

Service Platform issues in WWI: Introduction to the SPICE project

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(on behalf of SPICE consortium)

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- WWI objectives embrace a global vision of the Wireless World beyond 3G
 - Easy and seamless access to electronic services, applications and information anywhere and anytime
 - End-to-end communication based on an open architecture supporting fast service and content creation boosting end-user acceptance and trust.
- Service platform issues not addressed in Phase 1 projects
- Gap to be filled between Ambient network and Mobilife
 - Provision of Ambient Service enablers
 - Investigating seamless service delivery aspects at the service platform level

WWI Steering Board

WWI Coordination Team

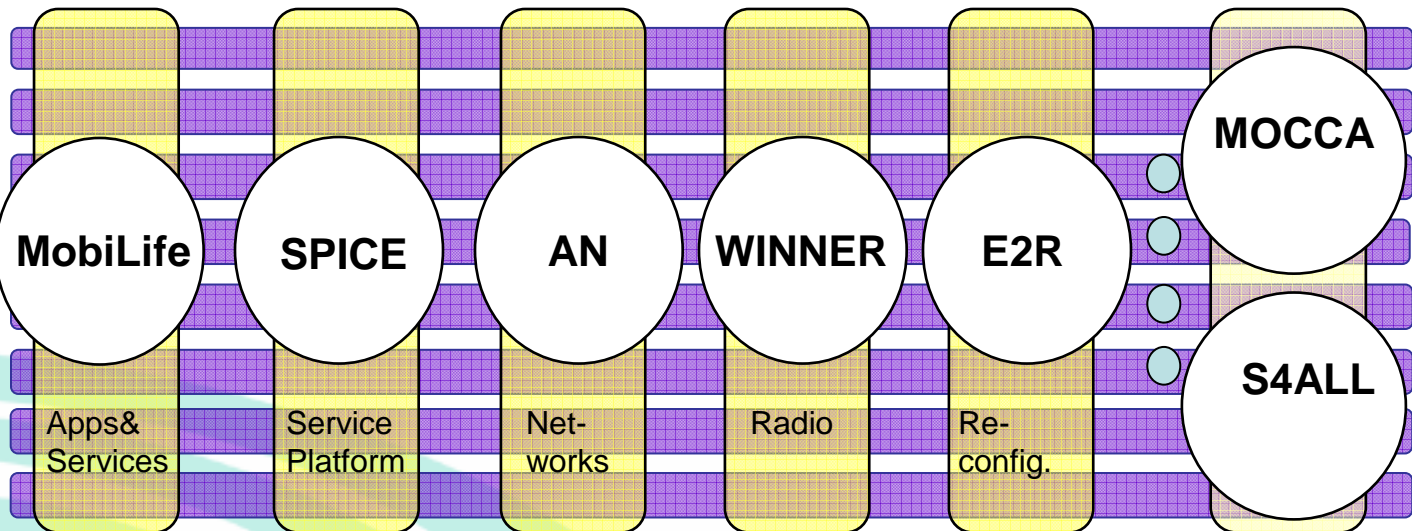
User Acceptance

Business Models

System Interfaces

Validation

Migration



Proposed WWI Cross Issues

Current and proposed WWI Integrated Projects

Liaisons in preparation

Motivations for a B3G service platform project

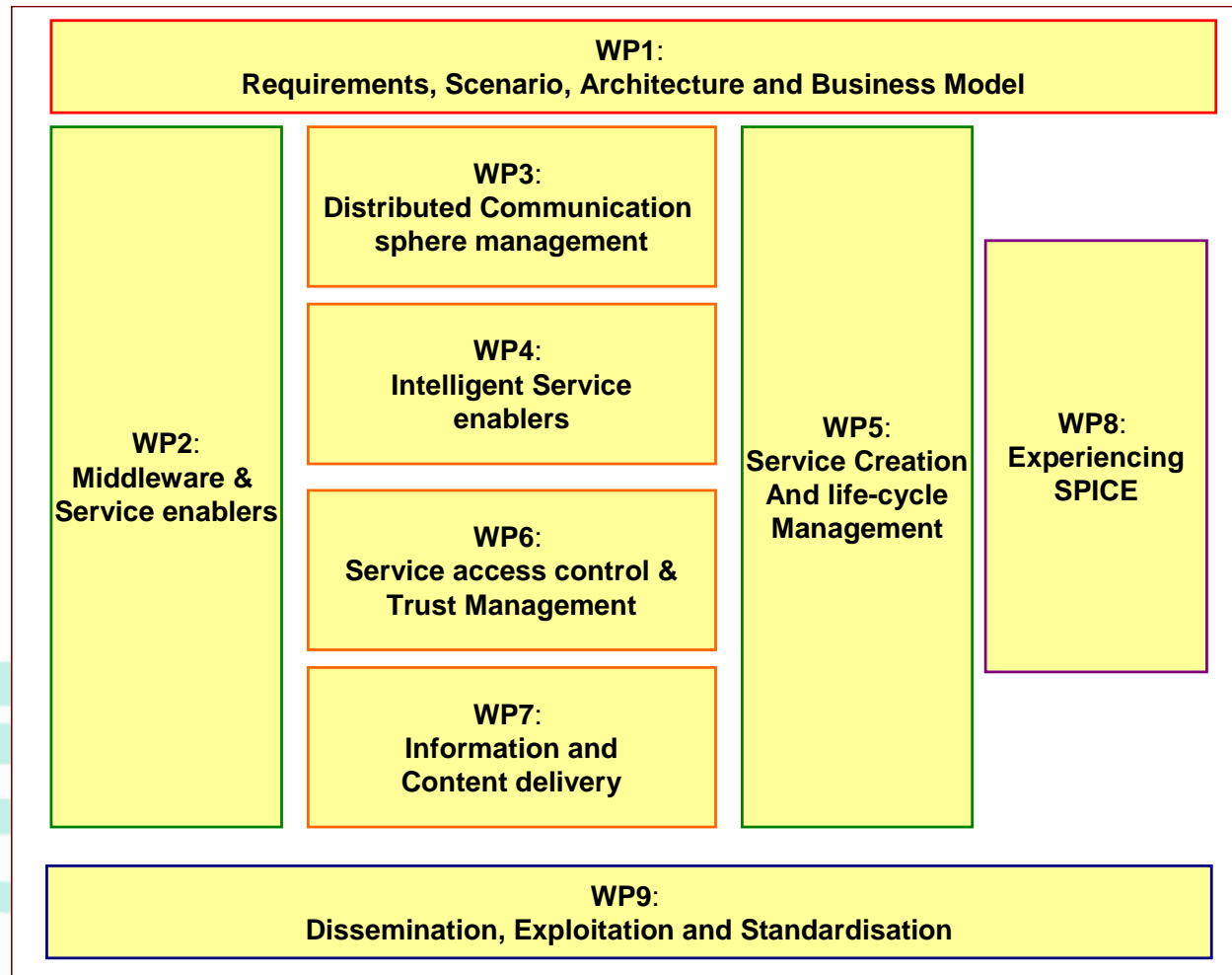
- Redefining the role of Telco: from access to service provider
 - Blurring roles
 - Enabling new business models
- Hiding complexity and heterogeneity
 - Taking benefit of existing variety of services, networks and devices
