ITU-T Kaleidoscope 2009
Innovations for Digital Inclusion

Enhanced Advertising for
Next Generation Networks

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Agenda

- Motivation
- Objectives
- Related Work
- Enhanced Advertising Solution
- Concept and Architecture
- Technologies Involved
- Business Models
- Prototype Implementation
- Conclusions and Future Work

Motivation

- Personalized service experiences

- Services that are useful and relevant

- Remain "connected" everywhere

- Contextualization of services

- Advertising as next generation services enabler

Objectives

- Improve user Quality of Experience focusing on:
  - Personalization
  - Contextualization
  - Adaptation
  - Interactivity
  - Mobility
  - Privacy
- Create new business models

Related Work

- **Standardization bodies**
  - Frameworks, Formats, Metrics

- **Research**
  - Challenges, Location, Contextualization

- **Industry**
  - Personalization, Metrics, Reality Mining

Enhanced Advertising Solution

- We try to combine the best:
  - Multi-context platform
  - Device independent
  - Social aware
  - Personalized
  - Adaptable multimedia distribution

- We provide a unique and compelling **Advertising Experience**
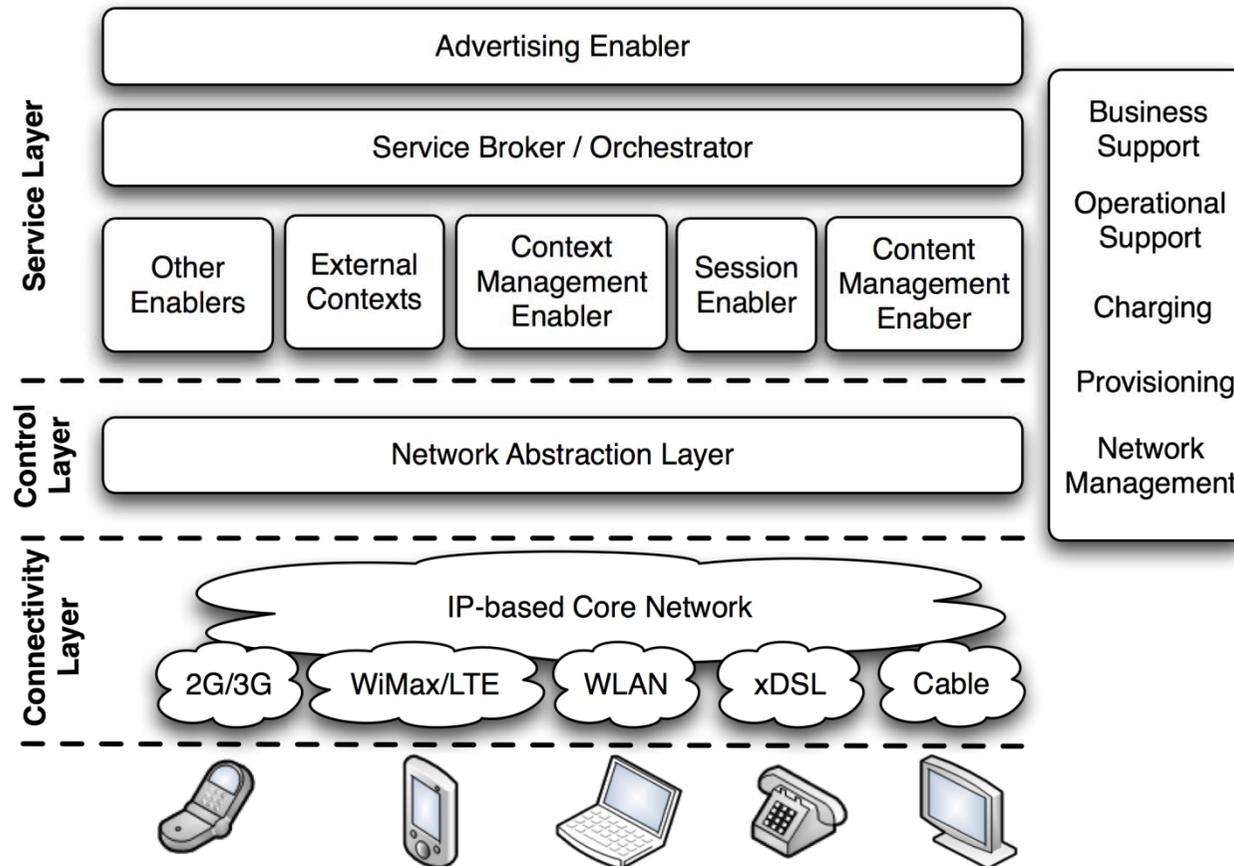
Concept and Architecture

