



Smart Internet; Phase 1 of Korea Future Internet

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Future Internet PM



목 차

I

Internet Trend

II

Future Internet in Korea

III

Smart Internet; Phase 1 of Future Internet



목 차

I

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II

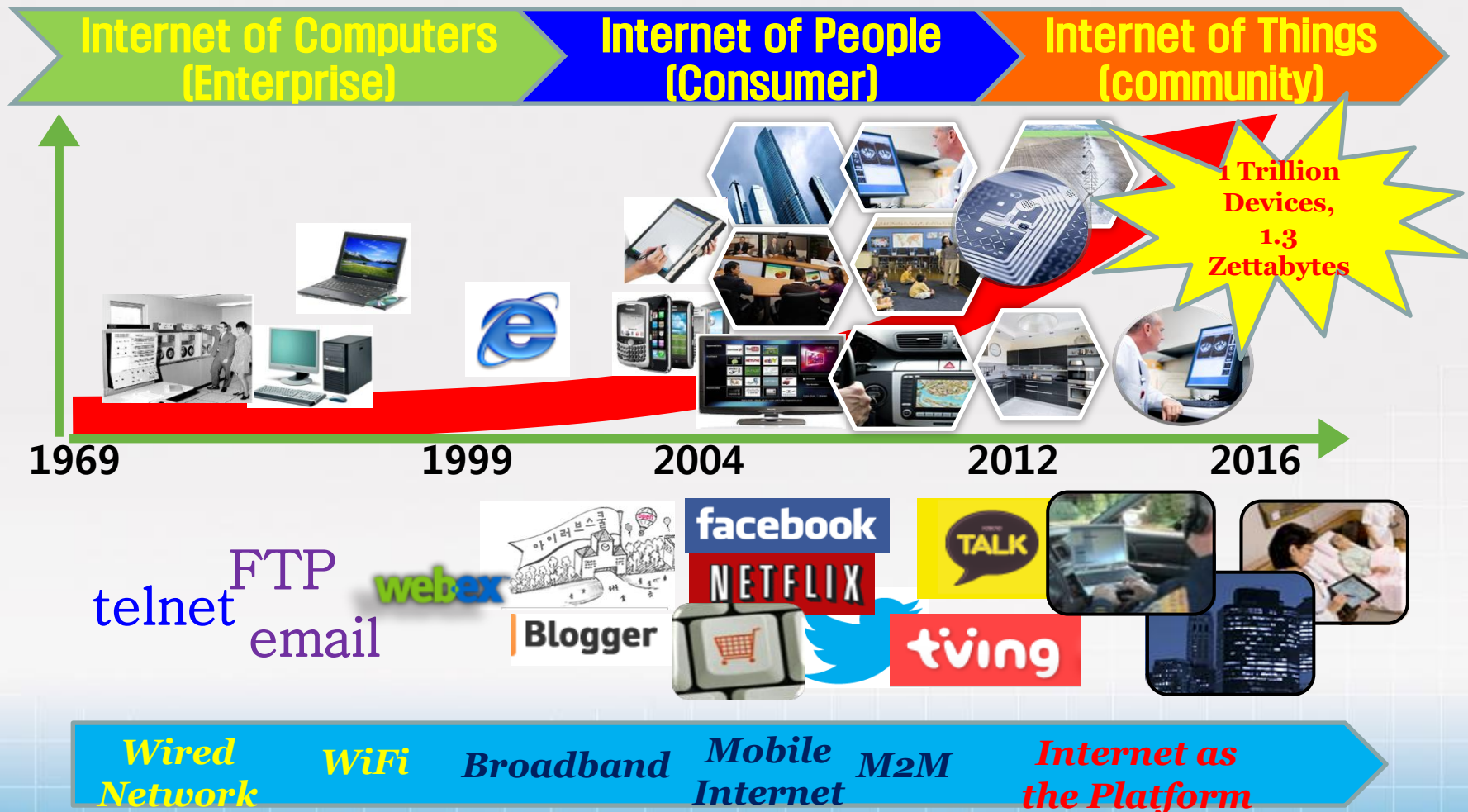
Future Internet in Korea

III

Smart Internet; Phase 1 of Future Internet



Internet becomes infrastructure of Community



