IT based Ubiquitous Robotic Companion and Standardization in OMG

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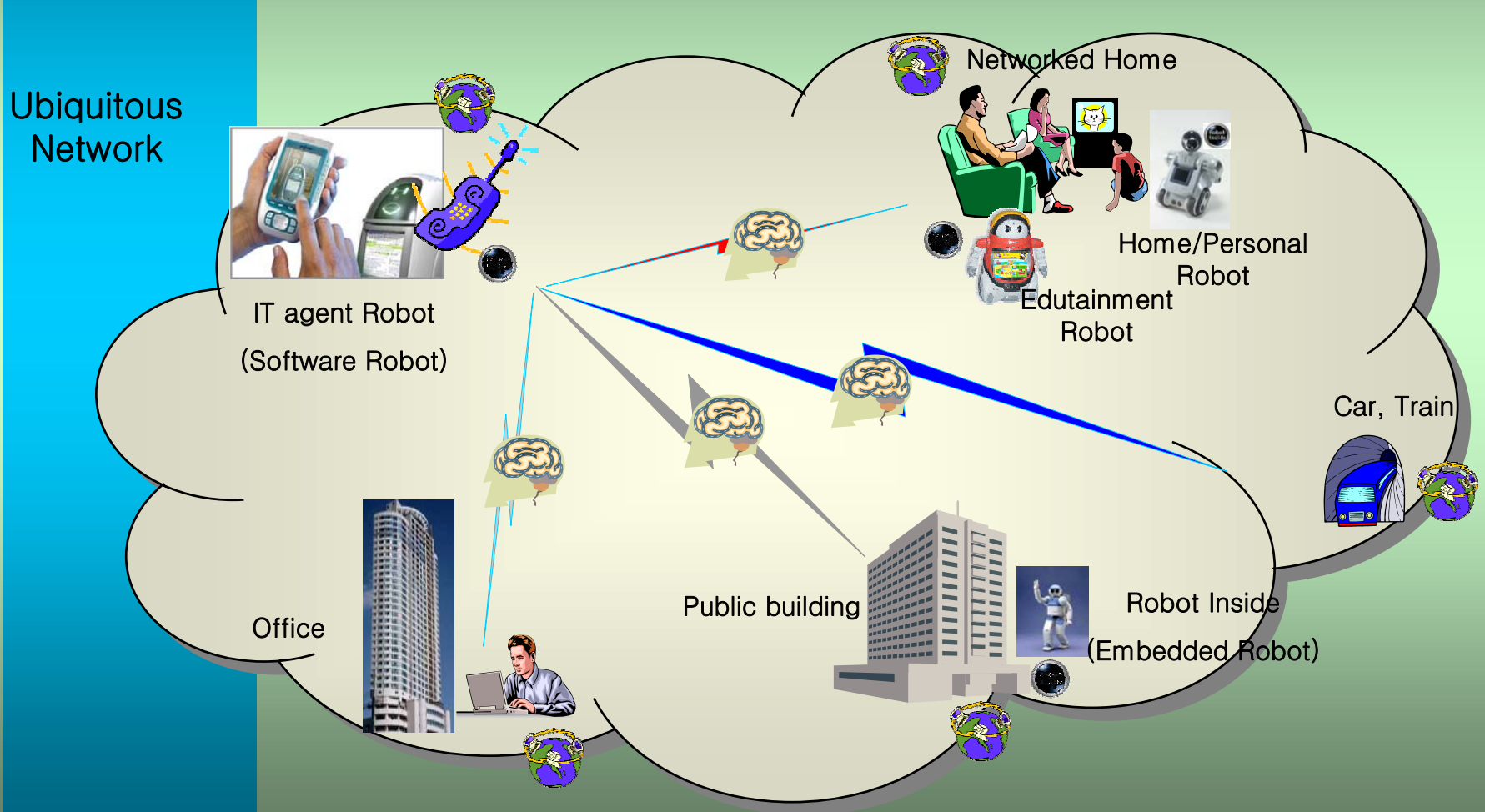
ETRI Electronics and Telecommunications Research Institute

The Concept of URC (Ubiquitous Robotic Companion)

