Regulatory Issues for Mobile Grid Computing in the European Union

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Key Issues

• Trend of mobile grids
  – Next-generation grid system
  – European project Akogrimo

• New technologies and systems
  – Regulations shape legal frame
  – Revisiting of established regulations

Determine relevant regulatory issues for mobile grids in the EU

→ eCommunications framework as candidate
Main Approach

Mobile Grids
- Grid Evolution
- Organization Model
- Roles and Actors

eCommunications
- Framework Organization
- Frame Directive
- Specific Directives

Relevance Assessment
- Three-level Grading
- Principle of Law vs. Roles

Conclusions
Mobile Grid: Grid Evolution

- Computational and Data Grids
  - High-performance computing
  - Research-oriented

- Service Grids
  - Virtualization of resources
  - Across administrative domains

- Mobile Grids
  - Commercial orientation
  - Higher-level resource coordination
  - Pervasive access
Mobile Grid: Organization Model (1)

- Service grid as basis
  - Virtual Organization (VO)
  - Multi-domain service provisioning

- Mobility drives dynamics
  - Mobility support (device, user, session)
  - Context (device, user)
  - Adaptive business processes
  - Dynamic organizational composition

Mobile Dynamic Virtual Organization (MDVO)
Mobile Grid: Organizational Model (2)

Operational VO

Base VO

Provider Pool

Application Pool

Service Pool

Basic Resource Pool

Network

CPU

Storage

User/Customer

Device

Higher-level Resources
Mobile Grid: Roles and Actors

- **Basic VO role model**
  - **Service user roles**
    - User (SU)
    - Customer (SC)
    - Requestor (SR)
  - **Service provider**

- **MDVO provider roles**
  - Network service provider (NSP)
  - Grid service provider (GSP)
  - Application provider (AP)

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eCommunications: Framework Organization

- **Effective 2002**
  - Enacted afterwards by national legislations

- **Regular reviews**
  - First review started 2005
  - Proposals expected 4th quarter 2006
eCommunications: The Directives (1)

- **Framework directive**
  - Convergence of telecommunications, media, IT
  - Harmonized legal frame
  - Electronic communications networks and services
  - Separation of transmission and content
  - Relationship national regulatory authorities (NRA) and providers

- **Authorization directive**
  - Conditions for receiving authorizations
  - General authorization
  - Limit conditions to minimum
eCommunications: The Directives (2)

- **Access directive**
  - Interoperability and sustainable competition
  - Access and interconnection between providers

- **Universal service directive**
  - Universal service
  - Single narrowband connection
  - Quality-of-service and affordable prices

- **Personal data and privacy directive**
  - Fundamental rights
  - Processing of personal data
  - Value-added services covered
## Relevance Assessment

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2006 – M. Waldburger
Conclusions (1)

- **Network service provider**
  - **Highly** relevant
  - Focus on communications networks and services

- **Grid service provider & application provider**
  - Affected at **minimum level**
  - All-IP environment
  - Information Society services uncovered

- **Service user roles**
  - **Partly** affected
  - B2C context
Conclusions (2)

① Limited relevance only

② Integrative view on communications and Information Society services needed

③ Lose set of European regulations instead of consistent legal framework
→ Determines future work
Thank you

for your attention!

Questions

Full paper available at

http://userpage.fu-berlin.de/%7Ejmueller/its/conf/amsterdam06/downloads/papers/Waldburger_Stiller.pdf