Figure 1. General Overview of the Advertising service architecture.
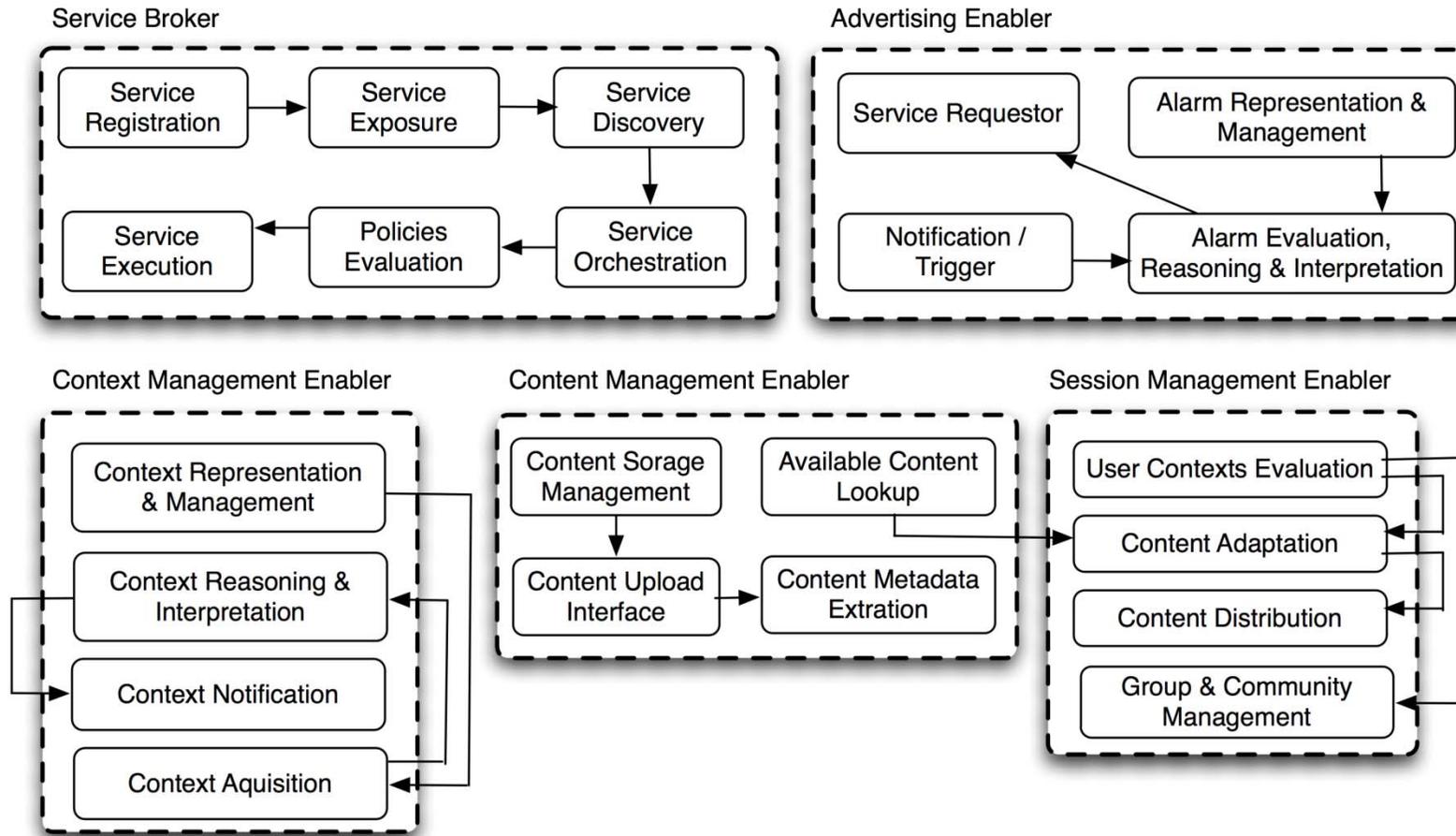
Concept and Architecture (2)

