Unified Business Modelling for FI ecosystems

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OUTLINE

☑ UniverSelf overview
☑ Business Modeling in UniverSelf: Objectives and Workplan
☑ Approach - Methodology
☑ Use cases and Business Scenarios
☑ Business Modeling - MACTOR
☑ Towards a reference model
☑ Next Steps
UniverSelf will consolidate autonomic methods of the Future Internet for business-driven, service and network management into a novel Unified Management Framework (UMF) evolving through cognition.

Project Structure

- WP1: Project Management,
- WP2: Unified Management Framework
- WP3: Network Empowerment
- WP4: Deployment and impacts
- WP5: Trend Setting
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:
Business Modeling in UniverSelf: Objectives and Workplan

Impact through Business Research: Ecosystem modelling approach

Go beyond UniverSelf: Propose a unified reference model

- Reflecting UniverSelf scope (federation, UMF)
- Developed in a modular and extensible way
- Incorporating business considerations coming from other projects in the area of FI/FN
- Capturing similar business analysis approaches based on identified cross points
Business Ecosystem

- Economic community that is supported by interacting organizations and individuals.
- Composed around value propositions and revenue sources
- The community provides value to ecosystem members - customers.
- The ecosystem incorporates suppliers, providers, competitors.

Business Roles

- Discrete Role: provides value to consumers and gets paid by consumers
  - Primary Goal: Enhance Revenue
- Embedded Role: provides support to embedding roles and gets compensated by them
  - Primary Goal: Reduce Operating Costs

Business Modeling is based on roles

- Atomicity
- Modularity
**Business Model Configuration Matrix**

<table>
<thead>
<tr>
<th>CONTROL PARAMETERS</th>
<th>VALUE PARAMETERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Combination of Assets</td>
<td>Modular</td>
</tr>
<tr>
<td>Concentrated, Distributed</td>
<td>Centralised, Distributed</td>
</tr>
<tr>
<td>Vertical Integration</td>
<td>Revenue Model</td>
</tr>
<tr>
<td>Integreated, Disintegrated</td>
<td>Direct, Indirect</td>
</tr>
<tr>
<td>Customer Ownership</td>
<td>Interoperability</td>
</tr>
<tr>
<td>Direct, Indirect</td>
<td>Yes, No</td>
</tr>
<tr>
<td>Value Network Parameters</td>
<td>Functional Arch. Parameters</td>
</tr>
<tr>
<td>Financial Model Parameters</td>
<td>Value Configuration Parameters</td>
</tr>
</tbody>
</table>

- Successfully tested and implemented to map stakeholder strategies, relationships of power and potential alliances and conflicts in various business cases.
- Extended here with the Business Model Configuration Matrix in order to take into account business control and value parameters.
UniverSelf technical scope - Use Cases

- Use case 1: Self-Diagnosis/Healing for IMS VoIP & VPN
- Use case 2: Networks' Stability and Performance
- Use case 3: Dynamic Virtualization and Migration of Contents and Servers
- Use case 4: SON and SON collaboration according to operator policies
- Use case 5: Network Morphing
- Use case 6: Operator-governed, end-to-end autonomic joint network and service management
- Use case 7: Network and services governance
UniverSelf Business Scenarios

- Business Scenarios extracted from Technical Use Cases
- Impact Analysis and Business Modeling are driven by those Business Scenarios
- Business Scenarios
  - Network and Service Governance
  - Networks’-Operations-as-a-Service
  - Managing End to End QoS
  - Network infrastructure sharing

Poznan, 27 October 2011
Applying Methodology to Business Scenarios

UBM-based Business Model

Business Model Configuration Matrix

Multi-Actor Analysis Method (MACTOR)

Poznan, 27 October 2011
A network operator willing to provide IPTV services to its customers

- Use of a network governance framework for the management of an IPTV service, deployed in a fixed FTTH autonomic network
- A framework for managing an autonomic network with network supervision and control tools
- Network governance is meant to provide mechanisms for the operator to adjust the features of the demanded service/infrastructure using a high level language

**UBM Roles**

- Fixed Network Operator (FNO)
- Product Manager Department (PMD)
- Operator Call Center (OCC)
- Network Operation Center (NOC)
- Hardware Manufacturer (HWM)
- Hardware Vendor (HWV)
- Software Manufacturer (SWM)
- Software Vendor (SWV)
- IPTV Platform Provider (IPTV PP)
- IPTV Service Provider (IPTV SP)
- Content Provider (CP)
- Application Service Provider (ASP)
- Residential Customer (RC)
The Residential Customer pays the FNO for the IPTV service provision and set-top box and the ASP for the use of applications, which can be deployed on the platform;