Expectations for Future Internet



Unlimited Speed



Countless devices



Seamless Mobility



Guaranteed Security



Connected industries

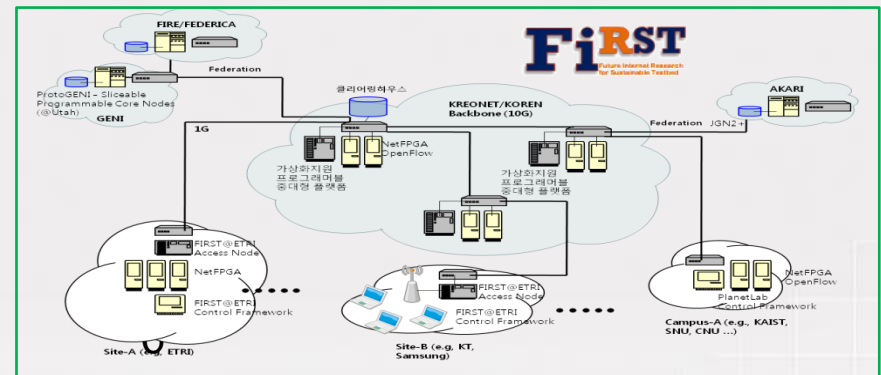
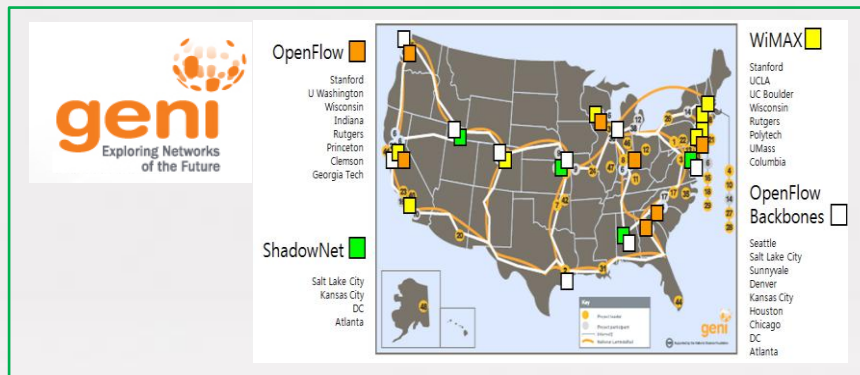


Variety of services

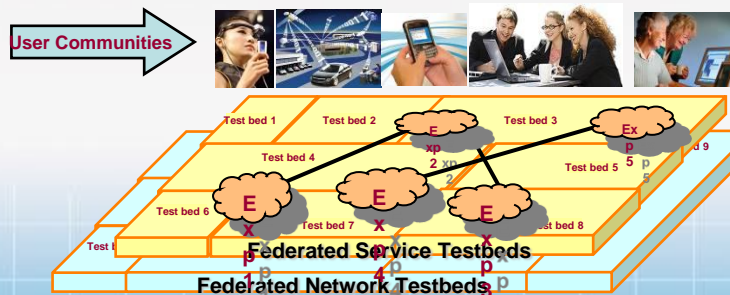
Focused on Computer Science activities

→ Global Future Internet Trends

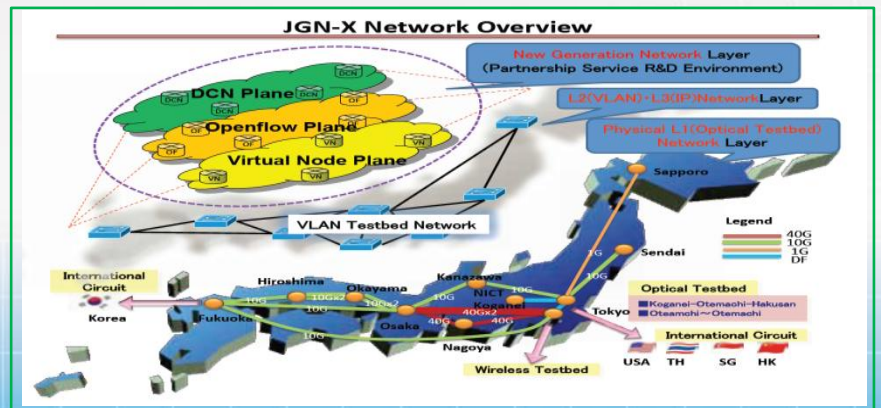
- Building the Test-bed and proving research concepts



