

ITU-T's activities on inclusive disaster relief and emergency communication

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Disaster relief by ITU

- Huge number of people are affected under disaster
- All sectors of ITU are working to contribute to disaster relief from the telecommunication/ICT aspects ... to make a **big difference**
- Disaster relief activities include preparation for possible disasters, early detection, rescue, evacuation assistance, safety confirmation, recovery assistance, etc.
- ITU-T SG2: Lead study group on telecommunications for disaster relief/early warning, network resilience and recovery

Missing and critical items

- The items below were identified
 - Disaster relief for **individuals** (to notify the damage situation from victims to their relatives, friends, or employers)
 - Disaster relief **guidance** (to show victims the routes to evacuation shelters, home, etc.).
 - Network **resilience and recovery** capability of infrastructure to better cope with disasters
- A Focus Group was created to tackle the missing and critical issues

FG on disaster relief systems, network resilience and recovery (FG-DR&NRR)

- The FG was established in January 2012 and concluded successfully in June 2014 producing 8 technical reports (deliverables):
 - Overview of Disaster Relief Systems, Network Resilience and Recovery
 - Disaster Relief Systems, Network Resilience and Recovery (DR&NRR): Promising technologies and use cases
 - Gap Analysis of Disaster Relief Systems, Network Resilience and Recovery
 - Terms and Definitions for disaster relief systems, network resilience and recovery
 - Requirements for Disaster Relief Systems
 - Requirements for network resilience and recovery
 - Requirements on the improvement of network resilience and recovery with movable and deployable ICT resource units
 - Technical Report on Telecommunications and Disaster Mitigation
- These technical reports are available on the FG publication page at <http://www.itu.int/pub/T-FG/e>

