

Public Wi-Fi in disaster-affected areas

Providing an important communication means

Internet connection is crucial for people to share vital information.

Disaster-tolerant Public Wi-Fi reinforces the communication means.

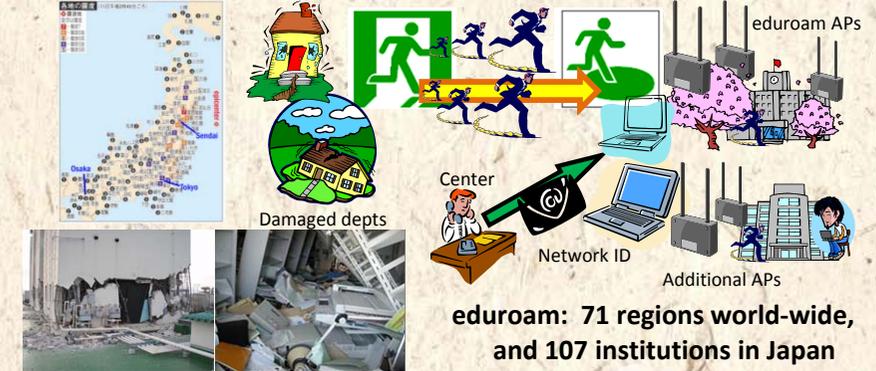
Our approach

- ✓ Network roaming between Wi-Fi operators to avoid service divisions.
- ✓ No mode switch between normal and disaster cases for higher availability. – **Daily use is quite important.**
(Otherwise, who can turn the switch? What is the criteria?)
- ✓ Secure Wi-Fi for daily use. (Open/Free Wi-Fi is insecure!)
- ✓ Easy-to-deploy Access Points for shelters, etc.
- ✓ Per-user authentication for the priority control to help the rescue teams, police, government staff, etc.
- ✓ R&D based on “eduroam” the world-wide academic Wi-Fi roaming infrastructure.

eduroam in disaster-affected campuses

Borderless eduroam helped suffering staff
Nomadic network in temporary evacuation campus

- ✓ Tohoku University faced the great earthquake in March 2011. Many buildings were severely damaged. Staff moved to other buildings where networks are operated by different departments.
- ✓ eduroam acts as an effective rescue for them to use the network.



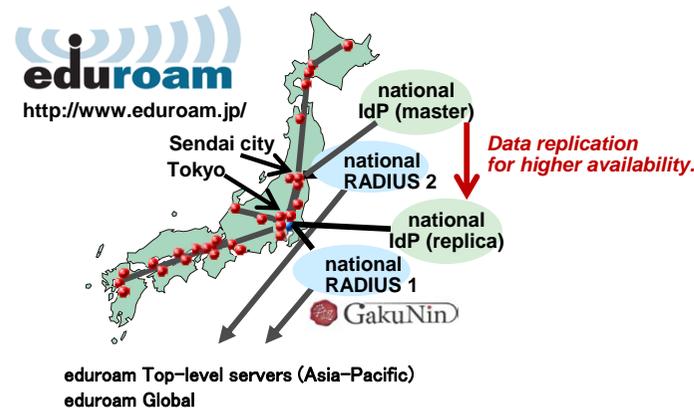
eduroam: 71 regions world-wide, and 107 institutions in Japan

Access and priority control in the time of disaster

Daily Wi-Fi network turns into an emergency one for a lot of people to share vital information.

Cloud-based Centralized ID Provider Service in Japan

- ✓ Disaster-tolerant IdP since 2011.
- ✓ Reduce the deployment and operational costs at each institution. (Used by 33% of the member institutions.)



Easy-to-deploy Wi-Fi Access Point System

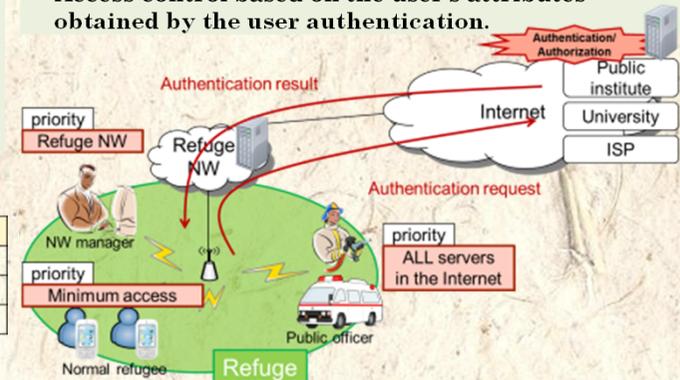
- ✓ Just place the APs!
Quick Wi-Fi service deployment at shelters as well as conference/event sites.
- ✓ Disruption-tolerant AP system useful in the temporarily isolated areas, helping people to share vital information.
- ✓ Help developing countries to provide daily Internet Services to the people.



(Wireless mesh AP system is now under development.)

Privilege and priority controls

- ✓ Prioritize rescue/police/govt. activities over others when the network becomes thin or unstable.
- ✓ Access control based on the user's attributes obtained by the user authentication.



This work was partly supported by the Ministry of Internal Affairs and Communications .