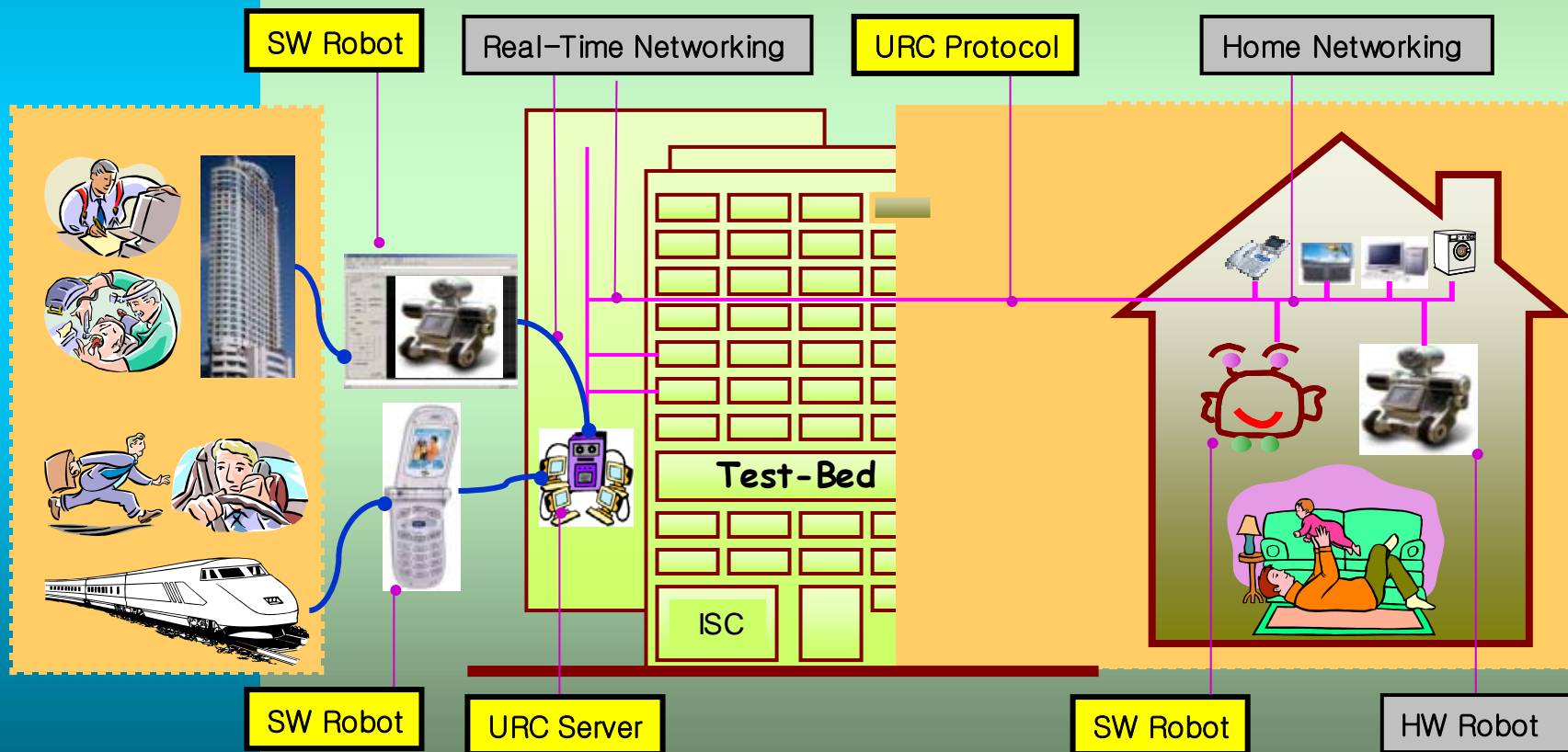**A Robot which provides various necessary services "whenever" and "wherever"**

→ Robot Tech. + Information Telecommunication Tech. (Worldwide best IT infra systems)

Ubiquitous
Network

Networked Home

IT agent Robot

(Software Robot)