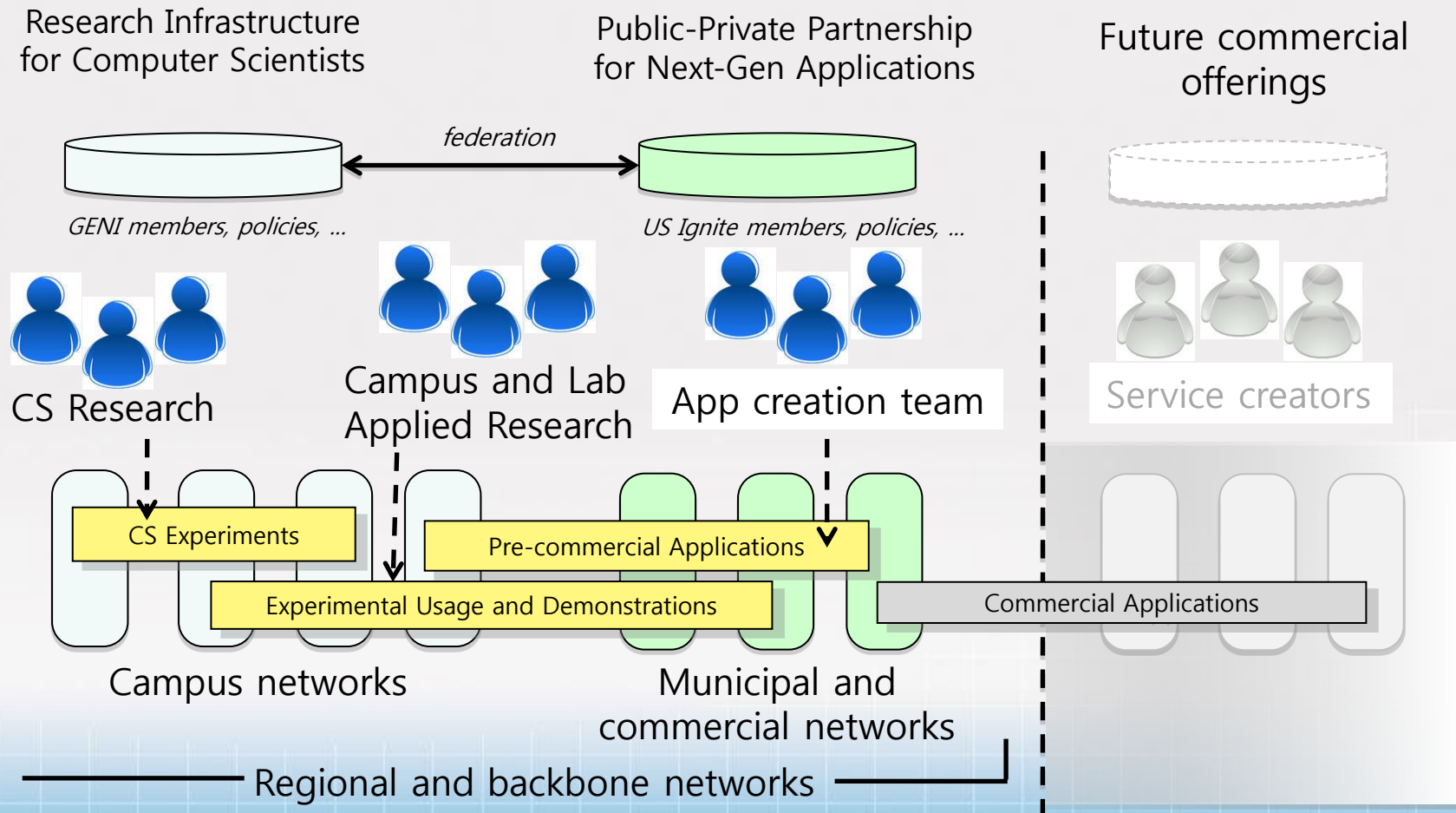
FIRE Experimental Facility



FIRE - Future Internet Research and Experimentation



Realizing Future Internet through service innovation



목 차

I

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II

Future Internet in Korea

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Vision

Global Leadership in Future Internet Technology for Sustainable World



Goal
(2020)

Build the Korean Future Internet and its eco-system



Strategy

Network Infra

- *Gigabit and more for fixed Access*
- *Gigabit mobile*

Core Technology

- *Advanced Optical Network*
- *Next Generation Mobile Network*
- *Advanced Network Architecture*

Testbed

- *Enhance KOREN*
- *Global collaboration*
- *Collaboration*



Announced Future Internet National Plan (’11. 6)

Investment for Future Internet

- \$ 470 mil. from Gov’t & \$ 33 bil. from Private (~2015) -

User

World-Fastest Internet Service (100 times Faster)

Company

Enhanced Global Competitiveness of Business

Nation

*Improve GDP & creates more Jobs
(Create 36,000 new Jobs in next 5 years)*

100 times Faster Internet by 2020

1Gbps per Household (12)

✓ FTTH in Major Cities

- * *HD Movies on TV Screens in Real Time*
 - Full-HDTV..

10Gbps per Household (20)

✓ FTTH in All Households

- *3-D HD on Large Screens in Real Time, seamlessly*
 - Hologram, Virtual, Reality..

