

U-DRM for Digital Content

홍승관
hgkang@fasod.com

COMI

Ubiquitous Computing

■ 5C

- Computing
- Connectivity
- Communication
- Content
- Cam

■ 5ARY

- Anytime
- Anywhere
- Anynetwork
- Anydevice
- Anyservice

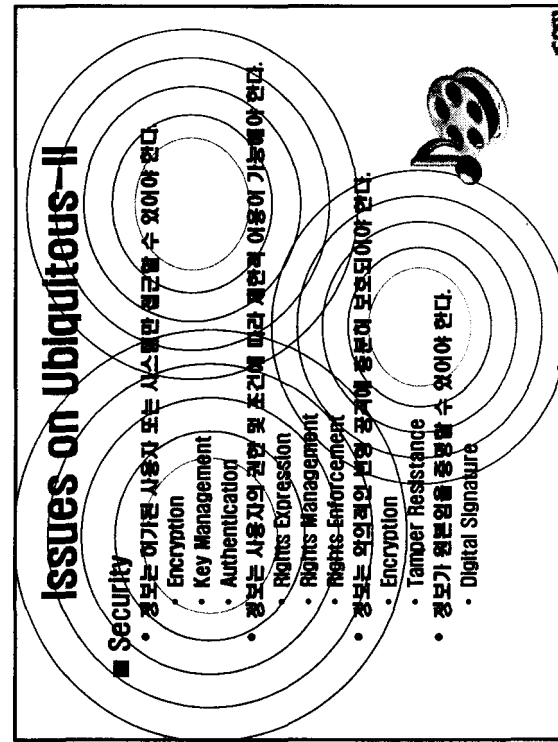
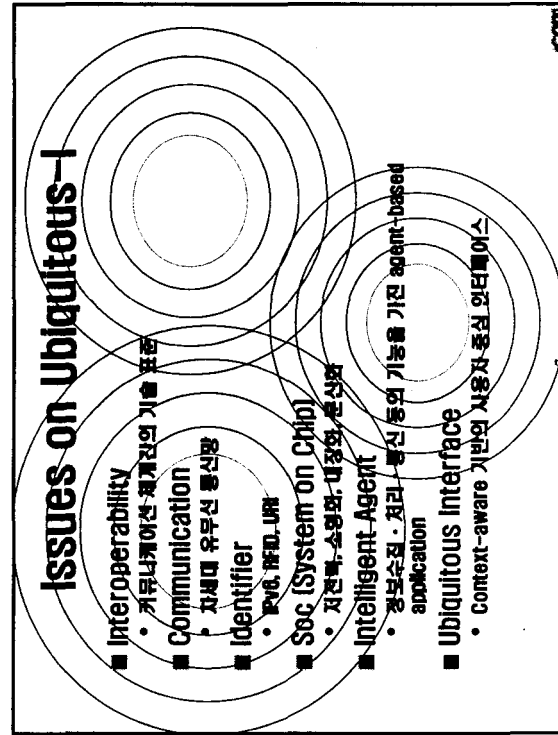
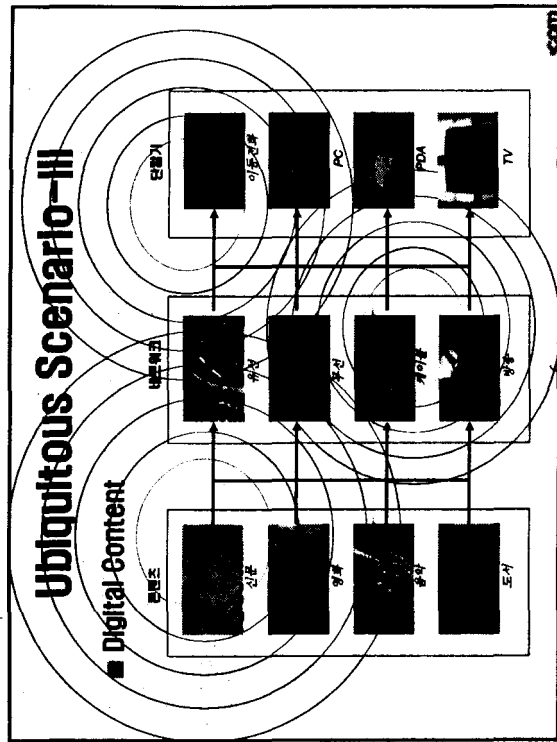
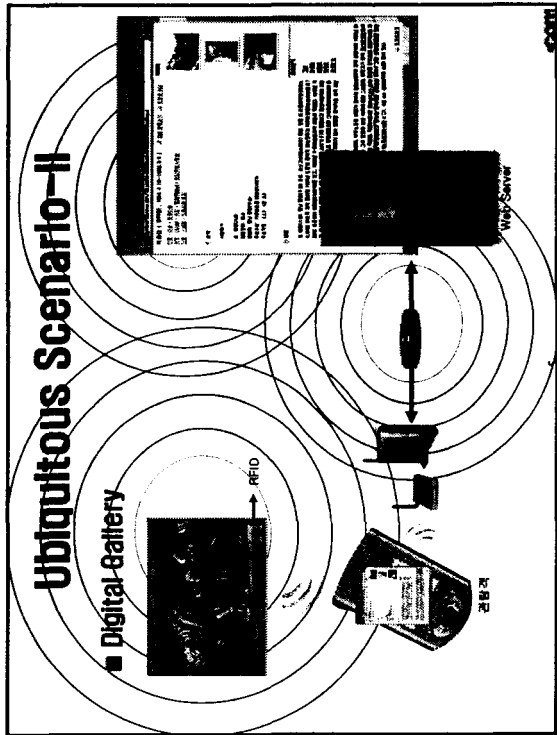
Ubiquitous Projects