- Make services intelligent and easier to use (Assist users)
- Inter-domain aspects: service provisioning, inter-working
 - Pan European service delivery platform
- Provide services timely: accelerate creation & delivery of services
 - Fast service creation
 - Reduce time-to-market for new services
- Opening platform capabilities to 3rd parties
- Support multi-vendor, multi-technology middleware platforms

- **SPICE (Service Platform for Innovative Communication Environment)** proposal accepted in IST-FP6 Call 4
 - Coordinator: France Telecom
 - Technical manager: Alcatel
- **Vision:** to design, develop, evaluate and prototype an extendable overlay architecture and framework that supports :
 - Easy and quick service creation of intelligent and ambient-aware services
 - Cooperation of multiple heterogeneous execution environments
 - Pan-European seamless delivery of services across operator domains, networks and terminals
- **Consortium composition: 23 partners**
 - Operators: FT, Telecom Italia, Telefonica, Telenor, DoCoMo Eurolabs, TP
 - Vendors: Alcatel, Ericsson, Nokia, Siemens, NEC, Bull
 - SMEs: Neos, Iris
 - Research Centres / Academics: Telematica Instituut, Fraunhofer Fokus, Univ of Kassel, Univ of Surrey, Univ of Turin, NTNU Trondheim, Univ of Brussels
 - Operational PM support: Alma