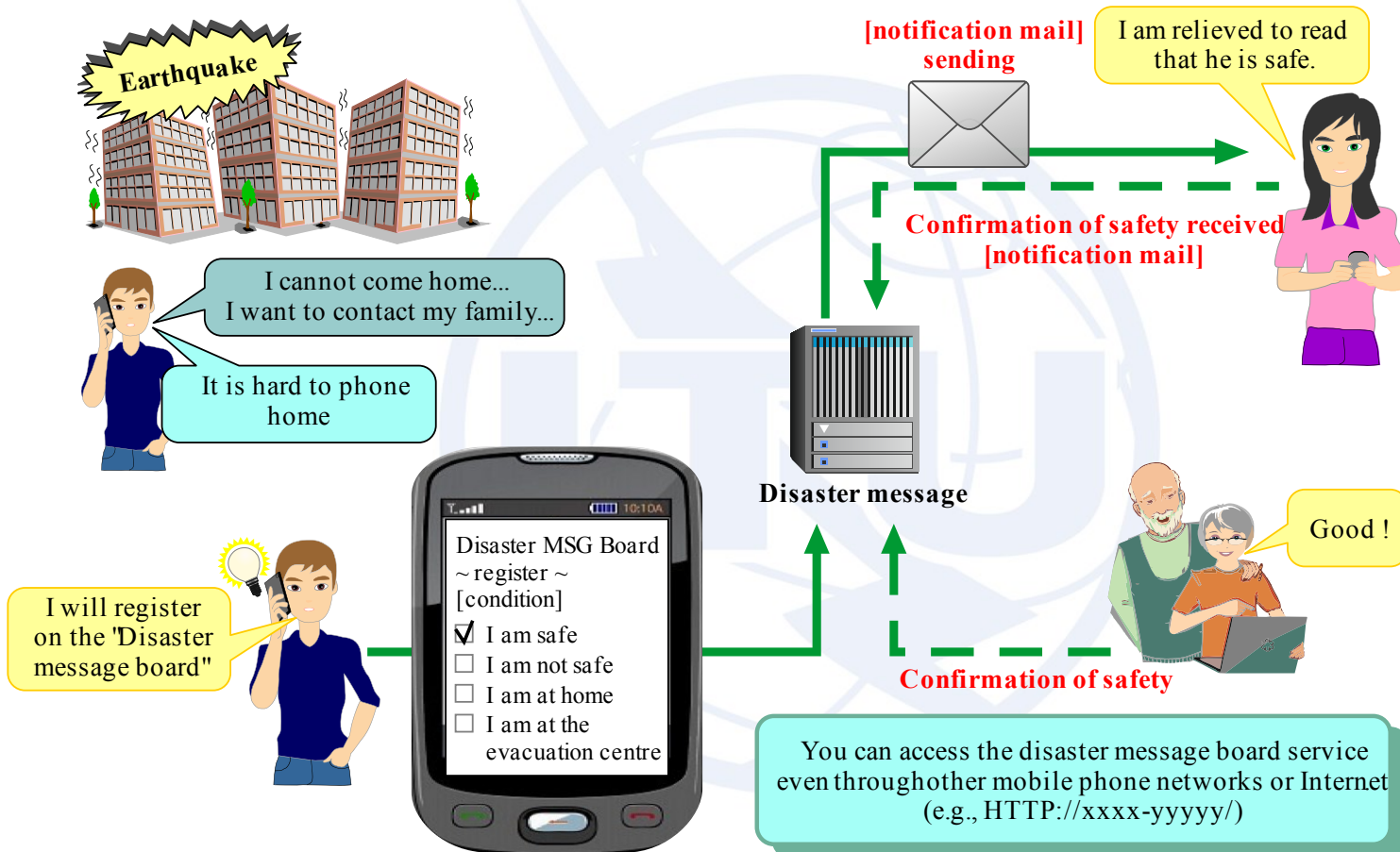
Accessibility

- From FG technical report on disaster relief system requirements - Consideration of accessibility
 - Systems must be helpful for people with disabilities. Death rate for people with disabilities was twice that for those without disabilities during the East Japan Earthquake in March 2011.
