

WWRF WG2

Service Architectures for the Wireless World

- White Paper Kickoff Meeting – September 21, 2004

"Service Platform Architecture"

- WG2 Chair: Dr. Stefan Arbanowski
Fraunhofer FOKUS
- WG2 Vice Chair: Dr. Wolfgang Kellerer
DoCoMo Euro-Labs

Agenda – September 21, 2004

- 10:00 Welcome and Introduction (Host & WG2 Chair)
- 10:15 Round Call (all) - all participants present 1 slid
 - ⇒ motivation and goal for contributing to the planned architecture white paper
 - ⇒ proposal for content, structure, etc.
- 12:00 Lunch
- 13:00 Next generation mobile service provisioning (1-2 short presentations + discussion)
 - ⇒ challenges and obstacles for mobile services
 - ⇒ what is changing?
- 14:00 Common objective and key questions (all)
 - ⇒ fix the objectives and key questions
 - ⇒ discussion of the influence of related forums and organizations
 - ⇒ where do we need more in deep analysis
- 15:00 Table of contents
 - ⇒ discuss what should be part of the table of contents (based on the previous discussion)
- 16:00 Work distribution
 - ⇒ form an editor team
 - ⇒ distribution of tasks / responsibilities
- 16:30 Preparation for the upcoming Toronto meeting
 - ⇒ invited presentations, reserve some extra time slot (before the WWRF meeting) to work on the white paper
- 17:00 a.o.b. – end of the meeting

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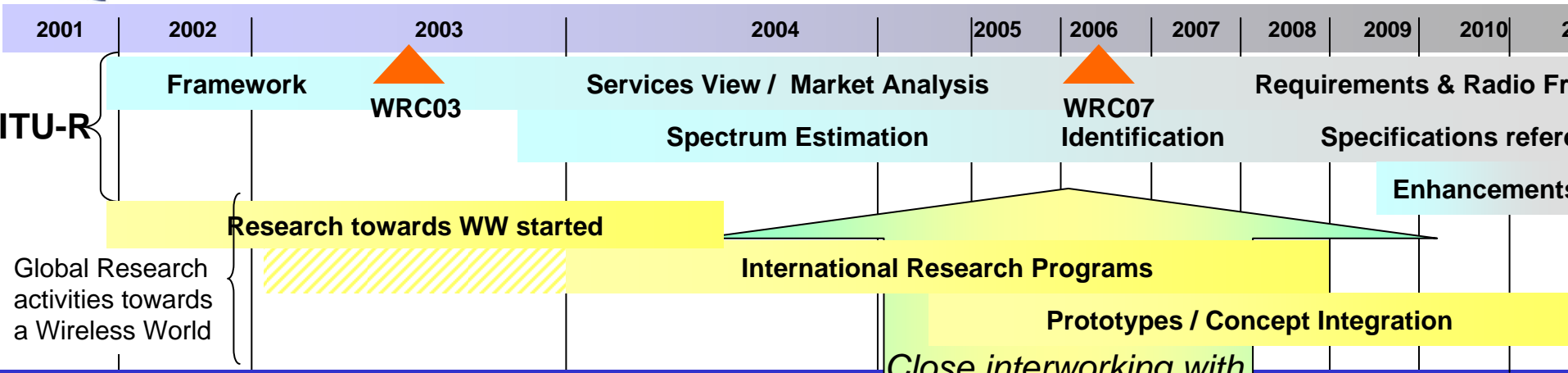
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Motivation

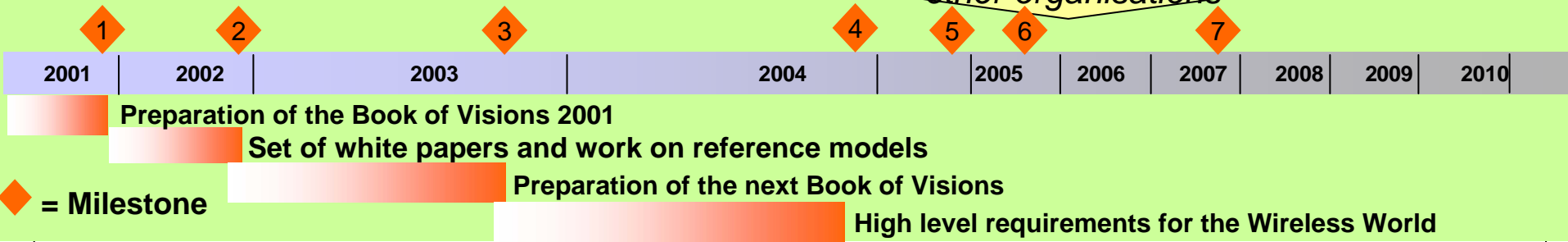
- ❑ Services and applications are shaping the future of mobile communications
- ❑ New capabilities are emerging
- ❑ Standardization is cumbersome, but needed
- ❑ Today's service platforms are lacking openness and interworking, which will be key in future

- ❑ WWRF milestone 5: (end 2004) **Definition of high level requirements for future services of the Wireless World, updated Reference model and White Papers**

