

ICN2020 Project

Advancing ICN towards real-world deployment through research, innovative applications, and global scale experimentation

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- Key-objective :
 - Facilitate the real-world deployment of ICN through research, innovation and large scale experiments.
- ICN is halfway to the real-word deployment
 - ICN2020 Project approaches both from research and from proof
 - Challenge unsolved problem and enhance the ICN infrastructure
 - Design specific applications and evaluate them on the testbed

ICN2020 Consortium

ICN2020



KDDI R&D Laboratories, Inc.



**GEORG-AUGUST-UNIVERSITÄT
GÖTTINGEN**

**Georg-August-Universität
Göttingen
Germany**



Kozo Keikaku Engineering, Inc.



**Università' degli Studi di Roma
Tor Vergata
Italy**



Osaka City University



**University College London
UK**



Osaka University



**Cisco Systems France Sarl
France**

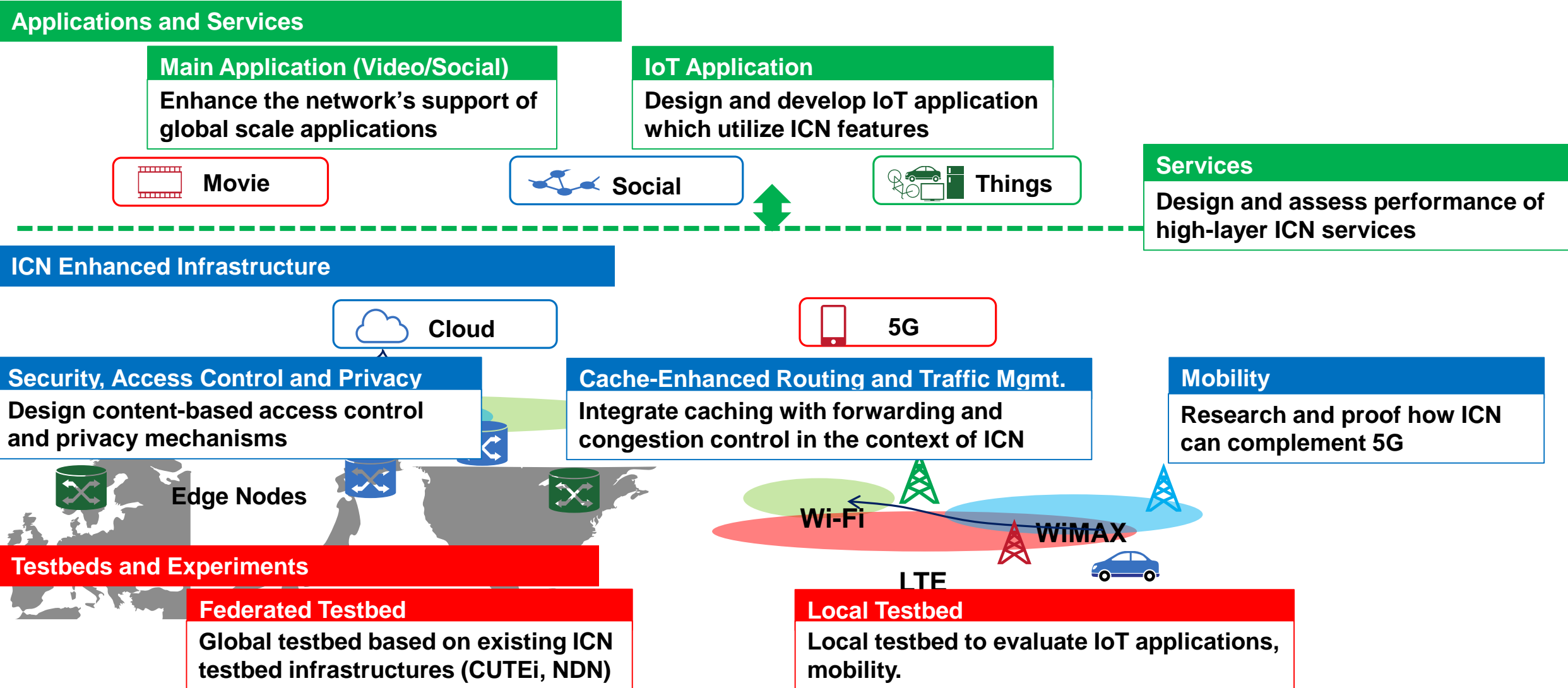


**Ericsson AB
Sweden**



**Institut de Recherche
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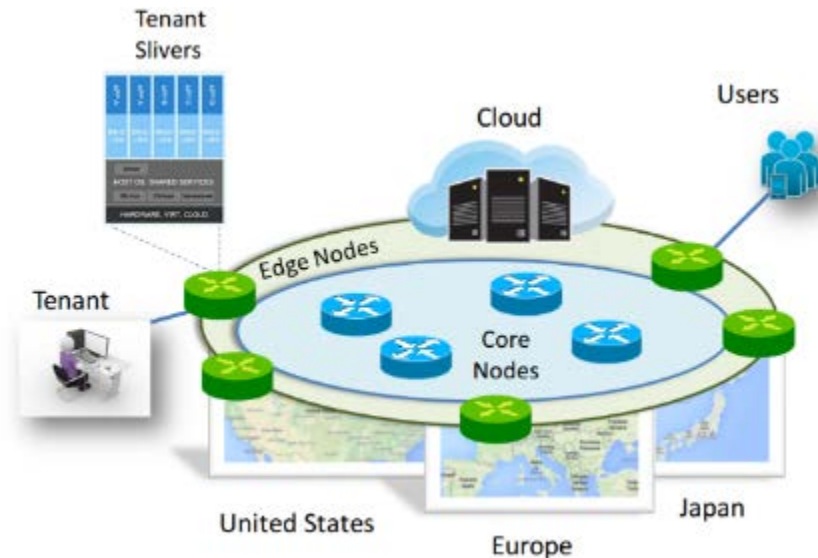
Overview



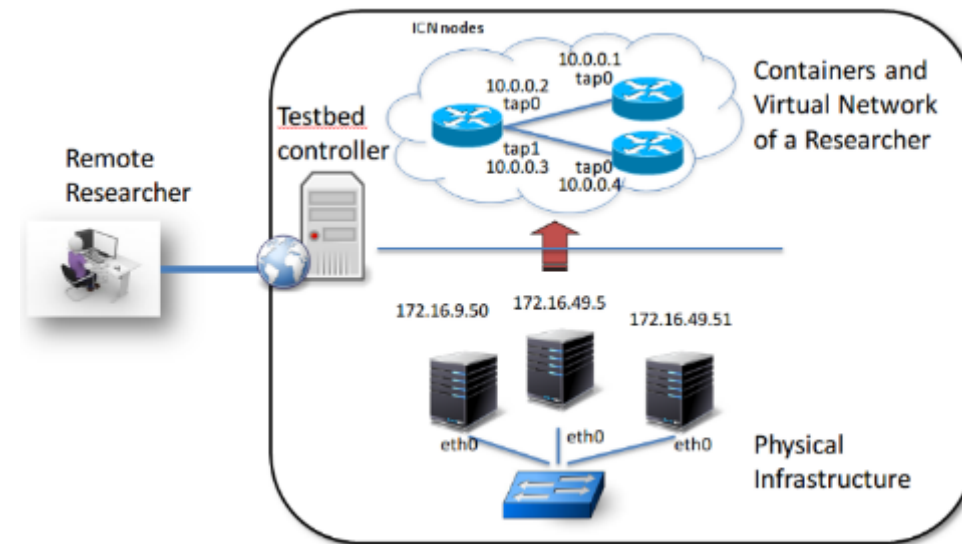
- Objective I** Design and develop a set of exemplary main applications with a special focus on **video delivery** and **social networks**.
- Objective II** Design and develop key features of **IoT Applications**.
- Objective III** Design and develop **ICN Services**.
- Objective IV** Adapt ICN to complement **5G**.
- Objective V** Improve/resolve solutions to vital functions of ICN based **Infrastructure**.
- Objective VI** **Realistic** experiments on large scale local and global federated testbeds.