- Provide a **unified and seamless way** to deliver services over **heterogeneous execution platforms**, network and terminals
- **Enrich the service landscape**, through an overlay structure offering a personalized user experience anytime, anyplace
- Create a **trusted and open platform** that will simplify the use of services and devices through personalization and customization
- Open-up to **new business models** and value chains
- Enabling **Pan-European** service provisioning
- Promoting the uptake of **innovative IT software technologies** in a telecommunications grade service platform environment

- Business Models and architecture
 - Business and technical requirements for Telecommunication Service provider (TSP)
 - Viable mobile eco-system (where the TSP plays the central role)
 - Service Platform Architecture definition
- Platform middleware & enablers
 - Generic Service enabler components
 - Infrastructure for discovery and deployment of components
 - Cross-domain component access
 - Inter-service platform roaming mechanisms
 - Service exposure layer and charging enabler
- Distributed Communication Sphere (DCS) Management
 - Building and maintaining user's DCS
 - Framework for transparent remote DCS configuration
 - Dynamic desktop
 - Communication decision engine
- Increasing service intelligence
 - Personal information management framework
 - intelligent context awareness functionality
 - Intelligent knowledge provisioning
 - Pro-active triggering of mobile services

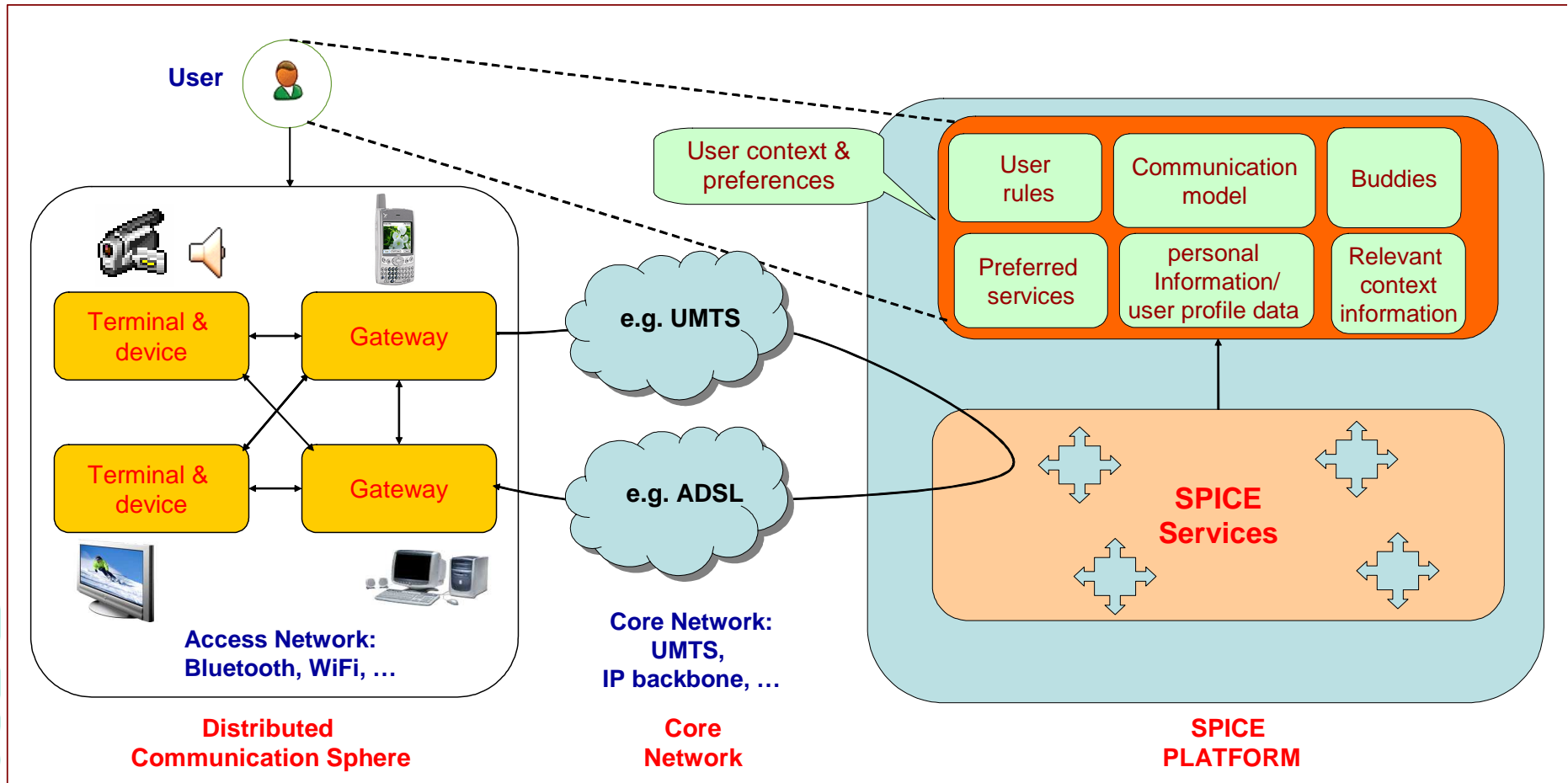
- Service creation and life-cycle management
 - Multiplatform service execution engine
 - Integrated Service creation environment allowing fast service deployment
 - Advanced service description language
 - Tools for automatic / dynamic service composition
- Service access control & trust management
 - Federated policy-based access control methods
 - Dynamic SLA enforcement
 - Policy management
 - Secure mediation function to share information between stakeholders
 - AAA
 - Identity management
 - Privacy management
- Information & content delivery
 - multimedia content description
 - protected distribution of content between devices
 - Content sharing in a user-friendly and secured way
 - Scalable decision mechanisms that control the delivery of content to several devices and networks