5Mbps per subscriber (12)

- ✓ 3.9G LTE all over the Country
- ✓ High-speed WiFi (2mil. Nodes~)
Femto-Cell (10,000 Nodes~)

60Mbps per subscriber (20)

- ✓ Next-Generation Mobile N/W
- ✓ Secure total 670MHz Spectrum for Mobile Broadband

Optical network technology
Next Generation WiFi and Mobile internet

Fixed Network Technology

✓ ***WDM-PON for Access***

2.5Gbps (2012)

=> 10Gbps (2015)

✓ ***Packet-Optical Integrated Switch***

Tens of Tbps (2012)

=> Hundreds of Tbps (2015)

Wireless Network Technology

✓ ***High-Speed WiFi***

600 Mbps (2012)

=> 1~5 Gbps (2015)

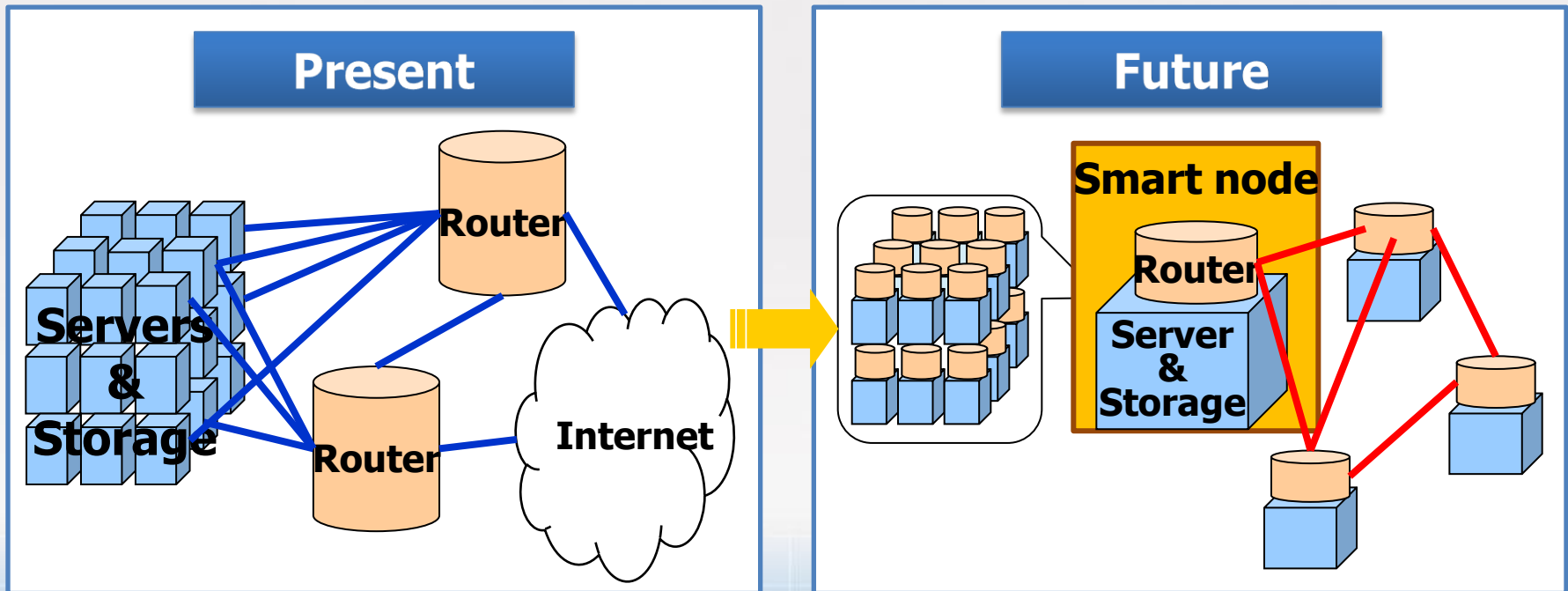
✓ ***Next-Generation Mobile Internet***

500Mbps (2012)

=> 10~100Gbps (2020)

