A Proposal for Supporting Terminal Mobility at Layer 2

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Background(1)

- The most generic way to support terminal mobility is the Mobile IP based solution. However it ...
  - Has a limitation in fast handover without help of L2 triggers
  - Has its heavy signaling traffic, especially for slow radio links
  - Needs to migrate to IPv6

Background(2)

- By bringing short range radio communications into the overlay network
  - Handoffs happen often even in walking speed
  - What is appropriate size of IP subnet?
    - CellarIP
    - Hawaii

Background(3)

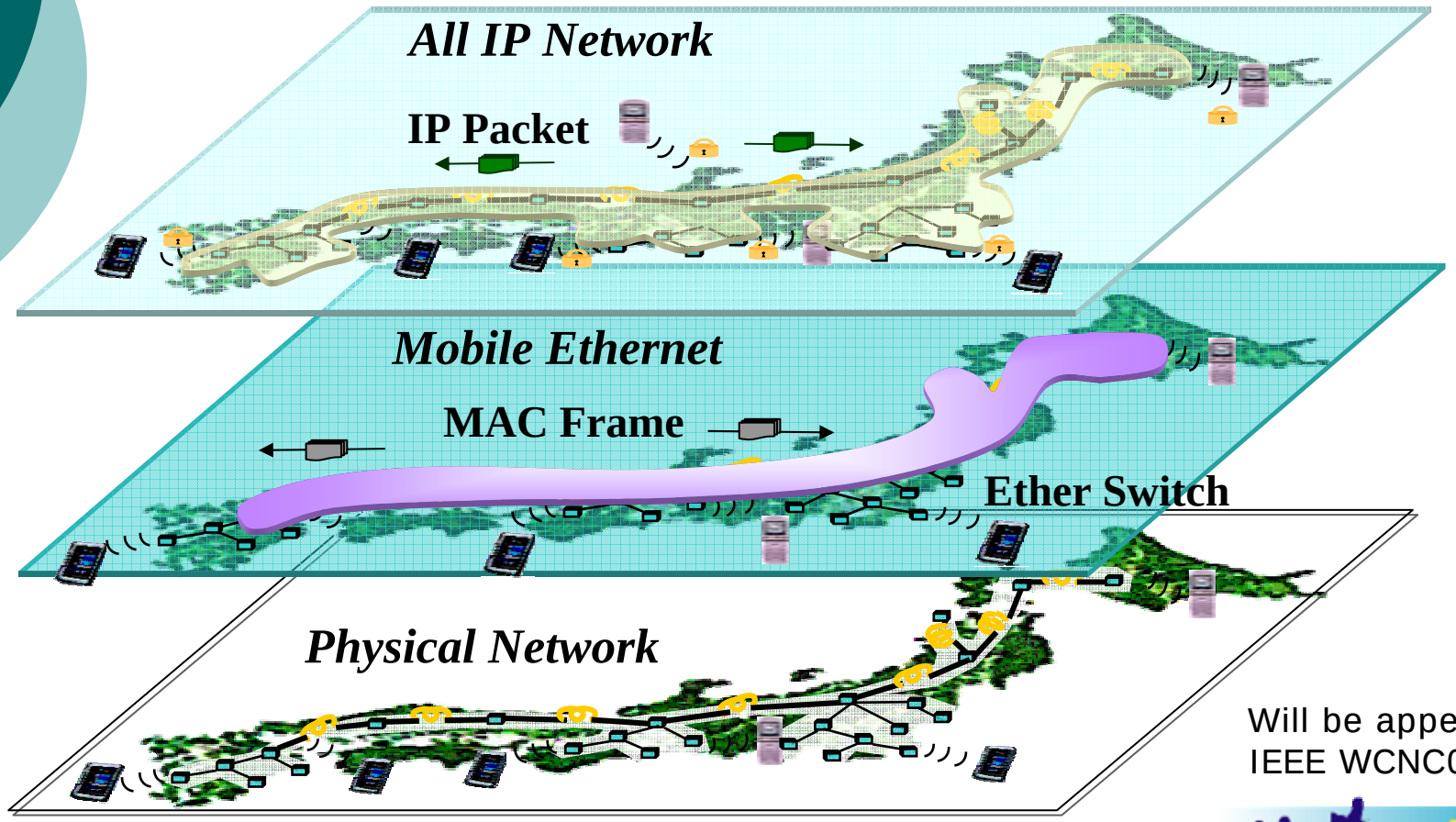
- Wide deployment of Etherframe network
  - Intranet Ethernet network
  - PPPoE service (ADSL, a power line company communication service in Japan)

    →A large coverage in geographical area as well

Proposal – Mobile Ethernet

- Accommodates various kinds of radio systems into widely deployed Ethernet based network
  - Almost terminal movements are maintained by Mobile Ethernet without Mobile IP location update
  - Flexible IP layer deployment, IPv4, IPv6, PPP services

Installation of Mobile Ethernet



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MIRAI+
Multimedia Integrated network by Radio Access Innovation

Mobile Ethernet

- A large geographical coverage by combination of 802 family technologies
  - Transparent handover
  - Network controlled terminal radio interface switch
  - Authentication context transfer (802.1x)
  - Integration with 3G system

Mobile Ethernet Status

- Developing test platform and simulator for scalability evaluation
  - Ether switches with tailored cache learning mechanisms for signaling
  - Multi radio terminal
  - Scalable Mobile Ethernet simulator based on Java SSF api