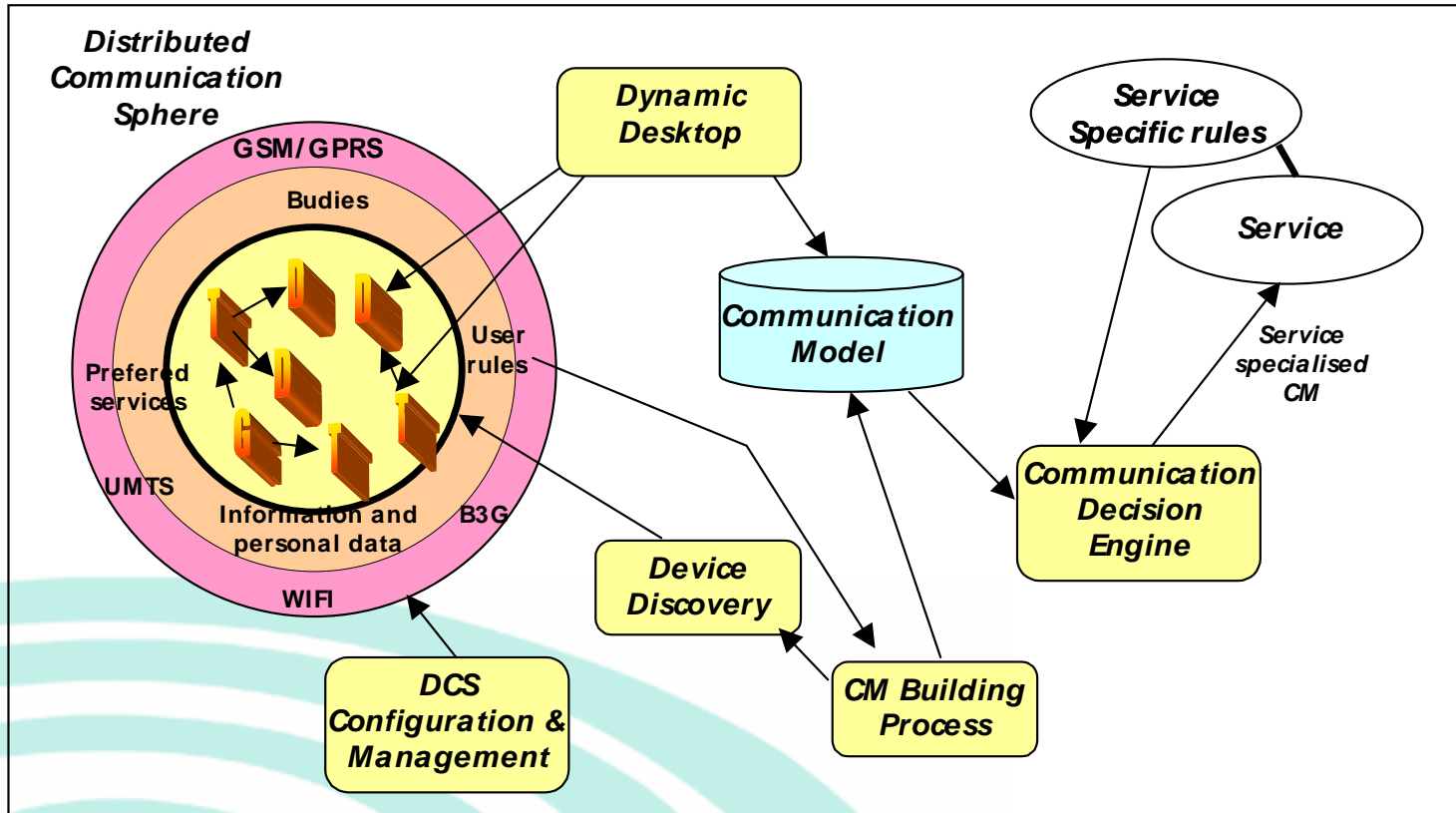
- One phase (duration: 2,5 years)
 - Start date: January, 2006
- Operator perspective and interests well represented
- Scenario-driven approach
 - 3 illustrative scenarios: intelligent portal, e-tourism, emergency
- Platform-centric approach
- Service composability and loosely coupled approach
- Semantic enhanced middleware
- New service eco-system building
- Open and controlled access to SP capabilities
- Multi-terminal and -access distributed communication sphere

