

# **FIA – Valencia 15-16 April 2010**

## **FI Architecture**

### **Integrated 6h Session**

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**MANA, FCN, RWI, FISO Working Groups**

Presentation for the 22<sup>nd</sup> January 2010 FIA meeting in Brussels



# Scope : an FI Integrated Architecture Session

- Enable the creation of an European description of FI
- Systemic Viewpoint
- Measure progress of FI design
- Avoid duplication and focus on priority problems
- Common FI Architectural Issues & Seedbeds & challenges
  - Convergent architectures for support for PPP smart application areas
  - Integration and interoperability and orchestration of FI resources and systems (networking, computation, storage, content, context)
  - Architectures for Convergent and Polymorphic Internet [**communication-centric systems, information-centric systems, context-centric systems, resource-centric systems, content–centric systems, service/computation-centric systems, object-centric systems and (self) management-centric systems**]
  - Architectures for planetary scale new systems: Virtual Networks and Service Computing Clouds
  - How to evaluate an FI architecture:  
What are the metric? Value of an architecture? Successful architecture? How to use an architecture?

# **FI Architecture Session Objectives**

- **Review and prioritise Architectural approaches for Future Internet**
- **Analysis of Viable Virtual Platforms (Virtual Networks & Service Clouds) for Future Internet**
- **Realisation of Viable Convergent and Polymorphic Internet**
- **Approach towards standardization of proven concepts**

## **Expected Results:**

- **Creation of an European description of FI**
- **Integrated Research roadmap document “ Toward the design of a European Future Internet”**
- **Priority research challenges & capabilities & orientation**
- **Identify topics/systems for standardisation**

# Draft Agenda (1)

1. **Introduction** & Objectives of the FI Architecture session
2. **Invited 1-2 Talks** “Lessons on Internet Developments ” - 1 hour
3. **Panel 1- Reference Models - 1 hour**
  - 4 presentations on selected topics @ 10 min each
    - Problems with the current Internet & current reference OSI model / why to change
    - Areas of significant growth
    - New reference models (2-3)
    - How to use reference models
  - Q&A - 20 min

# Draft Agenda (2)

## 4. **Panel 2** on FI Promising Architectures – **2 hours**

- **Cleaner slate, evolutionary: progressive approaches and disruptive approaches: 4 selected presentations from existing work of FP7 projects + 2 other presentations @ 15 min each**
  - **2 Networking Architecture presentations**
    - **Virtual Networks**
  - **2 Servicing Architecture presentations**
    - **Service Clouds**
  - **1 Content Networking**
  - **1 RWI presentation**
- **Q&A 30 min**

# Draft Agenda (3)

## 5. **Panel 3** on FI Promising In-systems Management Architectures – 1 hour

- 3 presentations on selected topics @ 15 min
  - Federated Self-management
  - Orchestration
  - Identity Management
- Q&A 15 min

## 6. **Panel 4** on Future Internet Open systems and Standards – 1-2 hour

**Make the FI research less complex and less difficult to transfer into standards and practice**

- 4 presentations on selected topics @ 10min
  - Identify potential needs for standardization or pre-standardization of FI
  - FI in ITU-T FI activities, ETSI activities, IETF activities, OGF activities
  - Directory of FI Open Source S/W + SeedBeds
- Q&A 20 min

# **FI Architecture – Panels'**

## **Questions**

- 1. What are the main architectural bottlenecks in the current Internet?**
- 2. What are the first 7 challenges/problems to be fixed?**
- 3. How to interwork Future Internet with Current Internet?**
- 4. How to deploy novel features?**
- 5. What are the deployable major new systems? How to deploy new major systems?**
- 6. How to make the FI research less complex and less difficult to transfer into practice?**
- 7. What can we learn from the last 40 years of evolution Internet and its management? Proposals for research directions?**