Figure 2. Functional architecture of the advertising service.
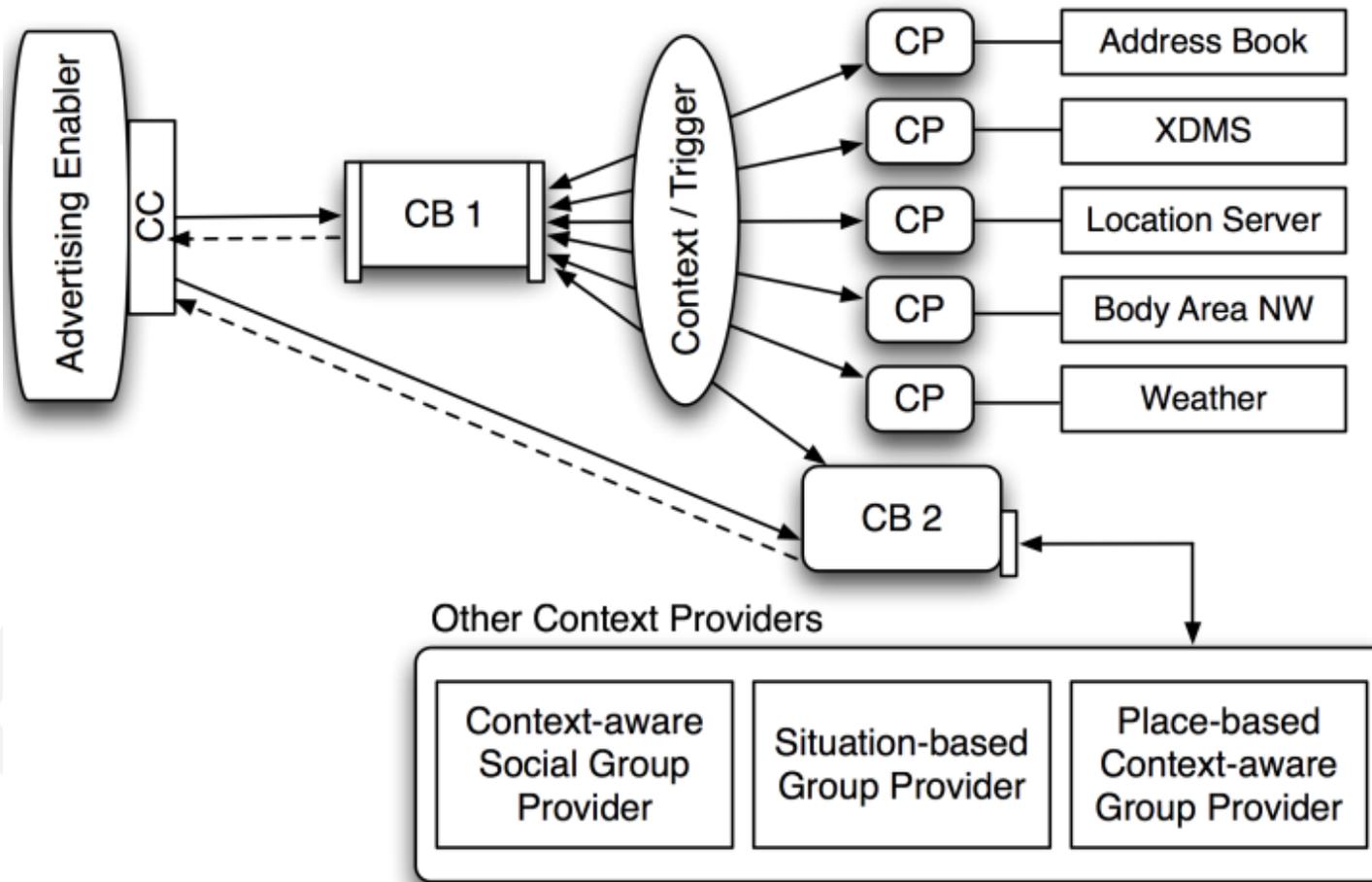
The Context Management

