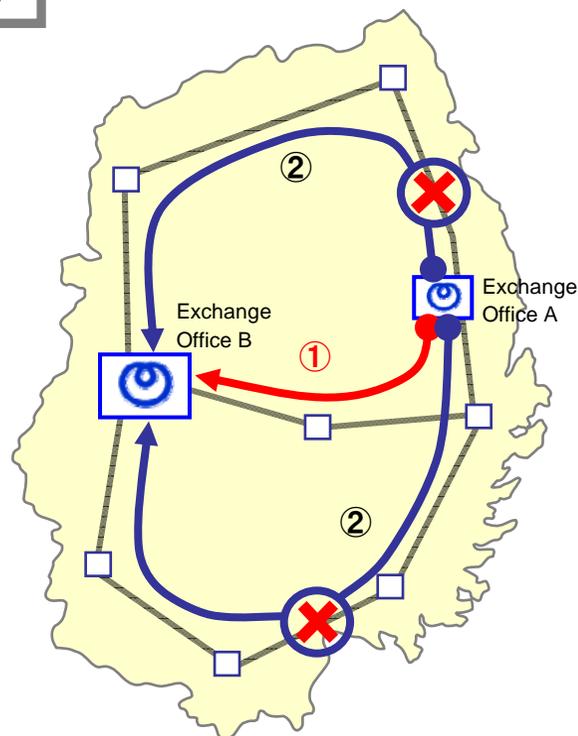
➡ Normal Route   ➡ Temporary Route   □ NTT building   — Existing Transmission Line   ⊗ Restored Relay Cable

Miyagi



Recovered from single route operations to two operations by restoring relay cables.

Iwate

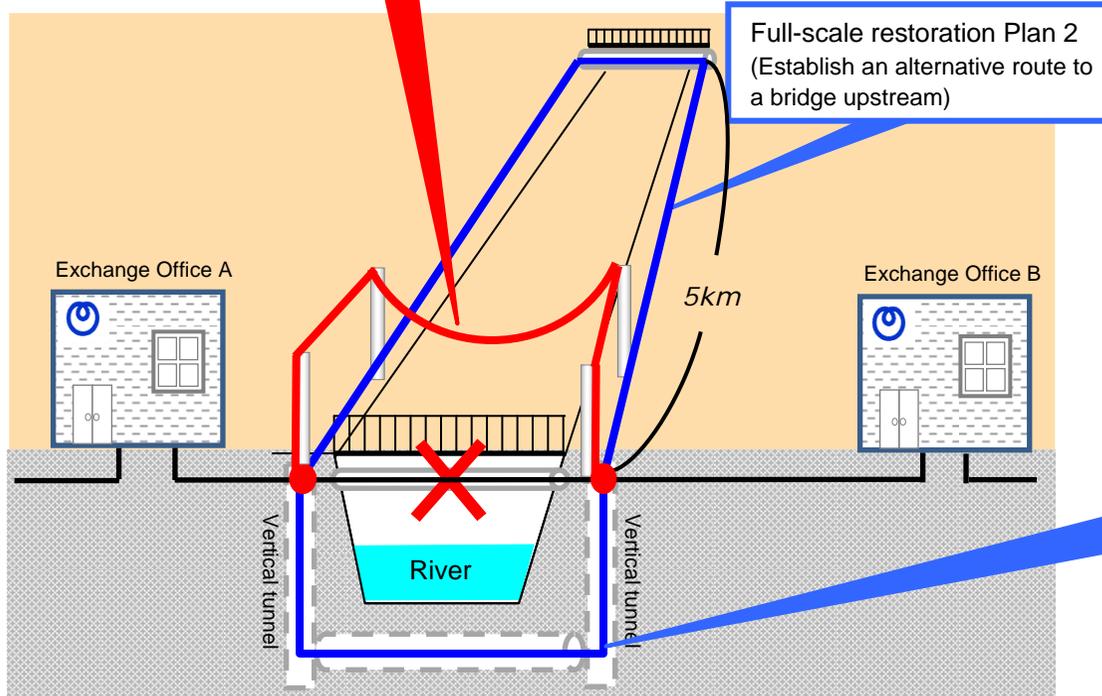


- ① Restored services to a single route by switching to a temporary route.
- ② Secured two routes by restoring relay cables.

