



Akogrimo Architecture

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Outline



- Requirements
- Concepts
- Selected Technologies
- The Architecture
- Selected key scenarios and their interworking
- Conclusion

Requirements



- From Business
 - Dynamic composition of service bundles
 - "B2B" and "B2C"
- From Scenarios
 - Seamless mobility
 - Disconnected operations
 - Mobile dynamic VOs
- From BAC
 - Accounting platform
 - Open platform (multiple service provider)
 - Security, SLA and trust
 - Migration path (Telco)

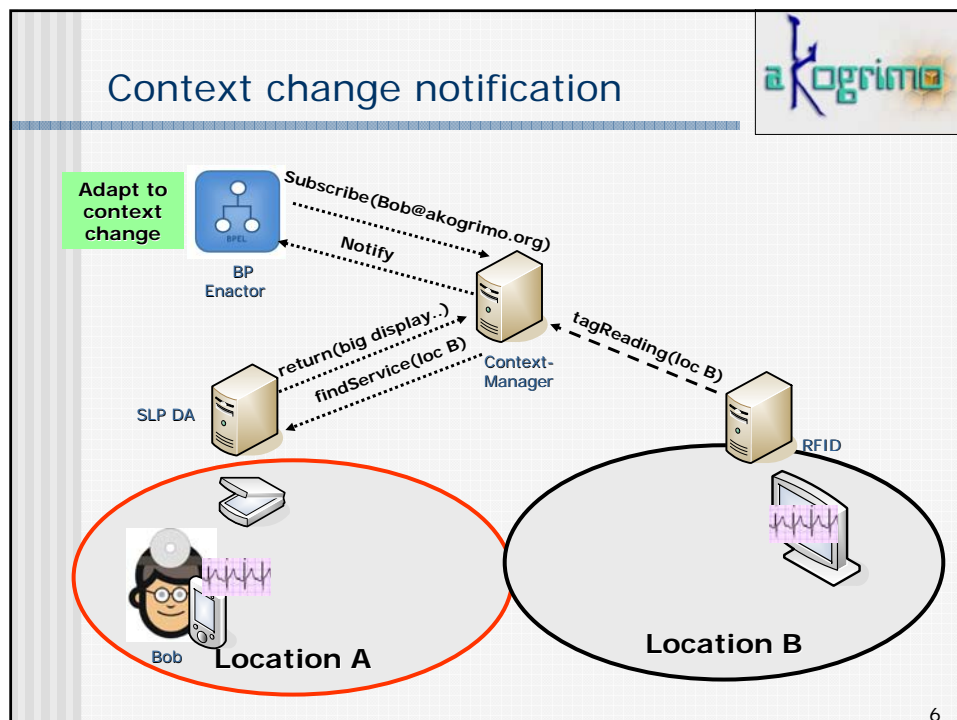
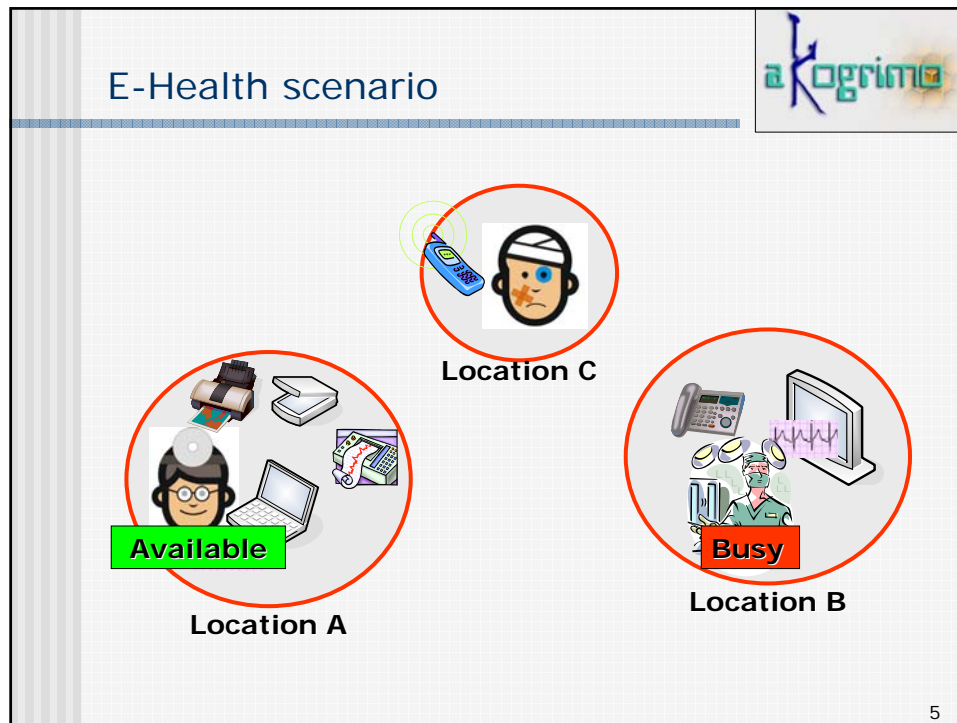
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Selected technical focus areas