 - Systems be applicable for foreigners including visitors, who may have limited knowledge about the site and difficulties in understanding the local language.
- ITU-T SG16: Lead study group on telecommunication/ICT accessibility for persons with disabilities



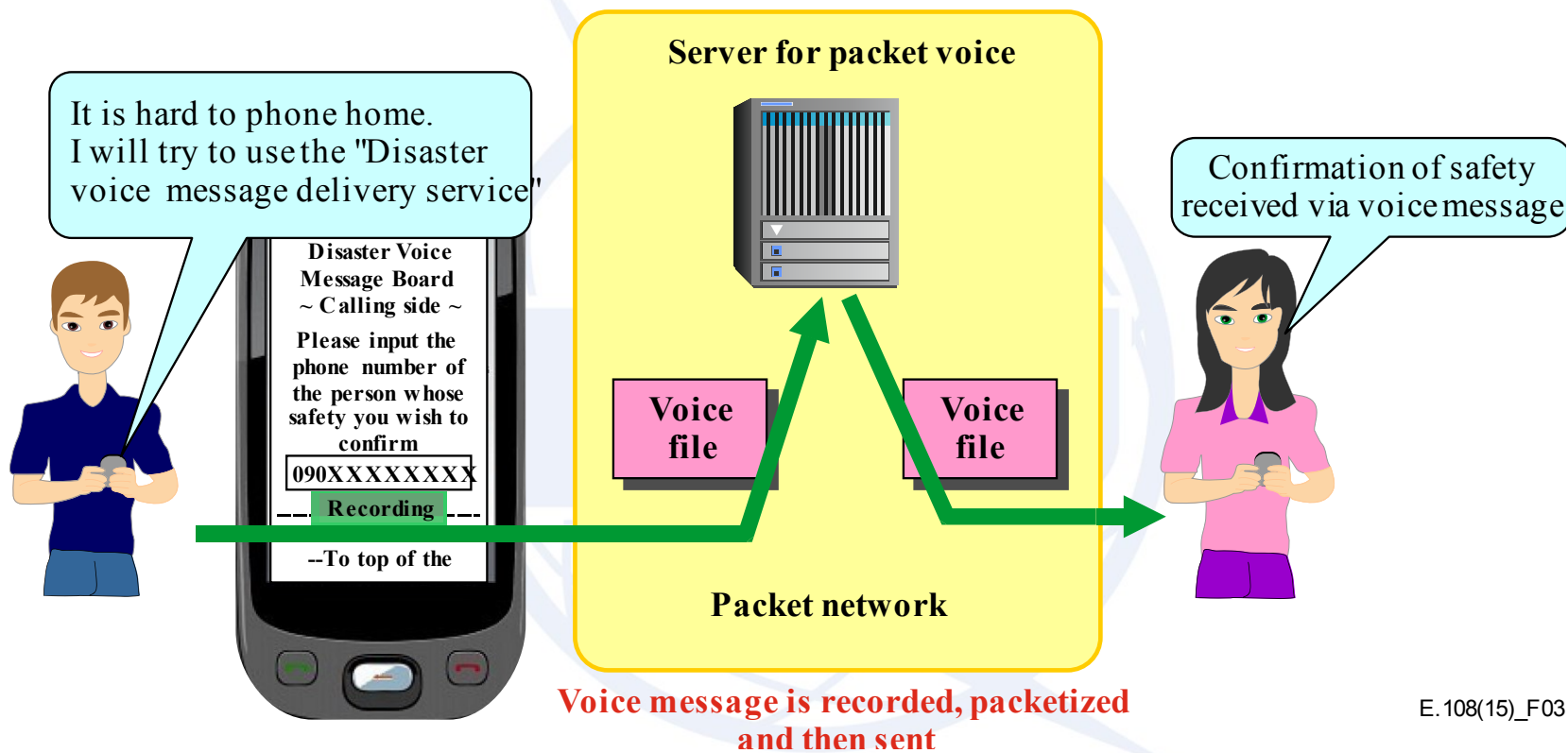
**Recently approved Recommendations, proposals,
ongoing developments and studies**