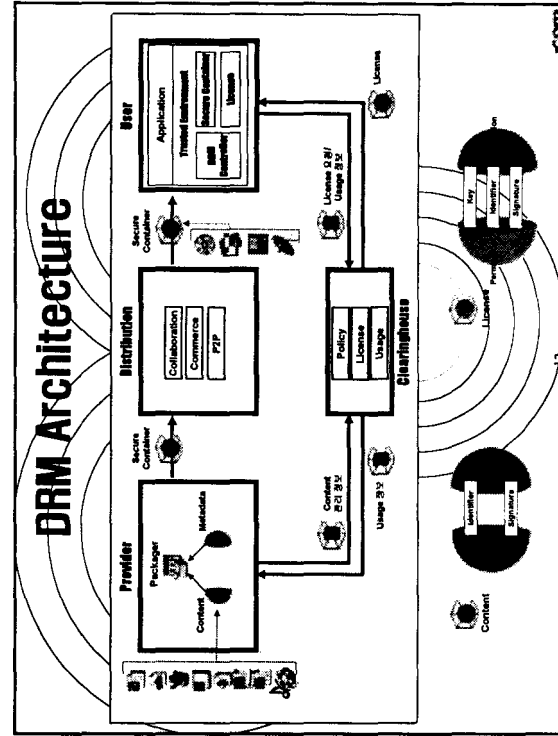
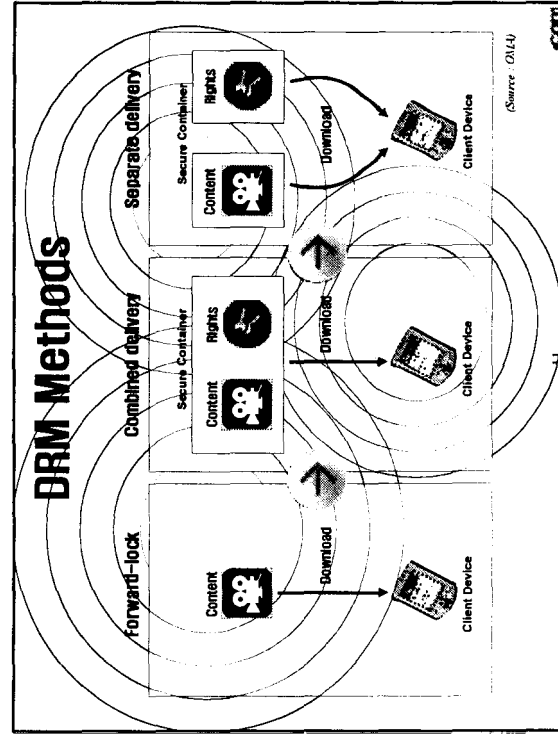
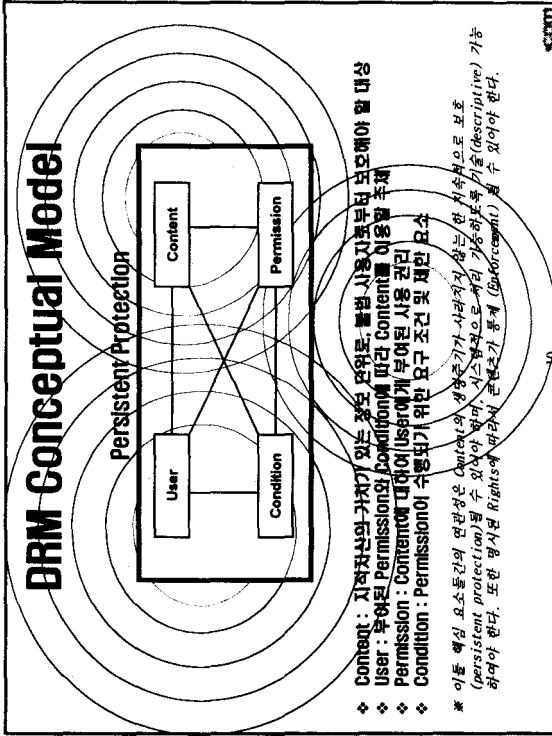
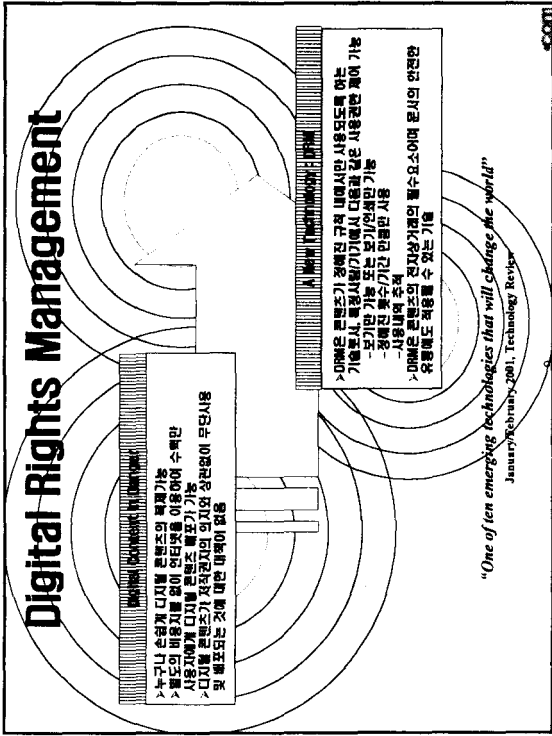
- MIT Media Lab
 - Things that think project
- MIT Auto-ID Center
 - Smart Tag
- UC Berkeley
 - Smart Dust Project
- 동경대학
 - TRON project
- Hewlett-Packard
 - Cobifrown
- MICROSOFT
 - EasyLiving