Figure 3. Overall Context Management functional entities.
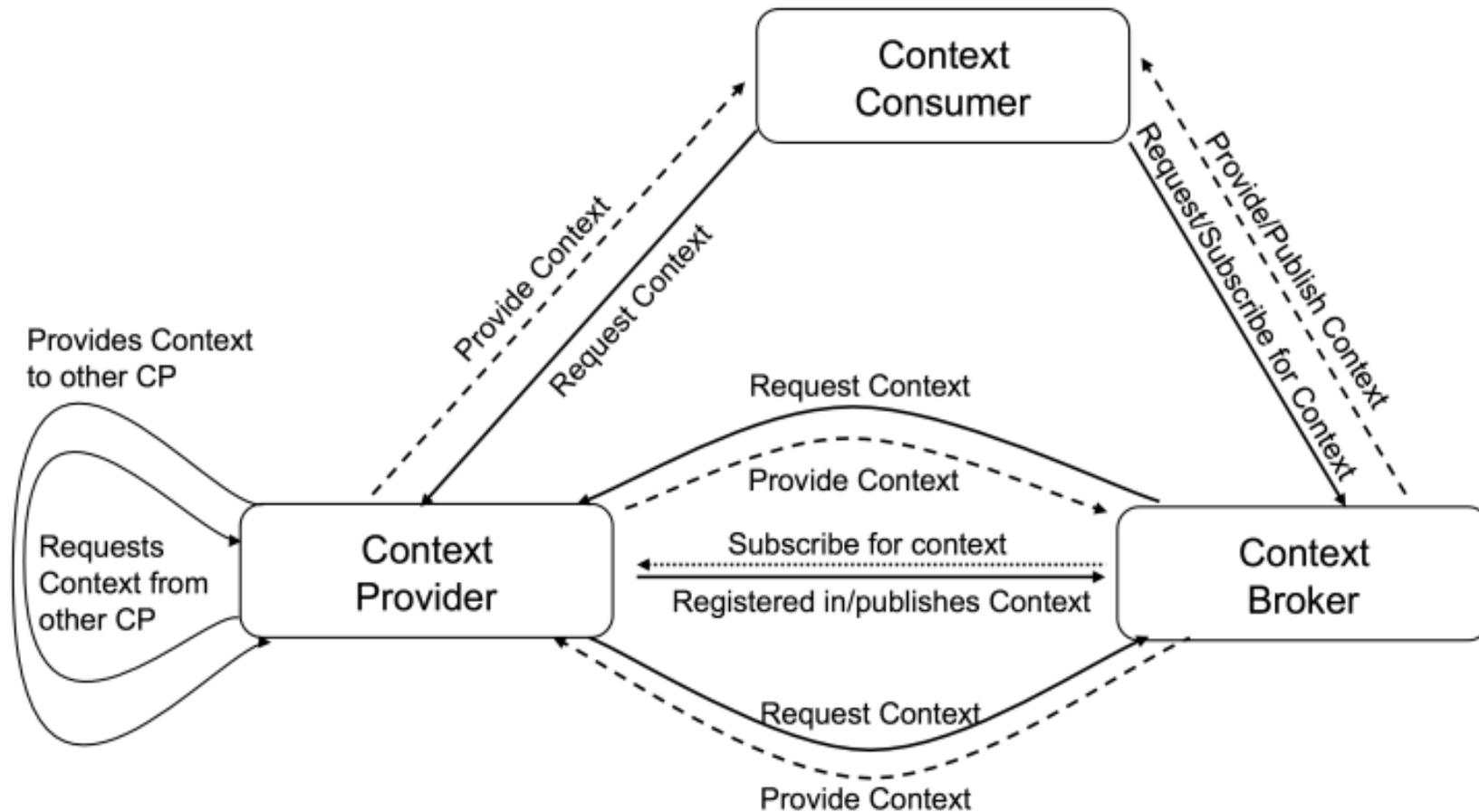
The Context Management (2)

Figure 4. Context management enabler entities relationship.