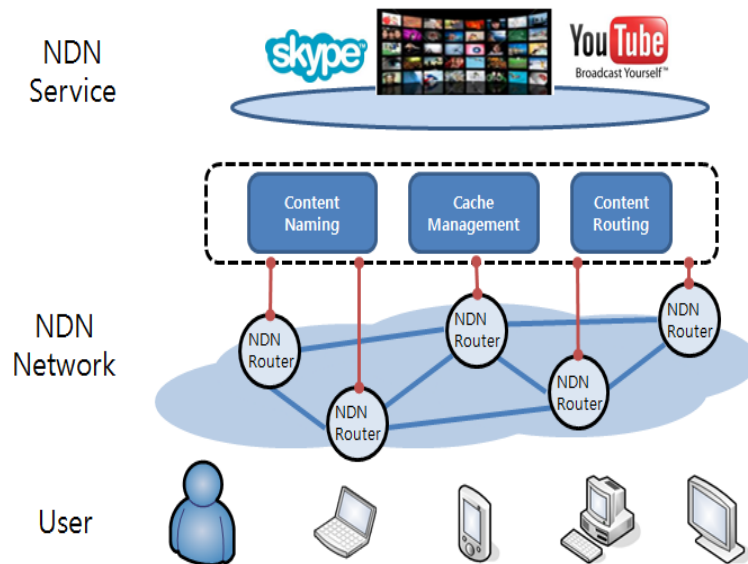
Smart Node Platform

- *Intelligence embedded network*
- *Micro-IDC and Cloud computing*
- *Open Standard Platform (SW / HW)*

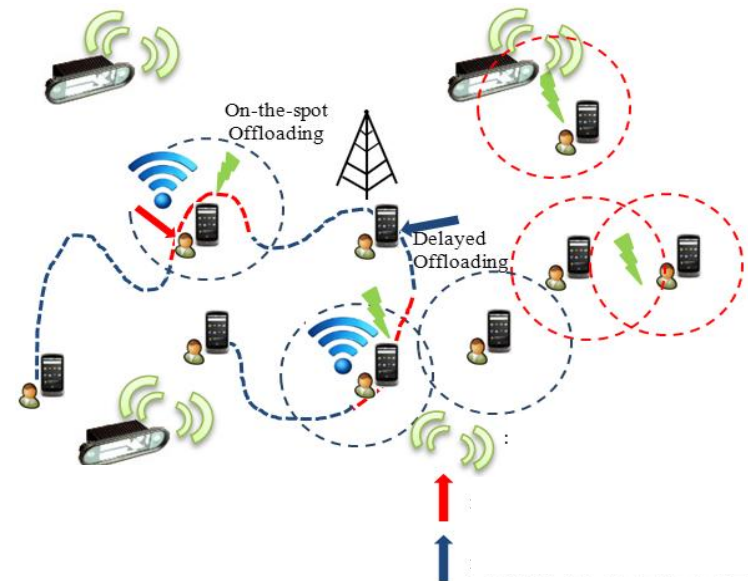


Innovative Network Architecture

Named Data Network

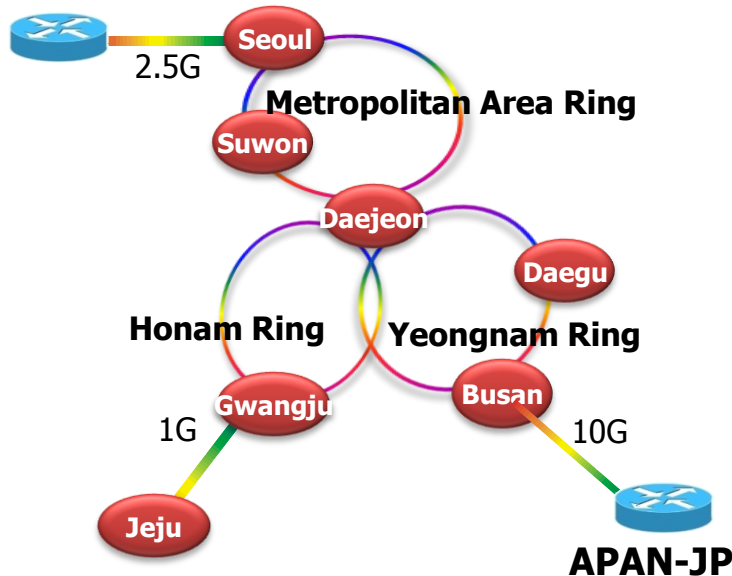


Delay Tolerant Network



Enhance KOREN

- # TEIN

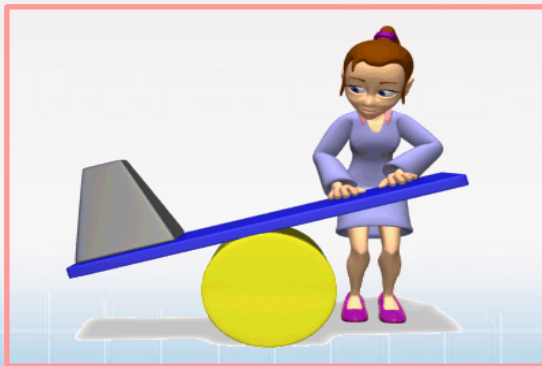


→ *So far...*

- Build-up **network connectivity** and R&D on **core technologies**
- *Technology driven R&D*