- Integration of virtualized Network Services
 - Context
 - SIP Applications
 - Local Service Discovery (e.g. RFID)
- Cross organisational Identity, Authorization and Accounting for all layers
- Adaptive, context aware Workflows
- Dynamic Virtual Organisations
- ...

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Concepts



- Identity, Domain and User Profiling
 - Personalization
 - Privacy
 - Identities
 - SSO
- Mobility
 - Terminal
 - User
 - Session

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Concepts (2)



- Context
 - Device
 - Physical properties (time, location, body temperature)
 - Presence
 - Local Services
- Policies
 - Several levels of the overall resource allocation chain
 - SLA ...

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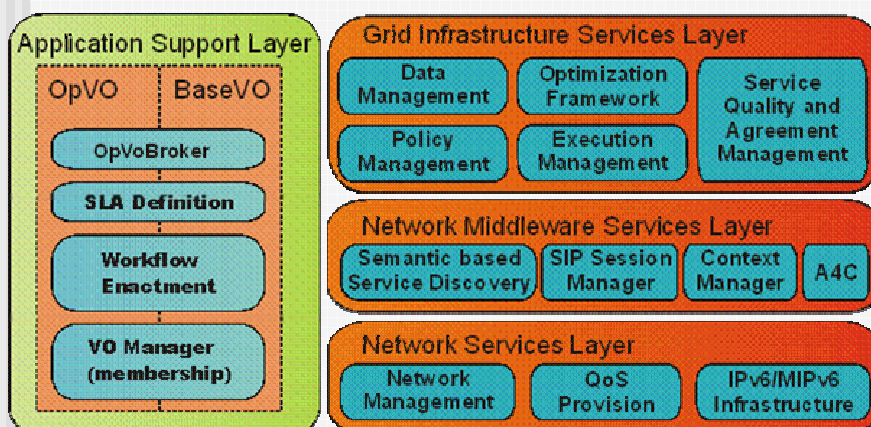
Concepts (3)



- Business Process and Workflow
 - Business process: high level description of a process
 - Workflow: precise definition (in executable form) of a process
- Service Description and Specification
 - Services are “cross-layer bundles”
 - Concatenation of atomic services from different “worlds”
- Akogrimo integrated network (mobility) related context into the workflow execution process

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Architecture at a glance



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Network Services Layer



- MIPv6 – ALL-IP
- Service description
 - Virtualizing network resources on Web Service layer
 - Context provisioning
- SIP based session management
- A4C (PIP) , QoS B (PDP) , AR (PEP)
- Network Resources (DiffServ)

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Network Middleware Layer



- Context
 - Presence, Terminal Capabilities (SIP)
 - Services (SLP)
 - Location (Position) via sensor
 - Personalization (A4C – Step 2)
- Service discovery
 - Grid Service discovery
 - Static, UDDI
 - Local Service Discovery
 - SLP
- A4C
 - SSO
 - Integrated Charging

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Grid Application Support Layer



- BVO Manager
- OpVO Manager
- OpVO Broker
- Registry
- EP Enactment
 - WF Manager
 - WF Registry
 - Monitoring
- High Level SLA
- Application Support ServicesAdvanced reservaton Service

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Selected Technologies



- SAML Based SSO
- ALL-IP instead of IMS
 - Network fully IETF compliant
- Context: SOAP , RFID and SIP
- BEPL
- OGSA
- Globus Toolkit
- WSRF.NET

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Selected Key Scenarios (1)



- Generic Scenarios which are considered as fundamental
- Key scenarios identifies and modeled using SCL/UML Tool TAU

- Akogrimo Log-In
- Service Invocation and Charging
- Base VO Registration
- OpVO Creation
- Context

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Conclusion



- Both communities, Grid and Telcos, need each other
- Grid technology might contribute to new value chains in the Telco network and might come up with the "killer application".
- A mobile, dynamic, IP based and commercially operated network is more (more restrictive) compared to the current Internet.
- A lot of Grid architectures (for tomorrow) are made for the today Internet.
→ This might not work on tomorrow's commercial NGN/4G network

- - > the IST Akogrimo project does a trial ...

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