Business Models

- 3 main actors: Brands, Users, **Telcos**
- New paradigm: **1 to 1 marketing**

- Preserve Privacy	- Expose interfaces
- Relevant Content	- New content
- Stay in control	- New contexts
	- Better user profiles

- Link the needs of both entities (PPP)

Permission   **P**rivacy   **P**reference
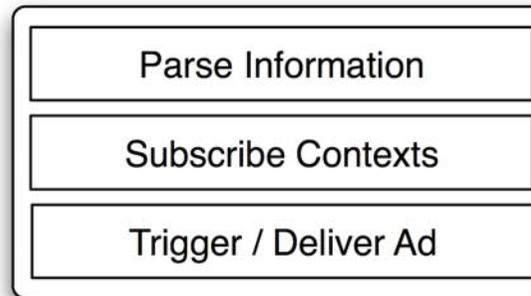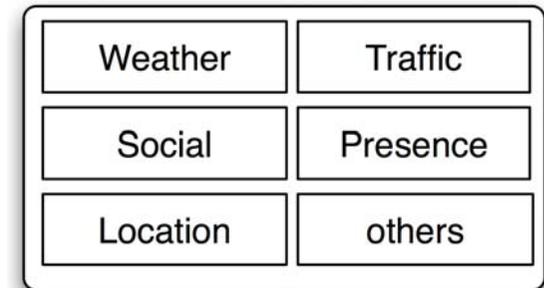
Prototype Implementation

1

Campaign
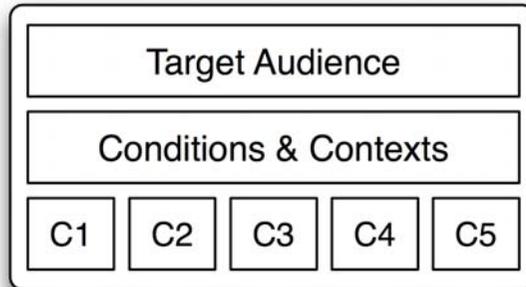
Target Audience
Conditions & Contexts

C1	C2	C3	C4	C5

2

Advertising Platform

Parse Information
Subscribe Contexts
Trigger / Deliver Ad

3

Context Management

Weather	Traffic
Social	Presence
Location	others

Campaign   Contexts   Ad

Starbucks   Weather(Rainy), Location(A)   ⟶

Starbucks   Weather(Sunny), Location(A)   ⟶

Starbucks   Weather(Sunny), Location(B)   ⟶

Pepsi   Social(Alone), Presence(Offline)   ⟶

Conclusions

We identified:

- Advertising evolves with technology

- Flexibility addresses market diversity

- Advertising can be Useful and Relevant

- Operators enforce their role in society

- New business models

- Importance of PPP

We developed:

- SOA based context-aware triggering system

- Network and device independent advertising solution

- Context management platform

- Way to provide metrics and feedback

- 1 to 1 marketing mechanisms

Future Work

- Work extended in 3 parallel branches:
  - C-Cast Project - www.ict-ccast.eu

  - Telecom Italia Context Broker

  - Fraunhofer FOKUS Advertising Enabler

- Focus on user perceived QoE

Technologies Involved

Social Networks

- Correlate spatial proximity with social proximity
- Use social distance for location
- Study demographics of users
- Combine social networks

Reality Mining

- Overcome discrepancy between online and offline networks
- Provide awareness about people actual behavior
- Extract patterns from biologic "honest signals"
- Correlation of data and future occurrences extrapolation

Context-Awareness

- Adaptation of content or advertising according to:

  - Network conditions
  - Terminal
  - Environment
  - External sources (weather, traffic, light, speed, temperature, presence, location, etc.)