Disaster message board service (E.108 – Approved 01/2016 by ITU-T SG2)



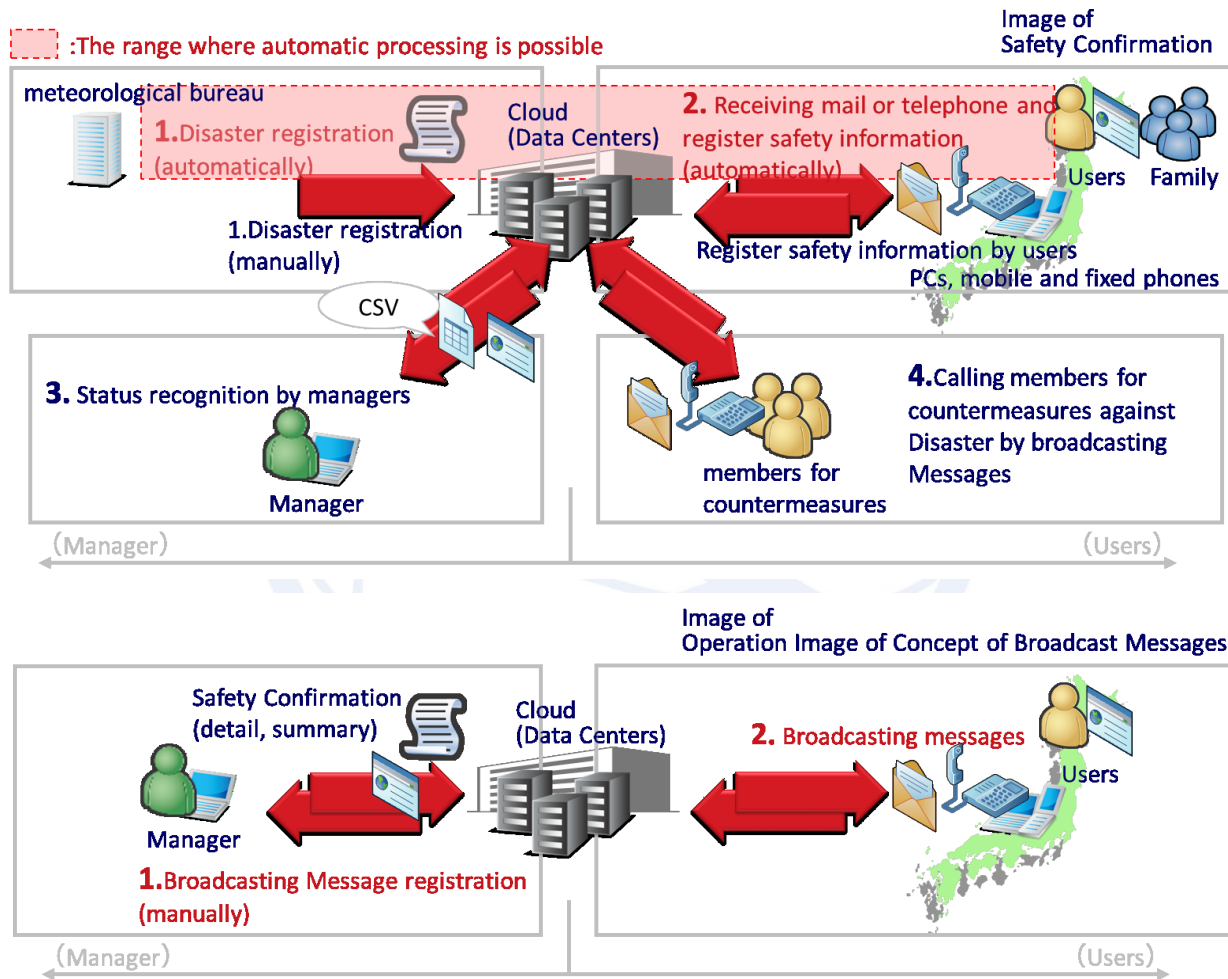
E.108(15) F01

Disaster voice message delivery service (E.108 – Approved 01/2016 by ITU-T SG2)

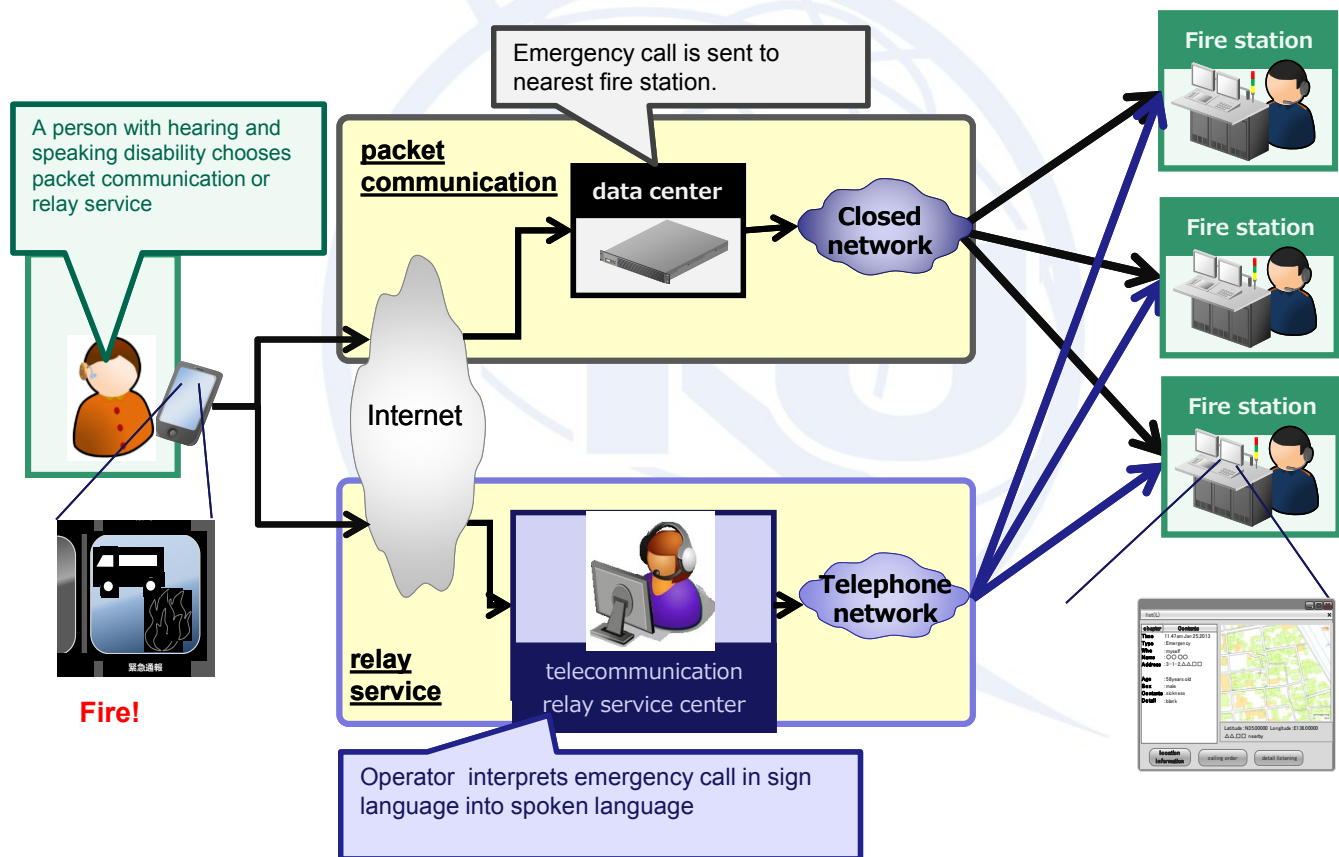


E. 108(15)_F03

Requirements for safety confirmation and broadcast message service for disaster relief (E.119 – Approved 04/2017 by ITU-T SG2)