→ *Next step*

- Build **Future Internet infrastructure** leveraging R&D
- **Service driven R&D** to ignite user community



Leverage R&D



Synergy



Eco-system

Building the future internet

- ▶ *Phase 1 (~2016): Build Future Internet Prototype*
 - *Build the Foundation of the Future Internet*
 - *Service driven R&D*
 - *Develop eco-system for Future Internet service*
 - *Pilot service program over Future Internet Infrastructure*
 - *Develop biz-model*
 - *Identify issues on current social/legal systems for renovation*

- ▶ *Phase 2 (~2020): Replicate/Migrate the prototype to commercial internet*
 - *Migrate future internet infrastructure and service for commercialization*

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II

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III

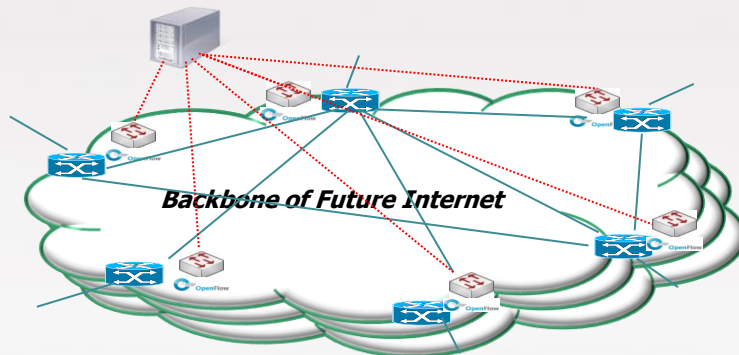
Smart Internet; Phase 1 of Future Internet



→ Plan for Phase 1 (~2016)

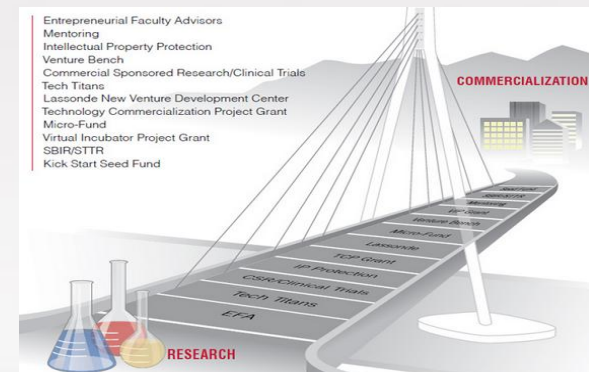
Build FI Infrastructure

- Future Internet Backbone
- Integrated Fixed-Mobile Access Network
- Virtualization and Intelligence



Service Driven R&D

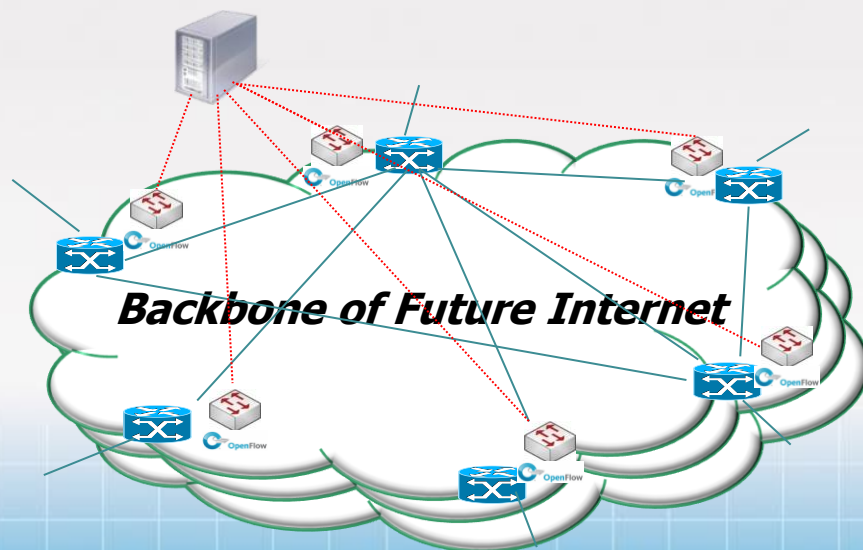
- R&D planning leading toward real life service
- Pilot Future Internet service
- Eco-system based approach
- Develop biz-model through pre-commercial pilot service



