Management aspects of virtualisation business scenarios

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Today's and Future Internet challenges

Current Challenges

- Operators manage and maintain network infrastructure through a diverse and high number of Network Management Systems
- Human factor is dominant in the network management process
- Lack of simple, cost efficient, end-to-end management solutions

Future Internet

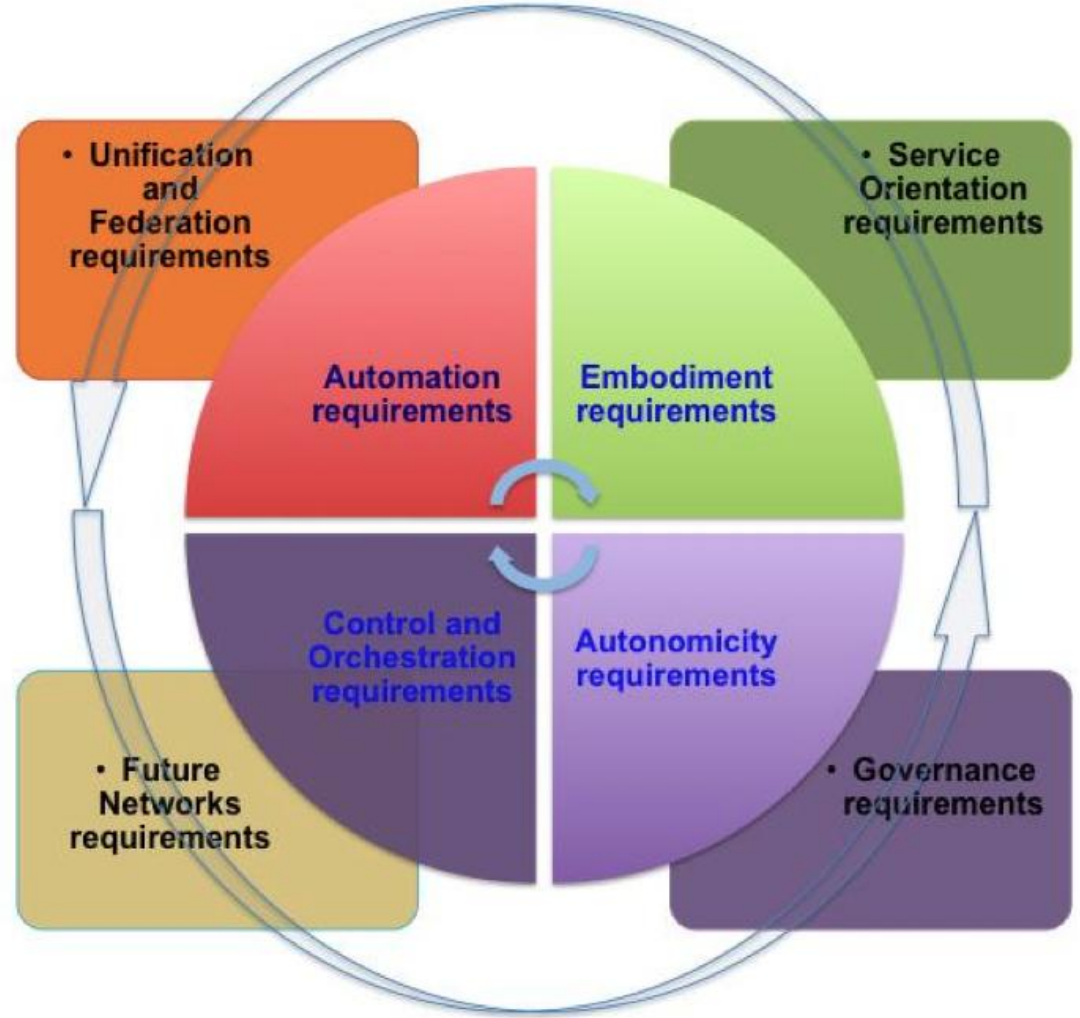
- Heterogeneous interconnected devices
- Greater distribution of intelligence
- Added complexity: technological and management

Autonomic networks

- Achieve the desired levels of dynamicity, efficiency and scalability to manage current and future networks
- Shift to a service-enabler and/or service-centric approach focusing on end-user satisfaction fulfilling current and future demands
- 10+ years of research, but little impact on market adoption – What is missing?