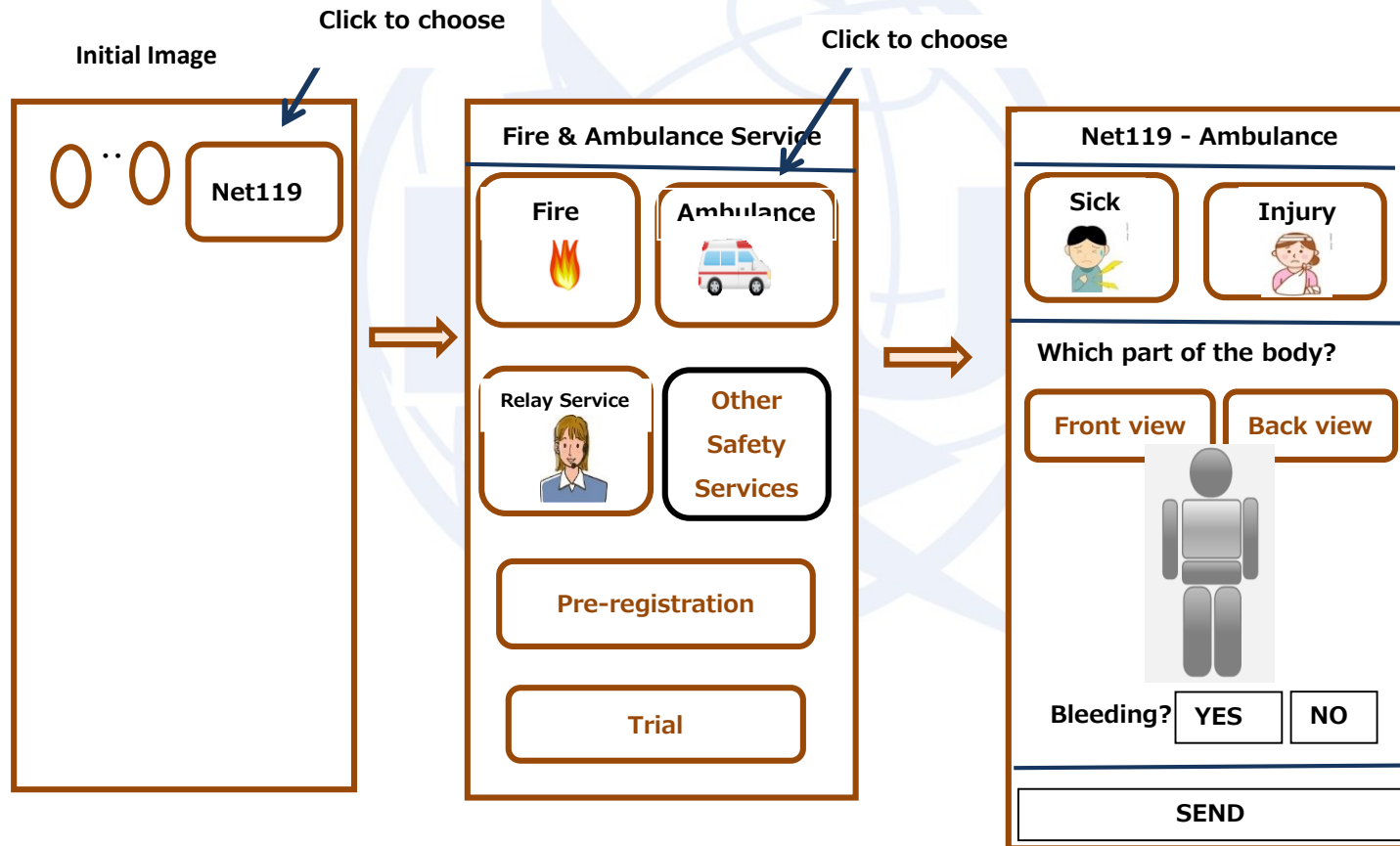


Emergency Communication System for Persons with Hearing and Speaking Disabilities (under development by ITU-T SG16 – H.ACC-RDE, F.Relay)