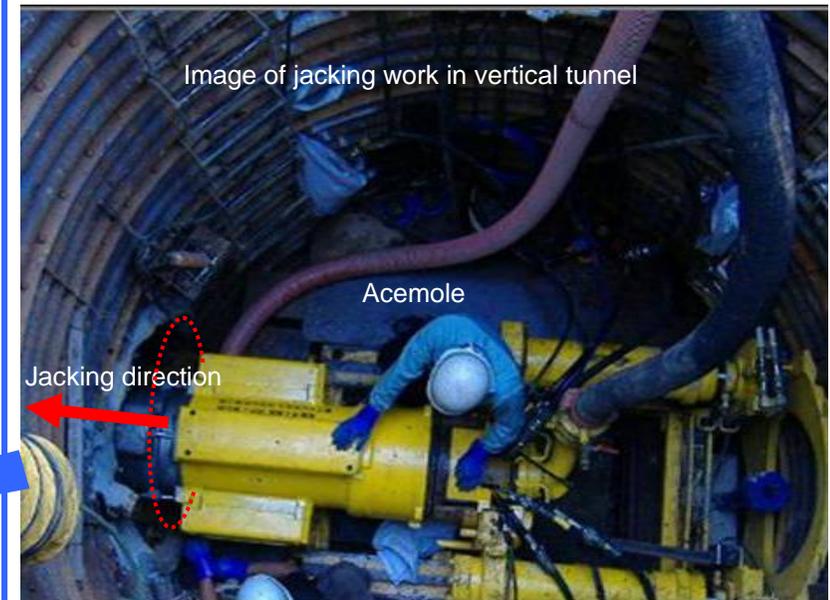
## 5. Full-fledged Restoration of Temporarily Restored Facilities (Relay Transmission Lines) - Measures for Bridge Zones -

- Newly laid cables over a long area across the river as an emergency measure to restore the relay cables which were washed away due to the collapse of a bridge.
- During the full-fledged restoration process, we aim to improve reliability by newly installing conduit lines under the river and establish an alternate route to a bridge further upstream. (In the case of Rikuzentakata-shi, Iwate prefecture)

### Emergency restoration (laid cables over a long area across the river)



### Full-fledged restoration Plan 1 (Lay cables under the river)

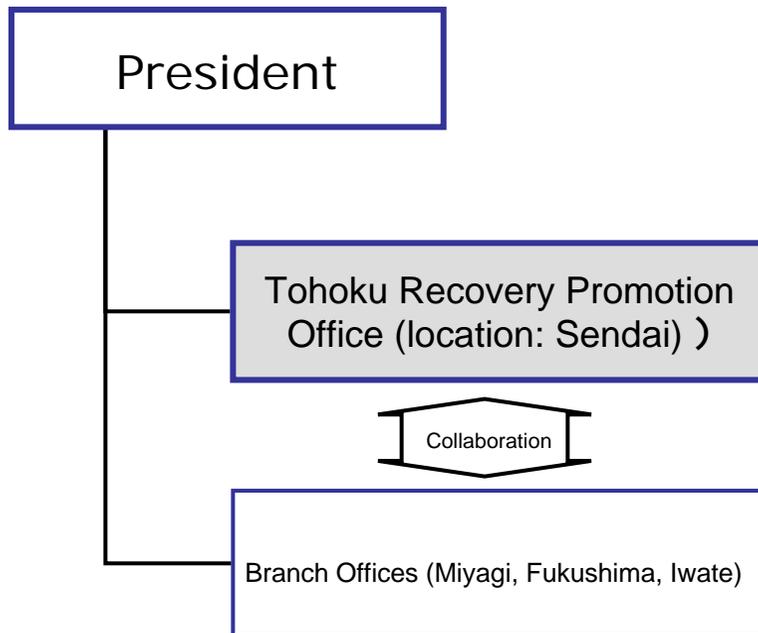


\*Acemole: trenchless construction method that NTT independently developed and is a drilling method for laying conduit lines.