- Service Platform as a focal point of service delivery
- Numerous advantages
 - Promoting the role of Telcos as service Providers
 - Taking full benefits of capabilities offered by independent terminals
 - Making intelligent services available to all
 - User support through the service platform

- Multiple Access technologies providing connectivity to multiple devices
- Distributed Communication Sphere composed of:
 - A variety of terminals, gateways, devices
 - A variety of communication channels
 - The surrounding environment
 - Available services and contextual information
- Time variability of the DCS
- Opportunity:
 - Turn complexity into richness
 - Exploit diversity of communication channels
 - Distributed multimodality
 - Dynamic selection of the most appropriate combination of modalities



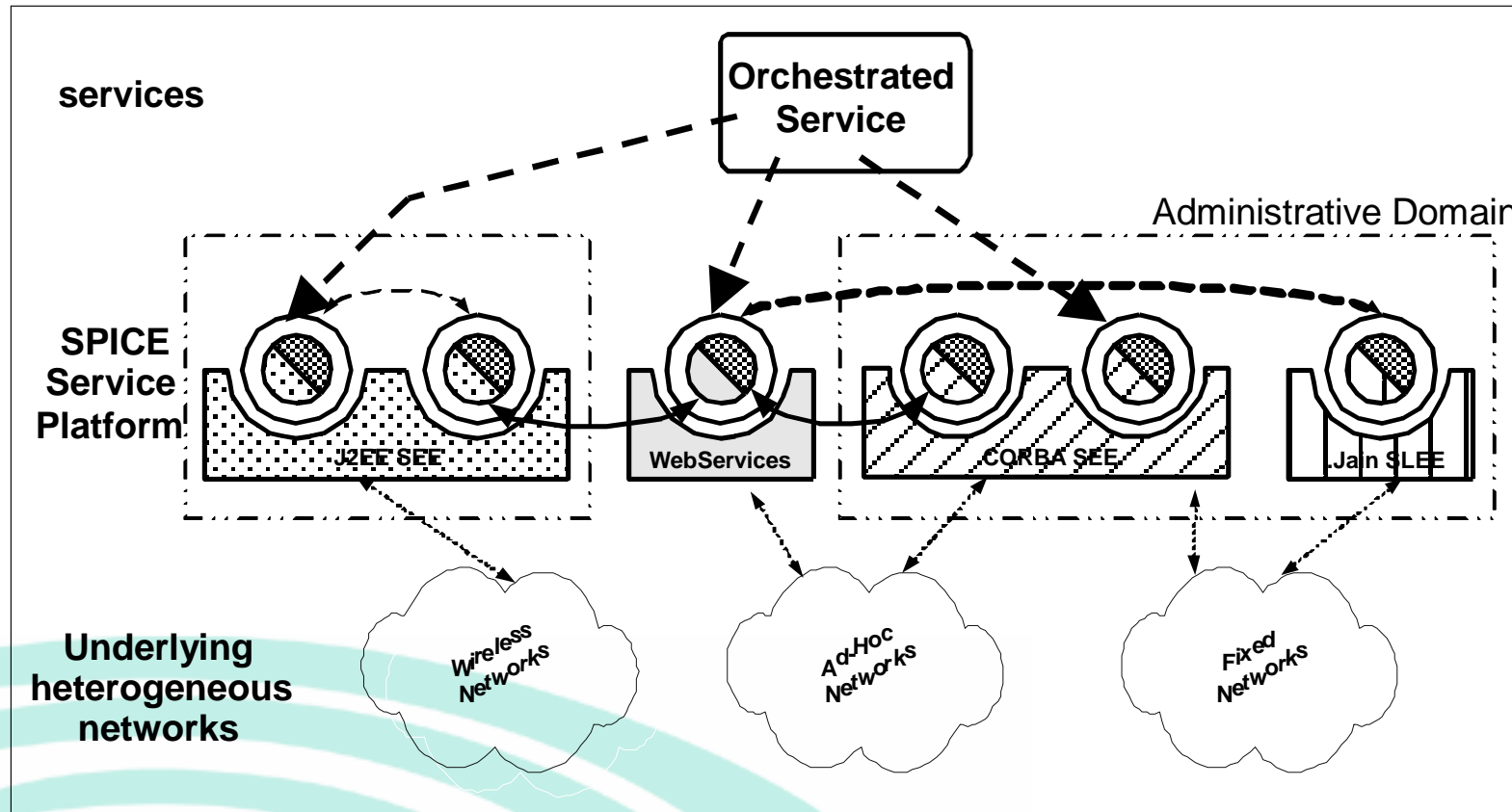
- Challenges for SPICE
 - Build-up, maintain and manage the DCS
 - Discovery of communication capabilities
 - Adapt the DCS to environment changes
 - Definition of the Communication Model (abstraction of the DCS)
 - Optimal configuration & combination of the communication capabilities of the device
 - Utilizing the resources of the DCS
 - Selection of the most appropriate devices & access networks for service execution (communication decision engine)
 - Usage of third party terminals



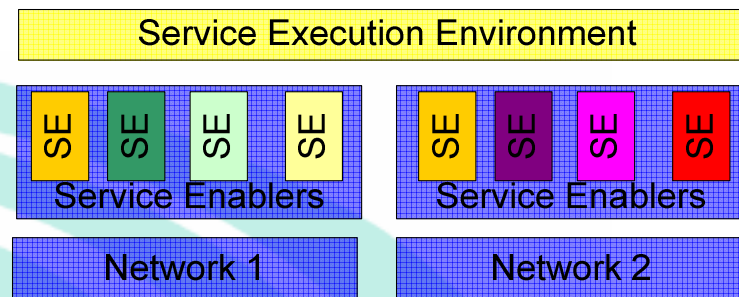
Service composability and loosely coupled approach