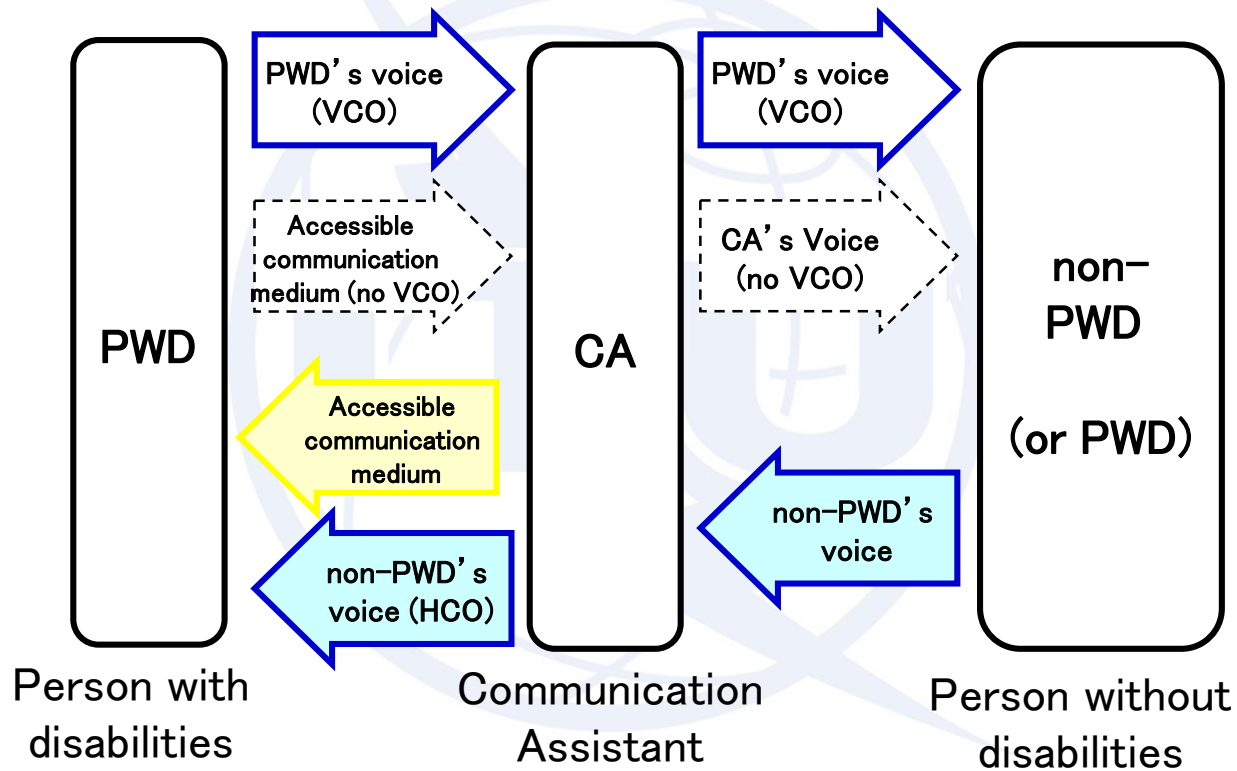


H.ACC-RDE - Application layer information specification at the terminal to network interface for people with hearing and speaking difficulties to request rescue to emergency rescue agencies (under development by SG16)

Example of a smart phone display transition



F.Relay - Multimedia telecommunication relay services (under development by SG16)



MoC: Mode of Communication

Disaster relief by guidance

"Mobile evacuation tool supporting you safety"

- (1) Enabled for self positioning
- (2) Anti-disaster goods purchasable from sites
- (3) Accessible to Disaster Message Board
- (4) Still operate even if Mobile Phone radio signal is cut off and in no-connection with central server



Evacuation shelter map

Get locations displayed, targeting wide-area evacuation shelters, railroads, main roads, administrative offices, railway stations, and emergency hospitals.

Set your destination to know the direction and distance to that place.

Point your Sun Icon to the sun to determine the direction facing ahead.