Global context towards the Wireless World



WWRF Milestones & Activities



- ◆ 1 • First Book of Visions published
- ◆ 2 • Set of initial white papers and work on reference models
- ◆ 3 • Next Book of Visions ready for publication with current versions of the Vision, White Papers, and Reference Model
- ◆ 4 • High level view for future services and applications
• Ideas for future Wireless World system concept
• Updated Vision, Reference model and White Papers
- ◆ 5 • Defined concept for future services and applications
• System concept with high-level architecture
- ◆ 6 • Consensus document defining the concept for future Wireless World
• Review of the Wireless World
- ◆ 7 • Vision for 2020

Key principles for WWRF vision

- ❑ **Users** are in **control through intuitive interactions** with applications, services and devices
- ❑ Services and applications are **personalized, ambient-aware, and adaptive (I-centric)** - ubiquitous from the point of view of the user
- ❑ **Seamless services to users, groups of users, communities and machines** (autonomously communicating devices) irrespective of place and network and with agreed quality of service
- ❑ Users, application developers, service and content providers, network operators and manufacturers can **create efficiently and flexibly new services and business models** based on the component-based open architecture of the wireless world
- ❑ Users, application developers, service providers and other entities can **trust** on the systems they use because they are aware of the **reliability and security** of the used networks and services

WWRF WG2

Vision & Trends

I-Centric Communications

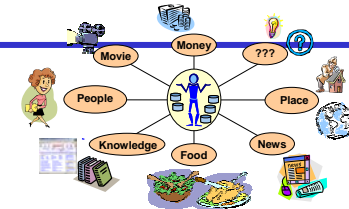
- ⇒ Personalization, Ambient awareness, Adaptation
- ⇒ adaptable to each individual communication space
- ⇒ adaptable to the environment
- ⇒ intelligence in the system
- ⇒ integrating service enablers to control and manage the individual communication space

Current state

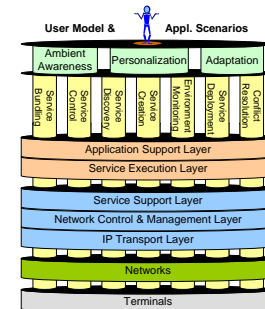
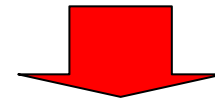
- ⇒ 5 whitepapers available → wg2.ww-rf.org (members only)

Next steps

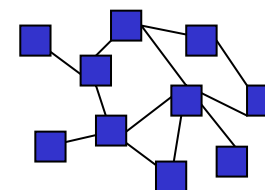
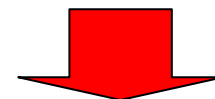
- ⇒ Further identification of Wireless World' building blocks
 - 2 new whitepapers finalized by end of 2004
 - new whitepaper launched in Oslo → Service Architecture



VISION



Ref Model



Arch

WP Scope

- Objectives

Bring the WG2 results, which are on a pure functional level so far, to a more system architecture level, identifying (high level) components, their distribution and their interworking (interfaces and protocols) based on intensive discussions among experts from operators, manufacturers, content providers, IT/software industry, academia.

- Target: 2010 – 2014

Timeplans of WG2 – targeted deliverables and their timing

- Whitepapers in progress (to be finalized in Q4 2004)
 - ⇒ Generic Service Elements
 - ⇒ Enabling Technologies