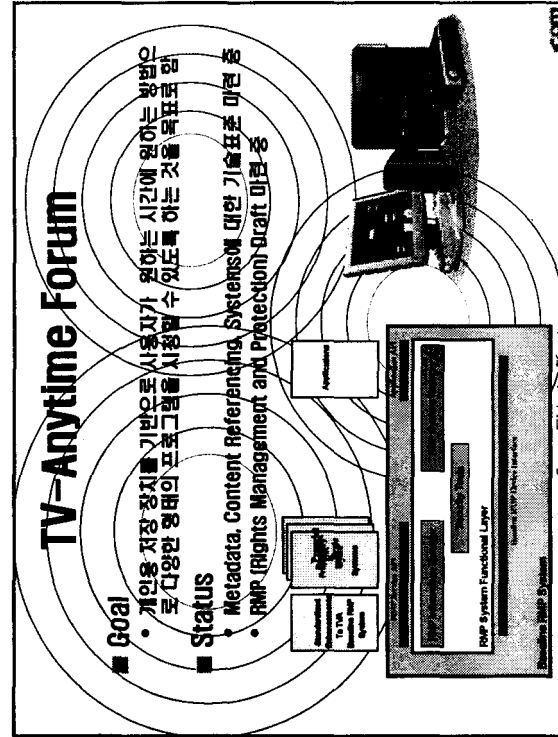
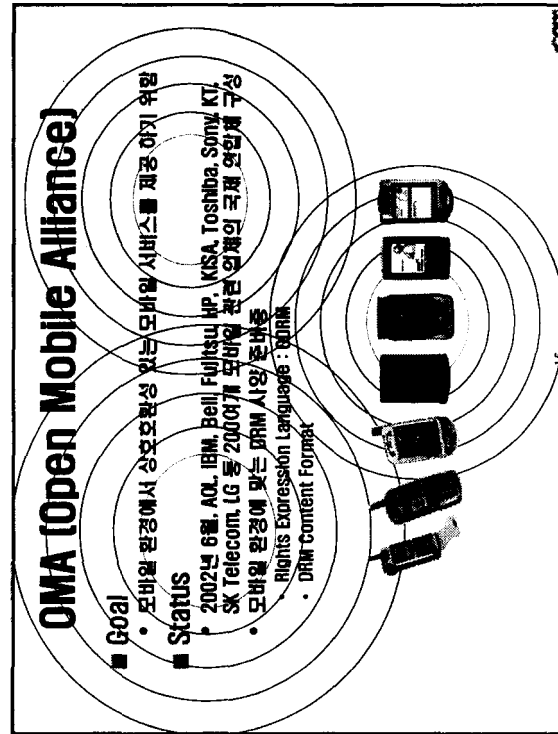
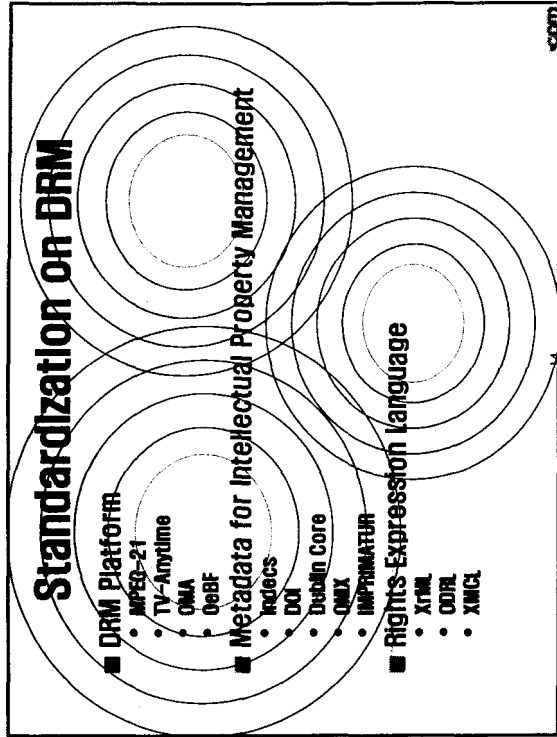
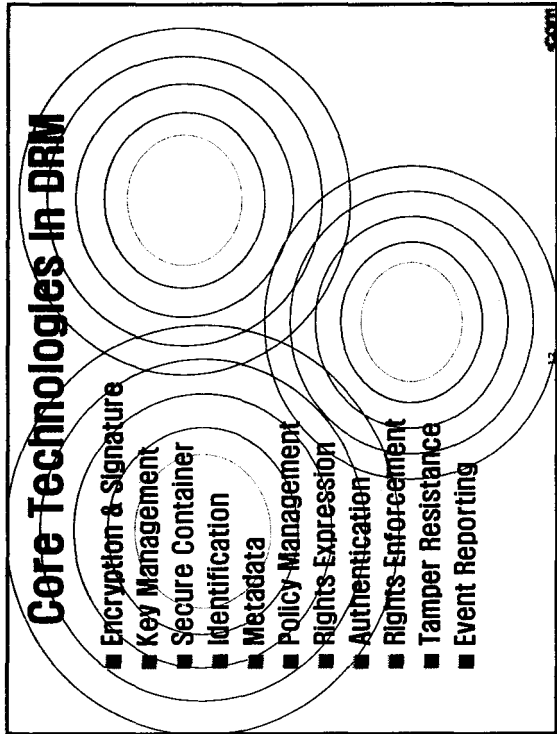
Things that think project