- Objective VII** Stimulate general deployment of ICN in the real world, e.g., by integrating specific ICN concepts and solutions in POCs **by industrial partners** during the project life time.

Realistic Experiments

- Theoretically, ICN has the potential to solve many issues prevalent in current IP
- But the realistic experiments need to be performed in order to
 - obtain an understanding of ICN's performance in large scale and real-world scenarios
 - discover a new problem on the real-world environments
- We use two approach : Federated Testbed and Local Testbed



Federated Testbed



Local Testbed

- Three applications that could be useful for such a large scale event, e.g., Tokyo Olympic
 - a. Video** : VoD/Live streaming, Interactive (video conference)
Challenges : Large number of users, large filesize content (4K), low latency
 - b. Social Network**
Challenges: Large number of users that connect based on context (e.g. they are in a stadium together)
 - c. Internet of Things**
Challenges: How do you send/receive info to context based IoT devices (e.g. evacuation signal in a planned manner to IoT devices in a stadium, context based feedback to people in the vicinity)

Video



Social



Things



Kick off

- ICN2020 project is just started
- We had Kick off meeting Sept. 5 – 6 in Göttingen, Germany



- ICN has potential to solve many issues prevalent in IP
 - But it is still halfway to the real-world deployment
- GreenICN Project improved the research activities related with the future network technologies in EU and JP
 - But still research phase
- ICN2020 project will bridge to the real-world deployment
 - From the past projects including GreenICN project
 - By the experimental proof on the global and local testbed