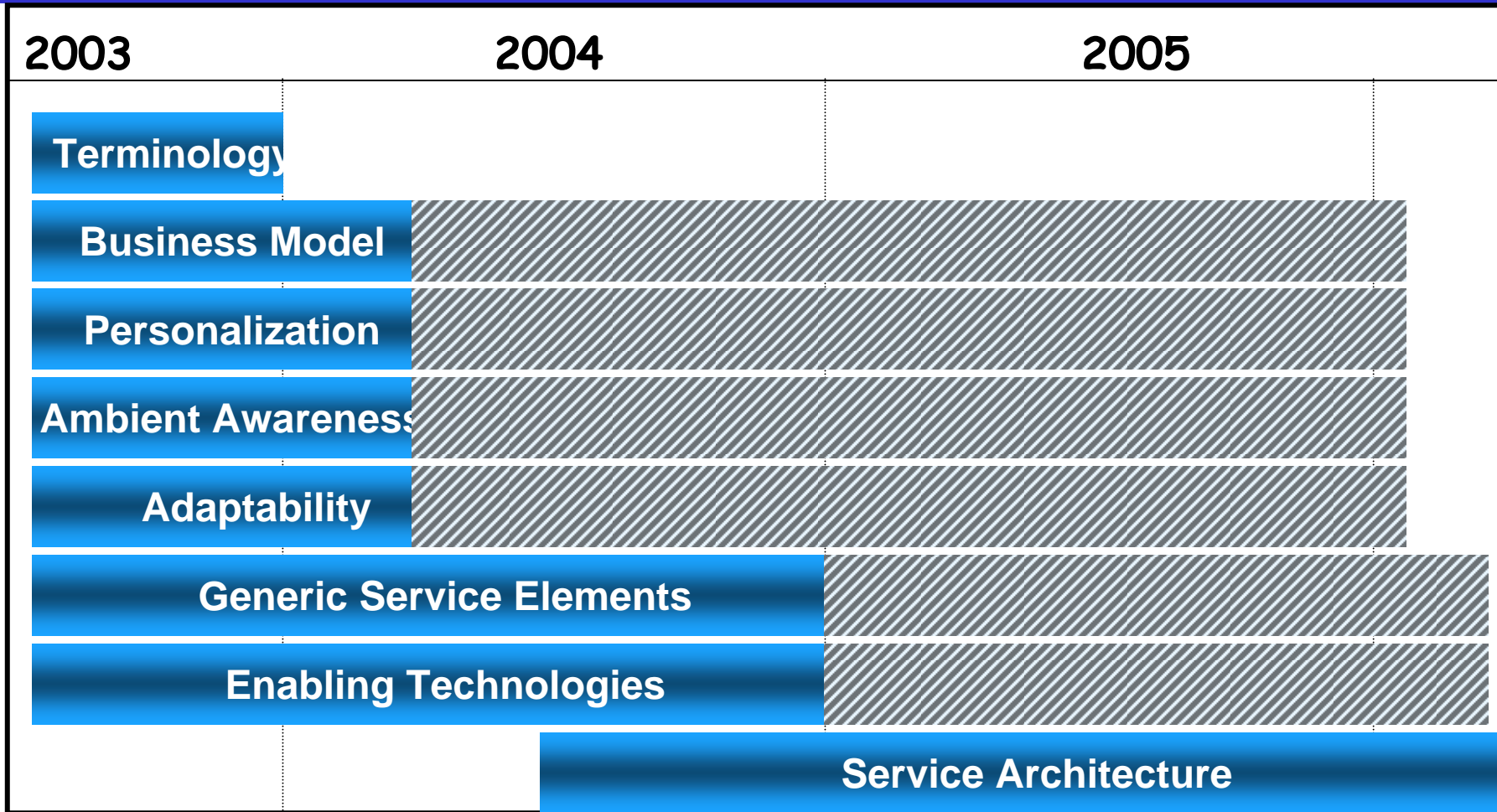
- New Whitepaper
 - ⇒ Architecture (First stable version Q2 2005)

- Interim WG2 meeting in September (today)

- Meeting with mITF in Q4 (continuation of discussion)

White papers

WG2 – Service Architecture



Input on future Wireless World system concept

- ❑ Functional blocks on service platform level

- ❑ Relationships and Reference points between them
→ Architectural Blue Print

- ❑ Identification of enabling technologies & methods

Key Questions

- ❑ What are the future service platform components?
- ❑ What are unique features to be provided by the Telco industry and by the IT industry?
- ❑ What are the requirements of content providers (3rd parties?)
- ❑ How do these long term issues influence today's decisions and systems? What technologies are available?

Approach

- ❑ Derive service platform features from service scenarios
- ❑ Reuse existing scenarios (not develop new ones)
- ❑ Update with WG2 Generic Service Elements WP
- ❑ Identify components and interfaces (and interworking)
- ❑ Use formalized descriptions (UML)

Table of Contents (1st draft)

- changed during the meeting -

1. Motivation (**NOKIA**)
 - Objectives & Scope (refer to existing white papers) problems to be solved
 - Assumptions
 - High level requirements (starting point)
2. Scenarios and use cases (refer to existing scenarios: WG1, WWI, ...) (**NEC**)
 - existing scenarios: WG1, WWI, ...
3. Req for wireless world service platform arch (**Siemens, DoCoMo Eurolabs**)
 - Core competencies of telco industry
 - Role Models / Stakeholder requirements / domains
4. Architecture (**tbd in Toronto**)
 - Design decisions & alternatives
 - System scenario (functions and platforms – ‘the big picture’)
 - Functional aspects (Components and their interfaces)
 - Non-functional aspects
5. Service examples based on the proposed architecture
 - Flow charts, MSCs

**More volunteers
are welcome**



Wireless World Research Forum

Reference Model



User Model &



Appl. Scenarios



Communication Space
(Contexts & Objects)

The Service Platform Architecture covers service support components (such as Generic Service Elements), their relationship and their internal and external interfaces

Ambient Awareness Personalization Adaptation

Service Discovery Service Control Service Provisioning Service Execution Service Monitoring Service Deployment Service Reliability Service Configuration

Application Support Layer
Service Execution Layer

Service Support Layer

Network Control & Management Layer

IP Transport Layer

Networks

Terminals

Service Semantic

Generic Service Elements
for all layers

Service Platform

IP based
Communication
Subsystem

Wired or wireless Networks

Devices and Communication

End Systems

Contributors (so far)

- Siemens
- Ericsson
- Nokia
- DoCoMo Eurolabs
- NEC
- Concordia University Quebec
- Fraunhofer FOKUS
- Telematica
- University of Kassel
- Fraunhofer SIT
- BIBA