Ubiquitous Scenario-I

Healthcare







MPEG-21

Goal

- 다양한 종류의 디지털 콘텐츠 서비스 및 수 있는 종래적인 멀티 미디어 프레임워크의 시안을 도입하는 것을 목표로 함

Status

- ISO/IEC 산하의 MPEG 워킹 그룹에서 2000년 8월에 착수
- 2005년 국제 표준화 제정을 목표로 연도 12개 파트 운영중
- Part 1 : MPEG-21 Vision, Technologies and Strategy
- Part 2 : DID (Digital Item Declaration)
- Part 3 : DI (Digital Item Identification)
- Part 4 : JEMP (Intelligent Property Management & Protection)
- Part 5 : REL (Rights Expression Language)
- Part 6 : RID (Rights-Data Dictionary)
- Part 7 : Digital Item Adaptation
- Part 8 : Reference Software
- Part 9 : File Format
- Part 10 : DIP (Digital Item Processing)
- Part 11 : PAT (Persistent Association Tool)
- Part 12 : Test Bed for MPEG-21 Resource Delivery
- Part xx : Event Reporting

MPEG-21

Part 1 - Vision, Technologies & Strategy

MPEG-21

Part 2 - DID

- The DID model describes a set of abstract terms and concepts to form a useful model for defining Digital Items
- Normative XML schema comprising the entire grammar of the Digital Item Declaration representation in XML

MPEG-21

Part 3 - DIH

- MPEG-21 uses Uniform Resource Identifiers (URIs) to identify Digital Items, Metadata Schemas, Users
- Other entities (ex: territories, rights expressions, terminals, ...)
- IIRIS allows industry-specific identification schemas to be used within MPEG-21 framework
- URIs (ex: <http://www.risoo2.com>)
- IIRIS (ex: <http://www.risoo2.com>)

MPEG-21

Part 4: IPMP

- Uniform framework that enables all users to express their rights and interests in, and agreements related to, digital items and to have assurance that those rights, interests and agreements will be persistently and reliably managed and protected across a wide range of networks and devices.

The diagram illustrates the IPMP architecture. At the center is the IPMP Core, which is divided into several functional modules: IPMP Core, IPMP Core, and IPMP Core. This core is supported by a set of external components including IPMP Core, IPMP Core, and IPMP Core. The architecture is designed to provide a uniform framework for managing digital rights and interests across different networks and devices.

MPEG-21

Part 5: REL

- Based on ContentGuard's XML "Programming" language for the creation of rights expressions
- XML schema based
- Dependent on MPEG's RDD

The diagram consists of several overlapping circles, representing the interconnected nature of the different parts of the MPEG-21 standard. The central focus is on Part 5: REL, which is shown to be dependent on the RDD and based on ContentGuard's XML programming language.

MPEG-21

Part 6: RDD

- Based on <index> Principles
- An Interoperable Dictionary of Terms for use in Rights Management
- Includes Descriptive Metadata and Rights Metadata
- Machine actionable, therefore automatable
- Provides mechanisms for transformation from one schema to another with minimal loss of semantic precision
- Provides definitions for MPEG's REL

The diagram consists of several overlapping circles, representing the interconnected nature of the different parts of the MPEG-21 standard. The central focus is on Part 6: RDD, which is based on index principles and provides a dictionary of terms for rights management. It also includes descriptive and rights metadata and provides mechanisms for schema transformation.

MPEG-21

Part 7: DIA

- Allows content to be 'adapted' while in transit
- When offered to users
- TWO PARTS
 - Adaptation of the JRD
 - Aggregation of Resources

The diagram illustrates the Digital Item Adaptation (DIA) process. It shows a flow from a Digital Item to Digital Item Adaptation, which then feeds into a User Agent. The User Agent is connected to a list of characteristics: User Characteristics, Terminal Capabilities, Network Characteristics, Natural Environment Characteristics, Resource Adaptability, and Session Mobility. The diagram also shows a box for Digital Item Adaptation Description and a box for Digital Item Adaptation Engine.