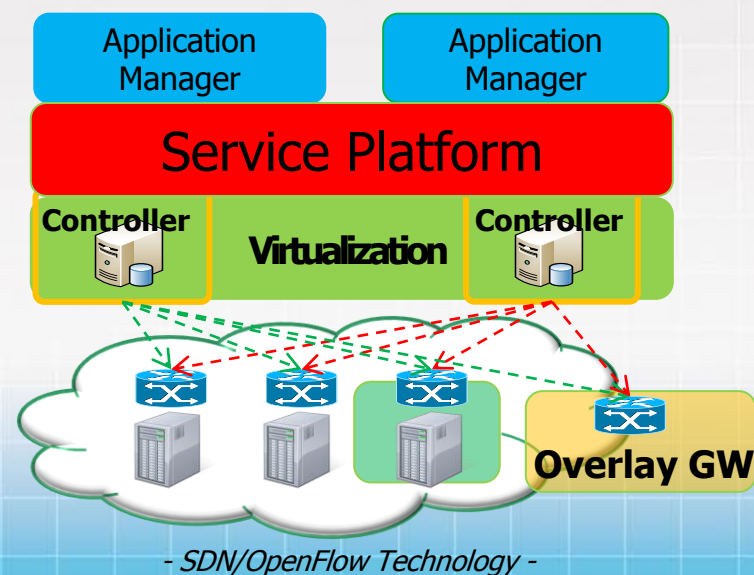
→ Build Future Internet Backbone using KOREN

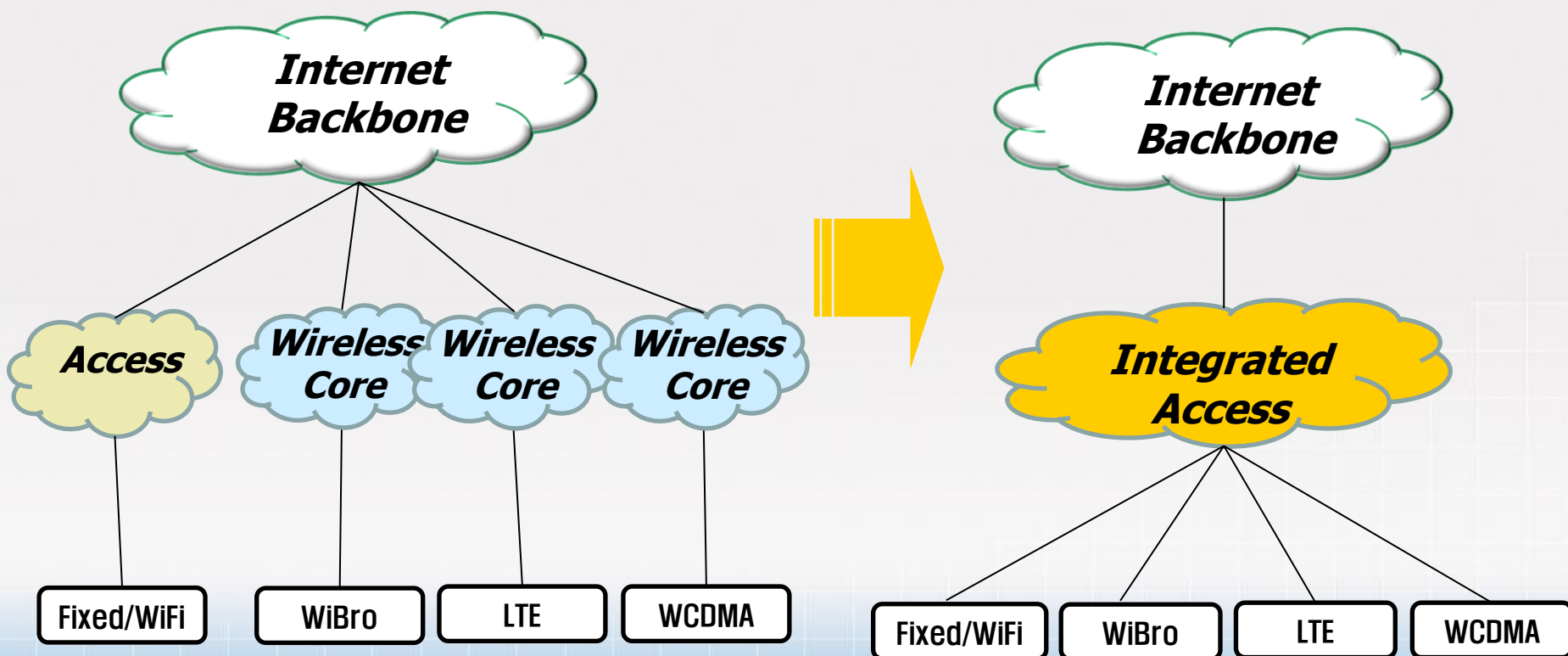
1. Backbone of Future Internet

- Multi-disciplined network based on SDN/OpenFlow
- Application specific/optimized network with virtualization
- Flexible enough to accommodate innovative network architecture
- Interoperability with existing network infrastructure
- Intelligence embedded network based on Smart Node Platform