Homecoming support map

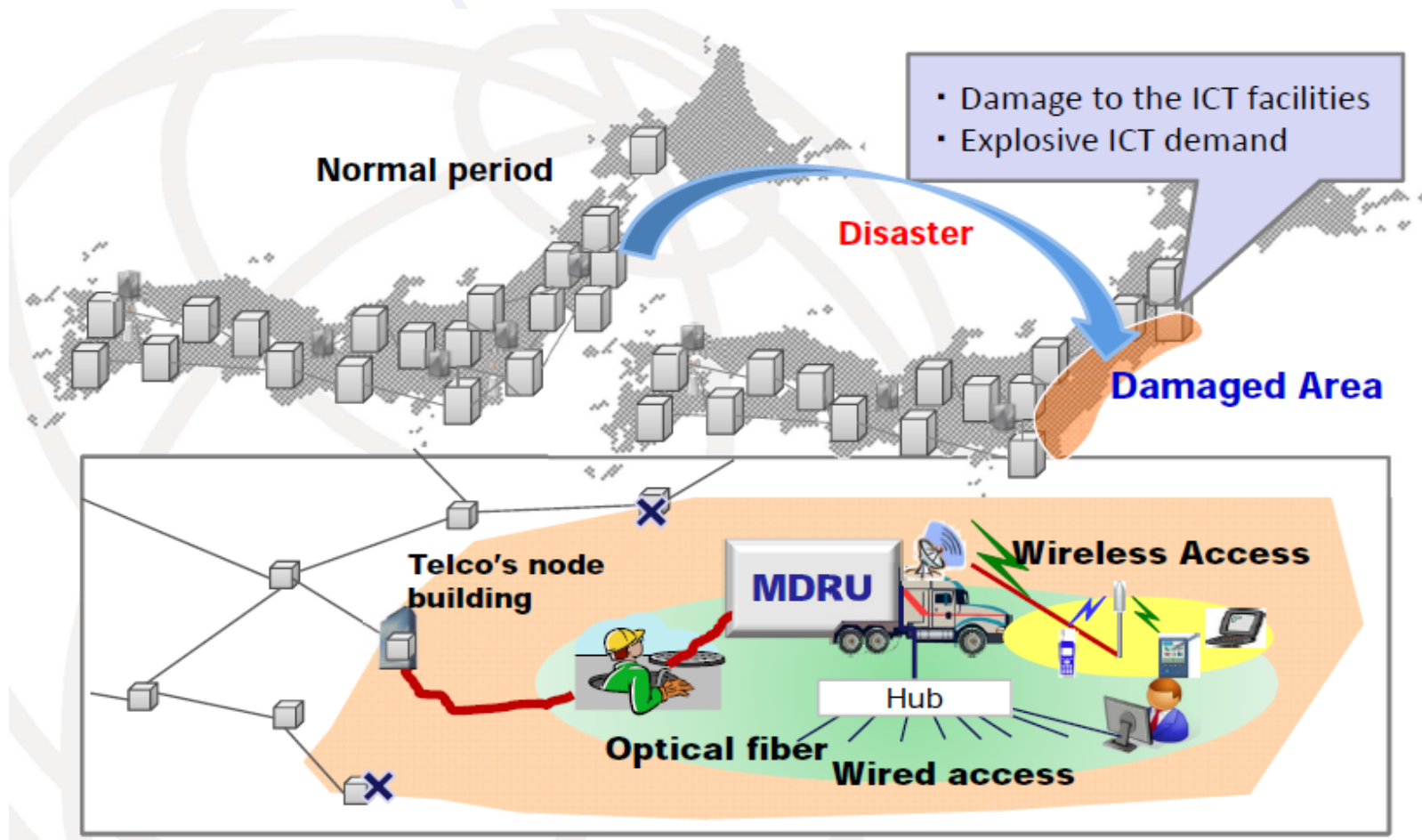
Make use of downloadable map that tells you the route between two points you have specified in advance.

Get information displayed, targeting the locations of evacuation shelters, emergency hospitals, disaster designated hospitals, convenience stores, toilets, among others.

Also get information displayed, targeting dangerous/hazardous points such as a block wall.

Peace of mind service - you can still use it should major disaster cause Base Stations to suspend transmission.