- Service composability
 - Services are made of a collection of components
 - A created service can be seen as a component and in turn become composable and reusable
 - Advanced description language to define "abstract" services, decoupled from actual components
- Loosely coupled approach
 - *A posteriori* mapping between abstract services and actual components (dynamic orchestration at run time)
 - Semantic publication and discovery to discover and access the resources and other existing services / components
 - Ability of Loosely coupled Service Components to co-operate dynamically with each other, even across heterogeneous middleware technologies
 - access to underlying resources, protocols and execution platforms through Resource Adapters

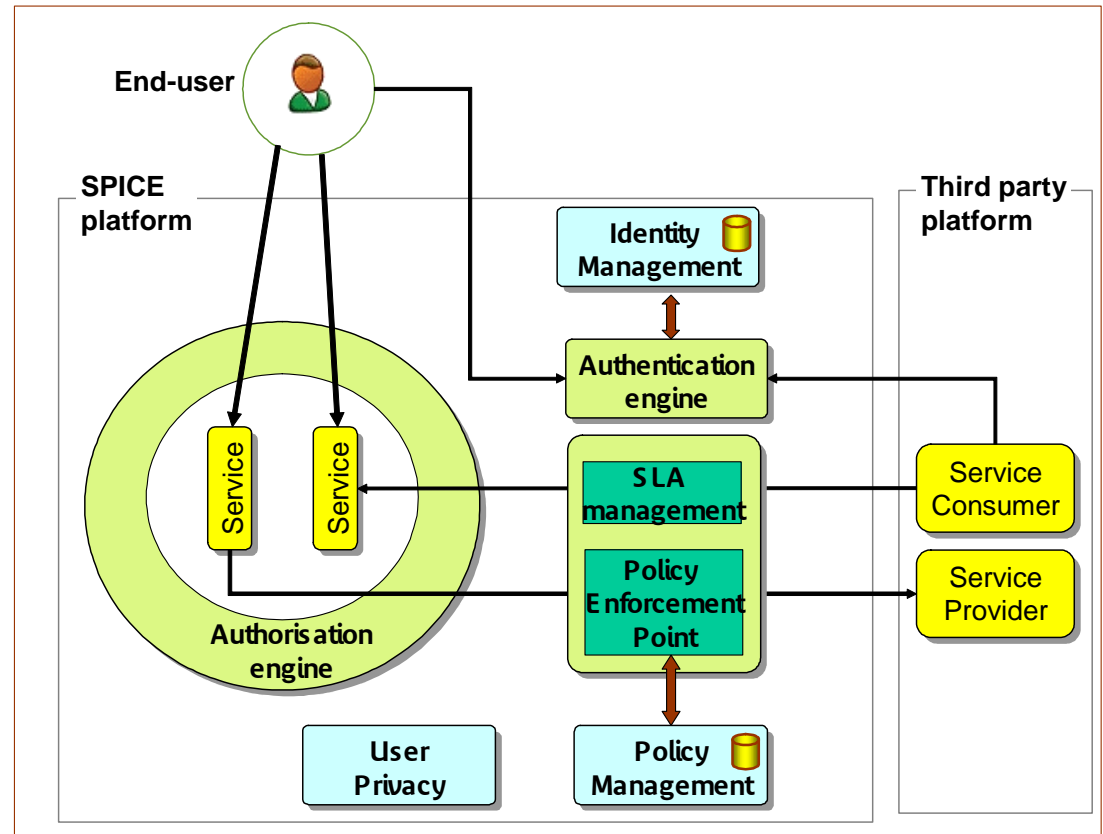
Service composability and loosely coupled approach



- Semantic-enhanced description of service platform components by means of ontologies
- Use of ontologies to establish a common vocabulary among applications and to allow sharing & reuse of formally represented knowledge
- Publishing, discovering, (re)using and combining content, services, multi-media modalities, resources, devices, etc



- Openness towards external domains and IT world
- Enabling controlled access to services and basic components
- Service Level Agreement and User Privacy management



- Re-use of service components and sharing of platform capabilities with 3rd parties
- New ecosystem for service provisioning (several actors involved)
- Telco and IT services convergence
 - Attractive IT interfaces to 3rd parties, and powerful and easy to use Service Creation Environment
- Evaluation of innovative business models (revenue sharing) by considering different viewpoints