The FNO acquires from the HWV hardware components (network equipment and servers) for the IPTV service provision;

The ASP also uses SWV software modules to provide added-value applications (i.e. games);

The IPTV SP takes the IPTV platform, the TV channels and applications and offers the composite product to the FNO and distributes revenues with the IPTV PP, ASP and CP.
Network and Service Governance Scenario (3)

**Business & Strategic Objectives**

1: Reduce Time to Market
2: Reduce Complexity
3: Increase Customer Satisfaction
4: Meet Service Level Objectives
5: Reduce Operational Expenditures

**Actors’ positions over Objectives**

<table>
<thead>
<tr>
<th></th>
<th>OBJ 1</th>
<th>OBJ 2</th>
<th>OBJ 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>FNO</td>
<td>+3</td>
<td>+1</td>
<td>+2</td>
</tr>
<tr>
<td>RC</td>
<td>+1</td>
<td>0</td>
<td>+3</td>
</tr>
<tr>
<td>IPTV PP</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>ASP</td>
<td>+1</td>
<td>0</td>
<td>+2</td>
</tr>
<tr>
<td>CP</td>
<td>0</td>
<td>0</td>
<td>+2</td>
</tr>
<tr>
<td>HWV</td>
<td>+2</td>
<td>+2</td>
<td>0</td>
</tr>
<tr>
<td>HWM</td>
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<td>-1</td>
<td>0</td>
</tr>
<tr>
<td>SWV</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>SWM</td>
<td>0</td>
<td>0</td>
<td>0</td>
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</table>

-4: Strong opposition; +4 Strong agreement

**Convergences & Divergences of Actors**
Network Operations as a Service Scenario (1)

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.

UBM Roles

- Infrastructure Provider (IP)
- Service Enabler (SE)
- Network and Services Platform Manager (NSPM)
- Application Vendor (AV)
- Application Developer (AD)
- Hardware Vendor (HWV)
- Hardware Manufacturer (HWM)
- Application Service Provider (ASP)
- Customer (C)
Network Operations as a Service Scenario (2)

- **IP** still sells “raw connectivity” to end-users; however, service provision is mainly performed through the SE which shares revenue with the IP and AV; both the IP and the SE embed the NSPM role for the corresponding platform’s management;

- **IP** pays the HWV for hardware provision which in turn shares revenue with the HWM for hardware devices provision;

- **ASP** provides application and content services through the SE platform resulting in corresponding revenue sharing between them.
Network Operations as a Service Scenario (3)

Business & Strategic Objectives
1: Improve Service Efficiency
2: Reduce Complexity
3: Reduce Operational Expenditures
4: Reduce Capital Expenditures
5: Reduce Operational Expenditures

Objectives
1. Improve Service Efficiency
2. Reduce Complexity
3. Reduce Operational Expenditures
4. Reduce Capital Expenditures
5. Reduce Operational Expenditures

Actors' positions over Objectives

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<td>0</td>
<td>+1</td>
</tr>
<tr>
<td>SE</td>
<td>+3</td>
<td>0</td>
<td>+1</td>
</tr>
<tr>
<td>NSPM</td>
<td>+2</td>
<td>+2</td>
<td>+2</td>
</tr>
<tr>
<td>AV</td>
<td>+1</td>
<td>+1</td>
<td>0</td>
</tr>
<tr>
<td>AD</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>HWV</td>
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-4: Strong opposition; +4 Strong agreement

Convergences & Divergences of Actors
Draft “FI-UBM”

(Fixed) Network Operator /Infrastructure Provider

- Project Manager Team
- Operator Call Center
- Marketing Department
- Provision and Assignment Center
- Network Operation Center

Network and Services Platform Manager

Residential Customer

Application Service Provider

Service Enabler

Network & Services Platform Manager

IPTV Service Provider

IPTV Platform Provider

Content Provider

Application Vendor

Application Developer

Software Vendor

Software Manufacturer

Hardware Vendor

Hardware Manufacturer
Next Steps

Within UniverSelf
- Elaborate on the rest Business Scenarios
- Revisit Roles classification (discrete – embedded) under the overall context
- Update FI-UBM
- Mactor Analysis

Outside UniverSelf
- Challenge FI-UBM against other research projects in the FI (e.g. SESERV)
- Propose Reference Business Model for Future Internet Ecosystem
- Next FI week!
Thank You!

Visit the project’s website for more information

www.univerself-project.eu