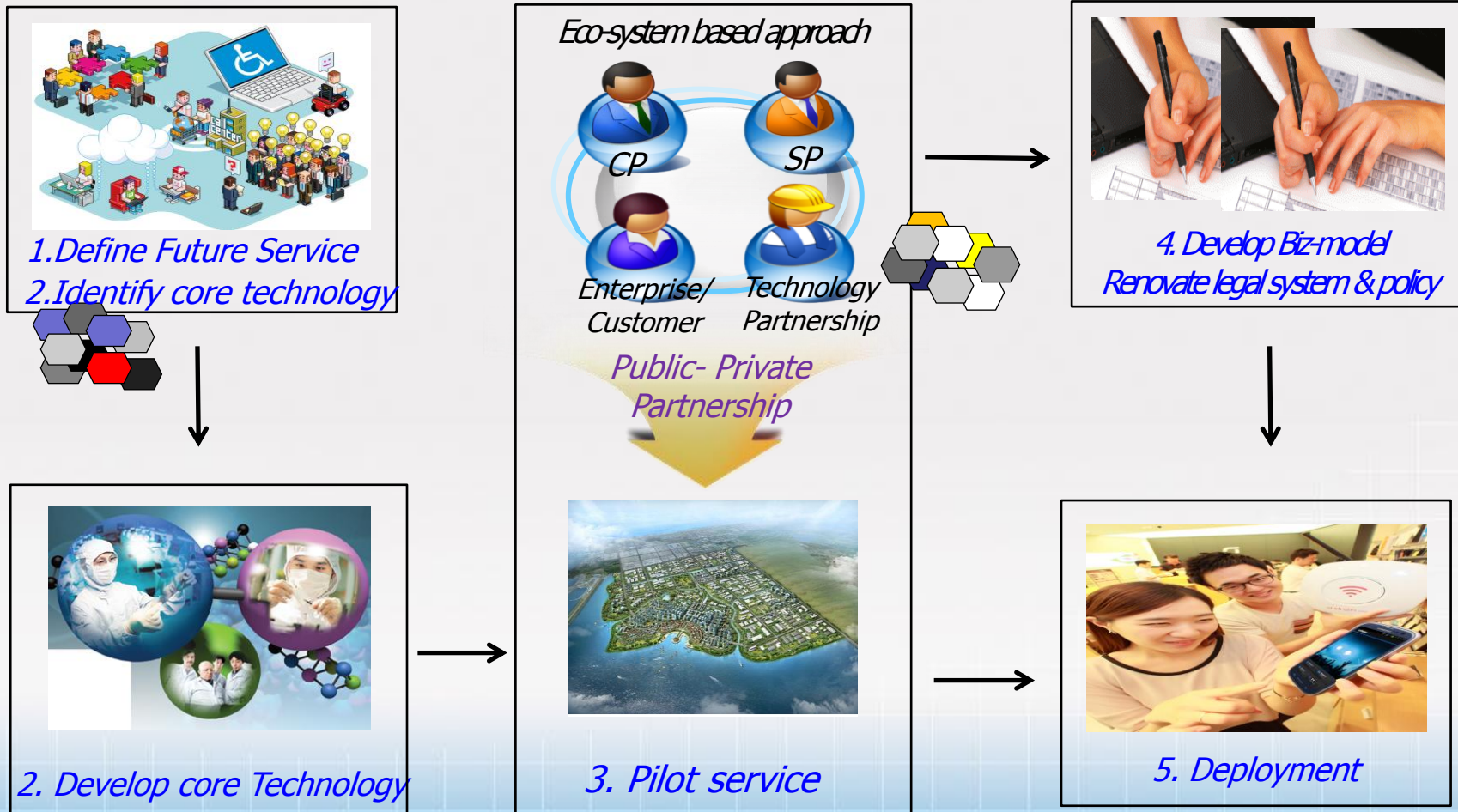


 Smart node
  SDN/OpenFlow node with Overlay
  Controller



→ Build innovative access network**2. Integrated Fixed-Mobile Access Network**

→ Service Driven R&D



→ Concept of Smart Internet: Korean Future Internet Prototype

