



# Workshop on Network Virtualization: Contribution to Orchestration issues group

F.-Joachim Westphal, Deutsche Telekom



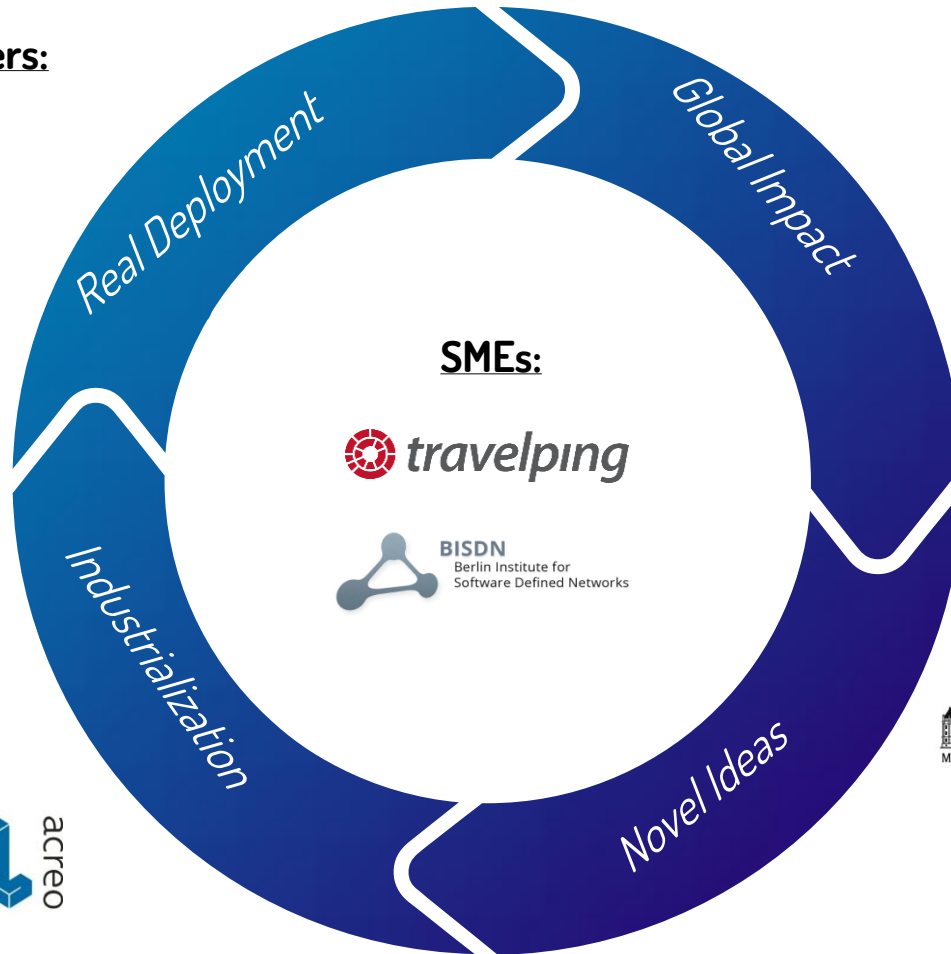
# The UNIFY project (Nov 2013 – April 2016)