Unified Management Framework

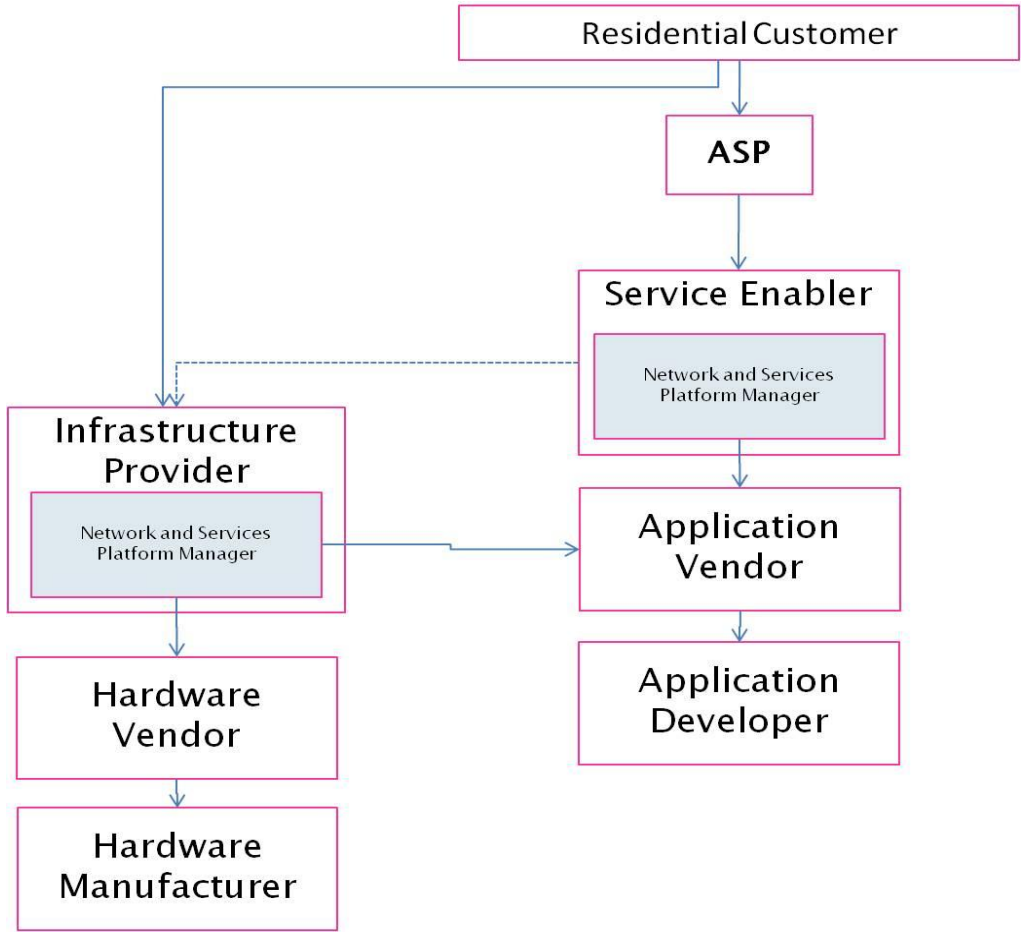
- **UMF is a framework that will help produce the plug and play of networking autonomic solutions within existing and future management ecosystems**
  - Includes a **repository** of **guidelines**, **patterns**, **models**, **specification** and **IT tools** to support development of UMF compliant systems
  - In this context, "framework" means an **architecture** and **methodology** which can support business, system, and implementation views of autonomic networking solutions



UMF Requirements

Application on a Network Operations as a Service Scenario

- **Centred on managing a network and/or service platform:**
  - The customers of this service might be entities **owners of network fabric** and entities **leasing the network fabric** and providing basic services, tools and **virtual resources** to ASPs
  - Integration of **autonomic functionalities** facilitating the **management of physical and virtual resources** in heterogeneous environments
  - Specific story: A group of friends willing to play a social game using an interactive gaming application made available by an ASP



Business Issues - Network Operations as a Service Scenario

- **UMF facilitates a flexible model of network infrastructure sharing and composition**
- **UMF and autonomic functionalities facilitate the decoupling of networks' ownership, operation and service provision activities**
- **Potential bottlenecks: the interplay between actors seems at risk if no incentives are in place to engage Hardware Manufacturers and Infrastructure Providers in network virtualisation services and UMF adoption**
- **Questions:**
  - What is the impact of new business roles on service's liability?
  - Who is the guarantor?
  - Which incentives could be considered to engage Infrastructure Providers?
  - Which incentives could be considered for Hardware Manufacturers/Vendors for UMF adoption?
  - Would standardisation of interfaces between actors lower the barriers for adoption?

Thank You!

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