## 6. Structure Towards Full-Fledged Restoration and Recovery

- To centrally promote the full-fledged restoration and recovery of facilities in the Tohoku region NTT East appointed an Executive Vice President supervising Tohoku Recovery Promotion and established a “Tohoku Recovery Promotion Office” (location: Sendai) as an organization directly connected to the President (scheduled for May 16).

### Recovery Promotion Structure (established May 16)



Established with the aim to promote the building of new telecommunications infrastructure associated with the recovery plans of local governments in collaboration with the respective branch offices, as well as to centrally undertake the full-fledged restoration and recovery of facilities

# 7. Efforts to Support Affected Areas

- Since the occurrence of the earthquake and tsunami, NTT East has been making various efforts at evacuation sites, such as securing means of communication, assisting with safety confirmation, and offering free use of public telephones. In addition to these efforts, NTT East has conducted recruiting activities in the affected areas and supported evacuation sites by providing various services using fiber-optic lines.

## Recruiting activities in affected areas

- At NTT East Group, as part of our efforts to support affected areas, group companies in the affected areas (4 companies in those prefectures, NTT-ME and TelWel East Japan) has conducted recruiting activities.

Item	Details
Number of Recruitment	Approx. 260 people
Recruiting Areas	Miyagi, Fukushima, Iwate, and Ibaraki
Recruiting Job Category	<ul style="list-style-type: none"> <li>Sales and customer support etc.</li> <li>Designing, construction, operation, and maintenance etc. of electrical telecommunication facilities etc.</li> </ul>
Employment Status	Permanent employee, contracted employee (with a system of promoting to permanent employee)
Starting date	In or after July 2011

- In addition, NTT East has conducted additional hiring for FY2012 graduates, targeting students (graduating in March 2011\*2) whose employment offer was rescinded due to the Great East Japan Earthquake.

\* Those who graduated from undergraduate school (4 years) or graduate school (master's course) in March 2011

## Supporting evacuation sites by providing various services using fiber-optic lines

- Support by providing various services using fiber-optic lines to increase, even by a small amount, the comfort level at evacuation sites.

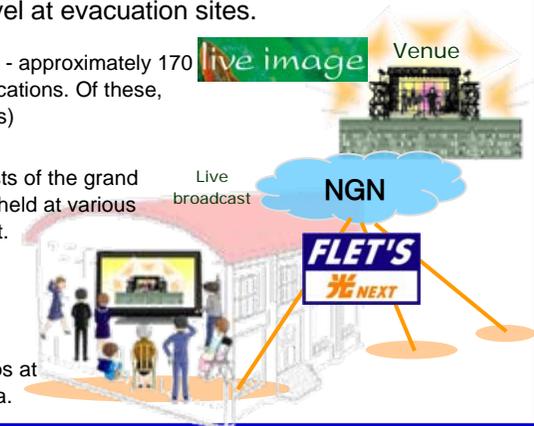
- Provision of Internet environment(Hikari - approximately 170 locations; ADSL – approximately 100 locations. Of these, approximately 190 locations are wireless)

- Live broadcast of charity concerts

Supporting high definition live broadcasts of the grand sumo tournament and charity concerts held at various places in the Tokyo metropolitan district.

- Remote health consultation

Using FLET'S Phone, supporting the remote health consultation conducted between evacuees and volunteer groups at hospitals in the Tokyo metropolitan area.



## Provision of company housing, etc.

- While preparing to provide 30 company residences (approximately 3,000 units) and 10 buildings, etc. as temporary housing for affected people, NTT East reached an agreement with local governments to provide 7 company residences (377 units) and a portion of a building as a children's center free of charge.

	Name of Local Govt.	Name of Facility	Intended Purpose
Company residences	Fujisawa-shi, Kanagawa	NTT Tsujido company residence (96 units)	Temporary housing for affected people
	Kashiwa-shi, Chiba	NTT Kashiwa-Toyoshiki company residence (72 units)	
	Yotsukaido-shi, Chiba	NTT Yotsukaido company residence (27 units)	
	Sendai-shi, Miyagi	NTT Mikamine company residence and others. 4 facilities in total (182 units)	
Buildings, etc.	Kamaishi-shi, Iwate	NTT East Kaminakashima Building	Children's center