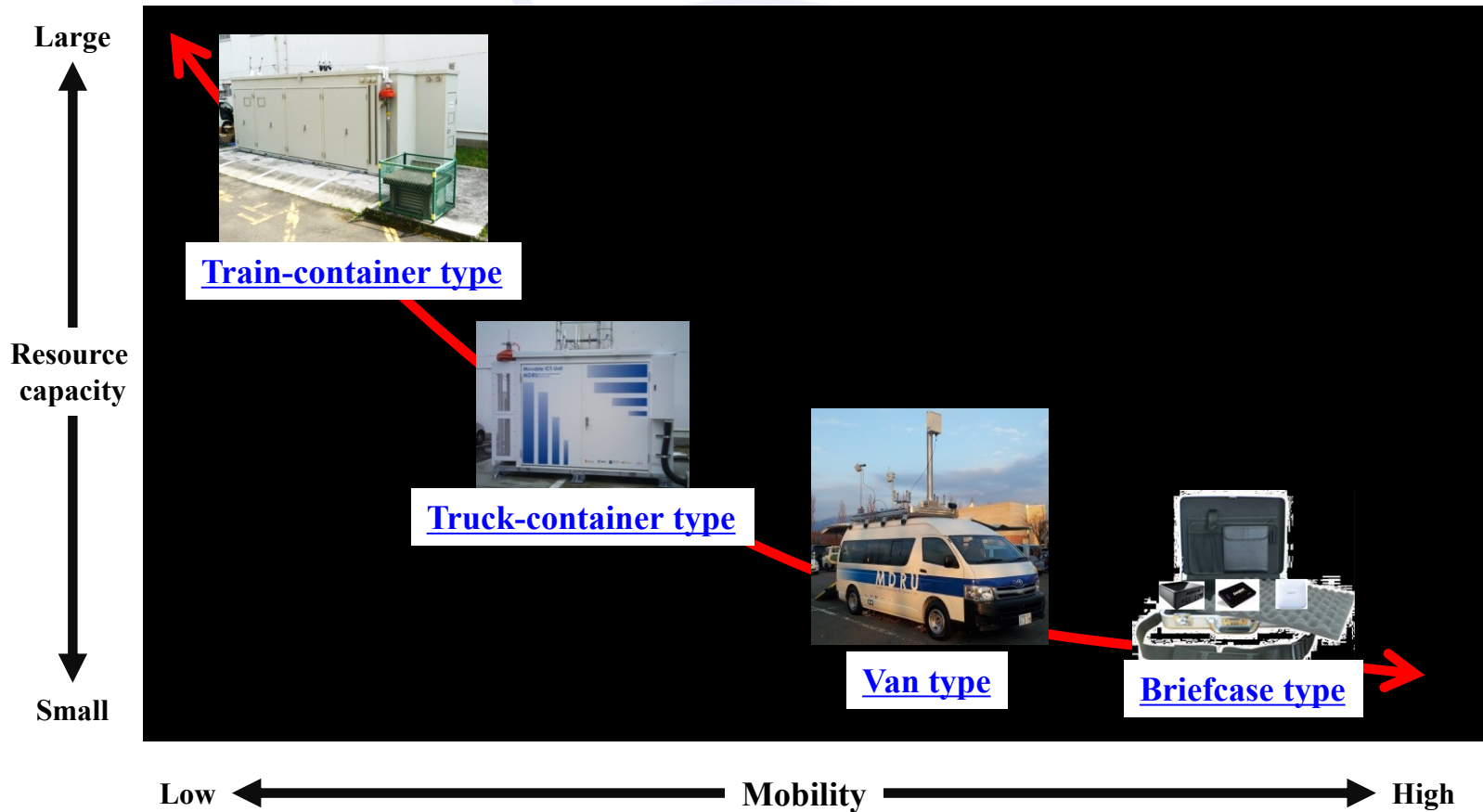
Resilient network architecture based on Movable and Deployable Resource Unit (MDRU) (L.392 - approved 04/2016 by ITU-T SG15)



Movable and deployable ICT resource units (MDRU) – truck container type



MDRU in various sizes



Other work within ITU-T

- SG2: Requirements for Disaster Relief Systems (E.RDR), Emergency Telecommunications Service (ETS) and International Emergency Preference Scheme (IEPS)
- SG5: Guidance on ways to improve resilience of networks in case of disaster situations
- SG11: International Emergency Preference Scheme (IEPS)
- SG13: Emergency telecommunications in NGN and NGN-e
- SG15: Network resiliency and recovery
- SG16: Support of emergency alerts by IPTV and digital signage.
- SG17: Common Alerting Protocol (CAP)

Thank you