Home/Personal
Robot

Edutainment
Robot

Car, Train

Office

Public building
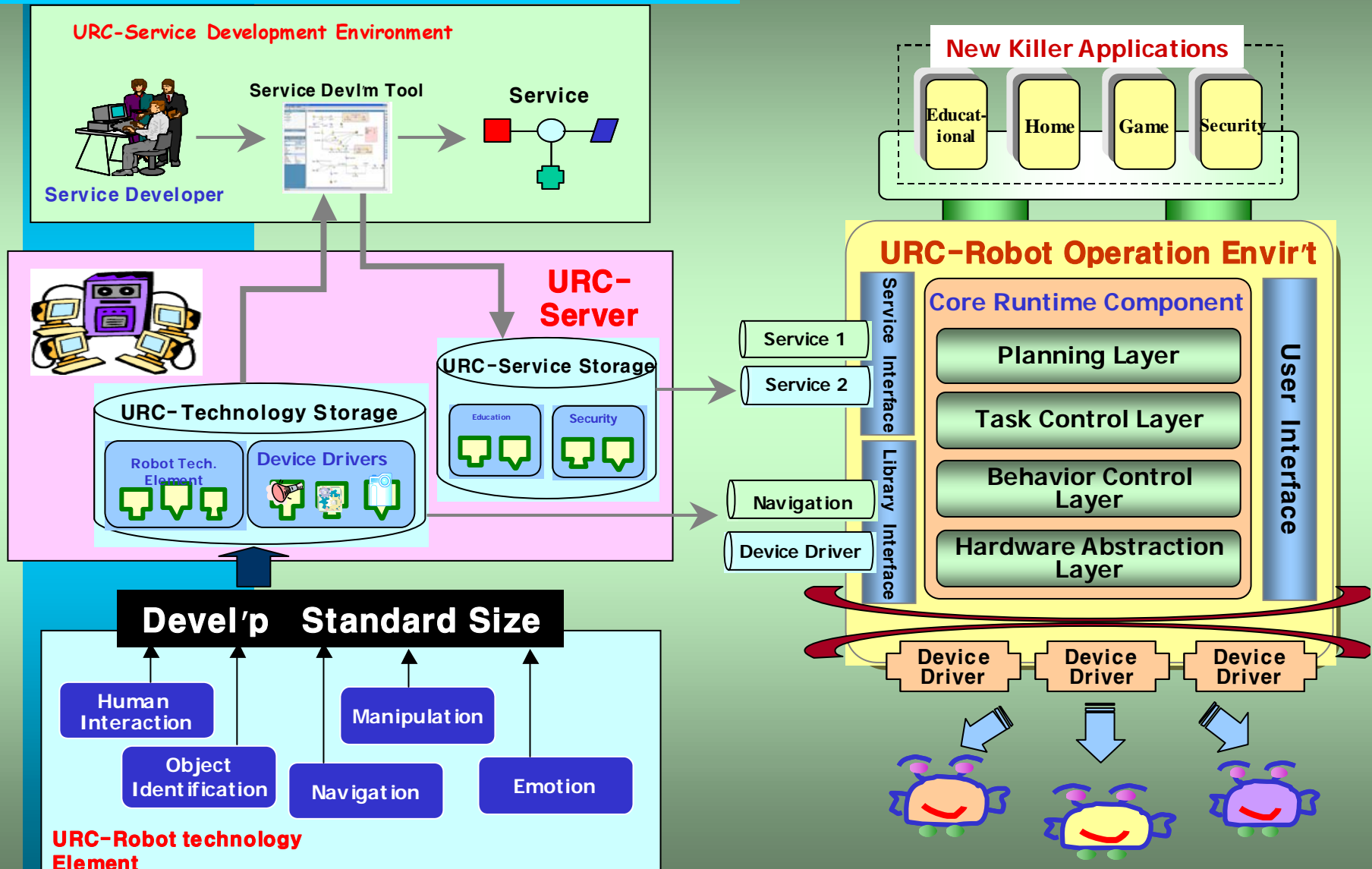
Robot Inside

(Embedded Robot)

URC Infra System Research Introduction

IT Infra System supports robots providing all necessary services at anytime and any places
- **Software robot tech.: movement and transition to various devices (whenever, wherever)**
- **URC protocol tech.: real-time service and security protocol (through the Network)**
- **URC server based service tech. :high usability server and URC various services**

SW Robot

Real-Time Networking

URC Protocol

Home Networking

Test-Bed

ISC

SW Robot

URC Server

SW Robot

HW Robot

URC Embedded Component Technology Research Introduction

URC-Service Development Environment

Service Developer → Service Devl'm Tool → **Service**

New Killer Applications

| Educational | Home | Game | Security |

URC-Robot Operation Envir't

Service Interface

Library Interface

Core Runtime Component
- Planning Layer
- Task Control Layer
- Behavior Control Layer
- Hardware Abstraction Layer

User Interface

Service 1
Service 2
Navigation
Device Driver

URC-Server

URC-Service Storage
- Education
- Security

URC-Technology Storage
- Robot Tech. Element
- Device Drivers

Devel'p Standard Size

- Human Interaction
- Object Identification
- Manipulation
- Navigation
- Emotion

URC-Robot technology Element

Device Driver   Device Driver   Device Driver

States of ISR Standardization in OMG

❑ Beginning stage:
  ➢ Planning, meetings, events
  ➢ RFP: proposal activity for robot standardization
  ➢ RFI: extracting items of standardization

❑ Active development of Technologies
  ➢ Many robot projects are ongoing.
  ➢ Intelligent robot technology forum activities

❑ Efforts for active standardization of robots
  ➢ Intelligent Robot Standard Forum activities
  ➢ Close relationship with member institutes(KATS, TTA, KIRA)
  ➢ Exchanging standardization information & technology through international meeting (OMG, ISO, IEEE, ITU …)

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Q&A

Thank you.

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