## Major Service Providers:



## Research Institutes:



## Major Vendors:



## Universities:



Project Management: **eict**

<http://www.fp7-unify.eu>

# Unifying Cloud & Carrier Networks.

## Why?

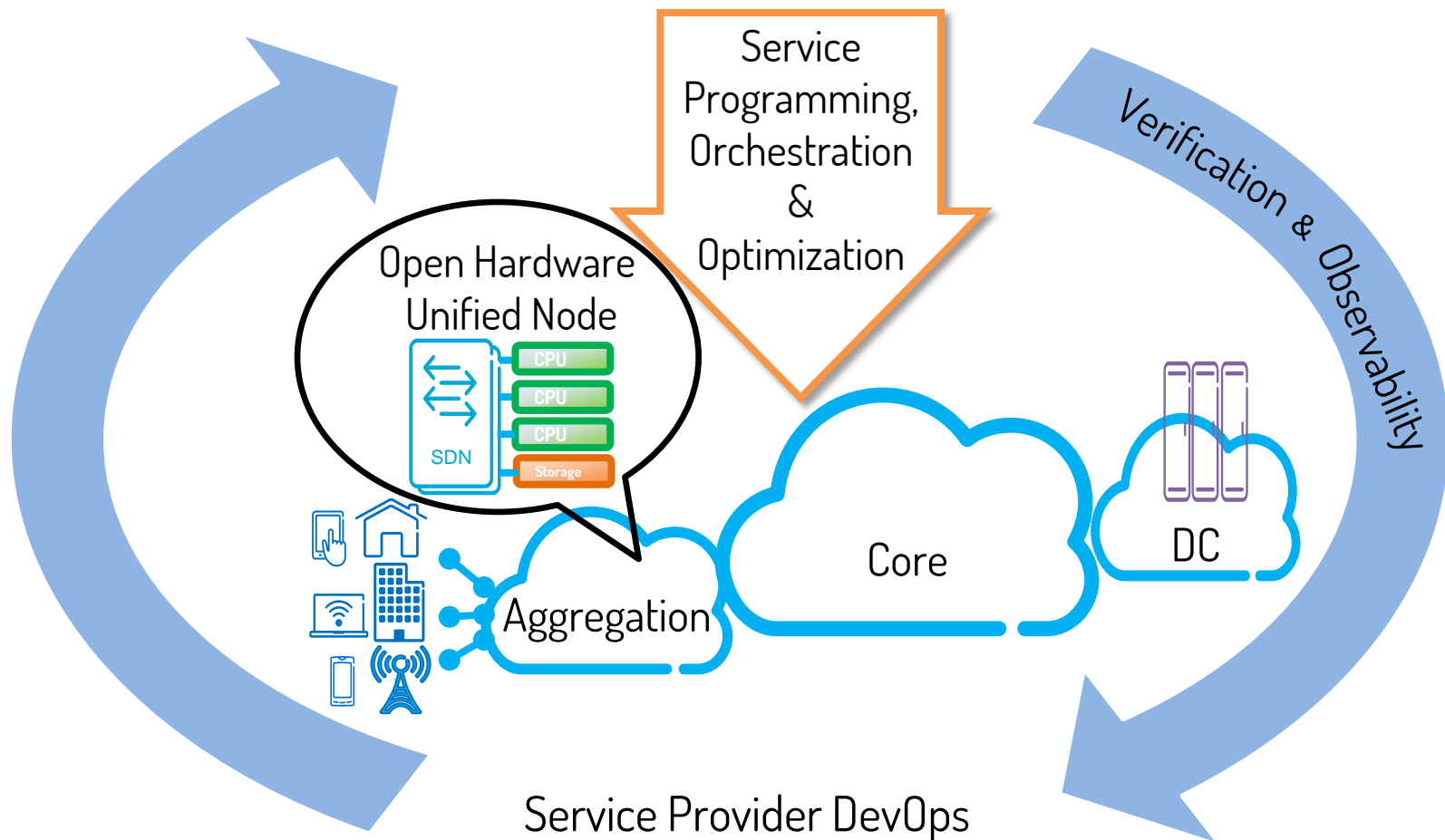
“Today, rigid network control limits flexibility of service creation.”

- Operators view: **agility** (velocity), **flexibility** (granularity), **simplicity** (automation), **scalability** (lower OPEX), **integration** (shareconomy)
- Users view: **quality** of experience, rapid **provisioning** of elastic services, on-demand **SLA** configuration & monitoring, “**Follow-me**” services

## How to?

- Virtualization of networks and network functions (NFV)
- Programmability (services and nodes)
- Dynamic service chaining (end-to-end)
- COTS node (universal node)
- Service Provider DevOPs

# VISION: FLEXIBLE, AUTOMATED SERVICE PROGRAMMABILITY.



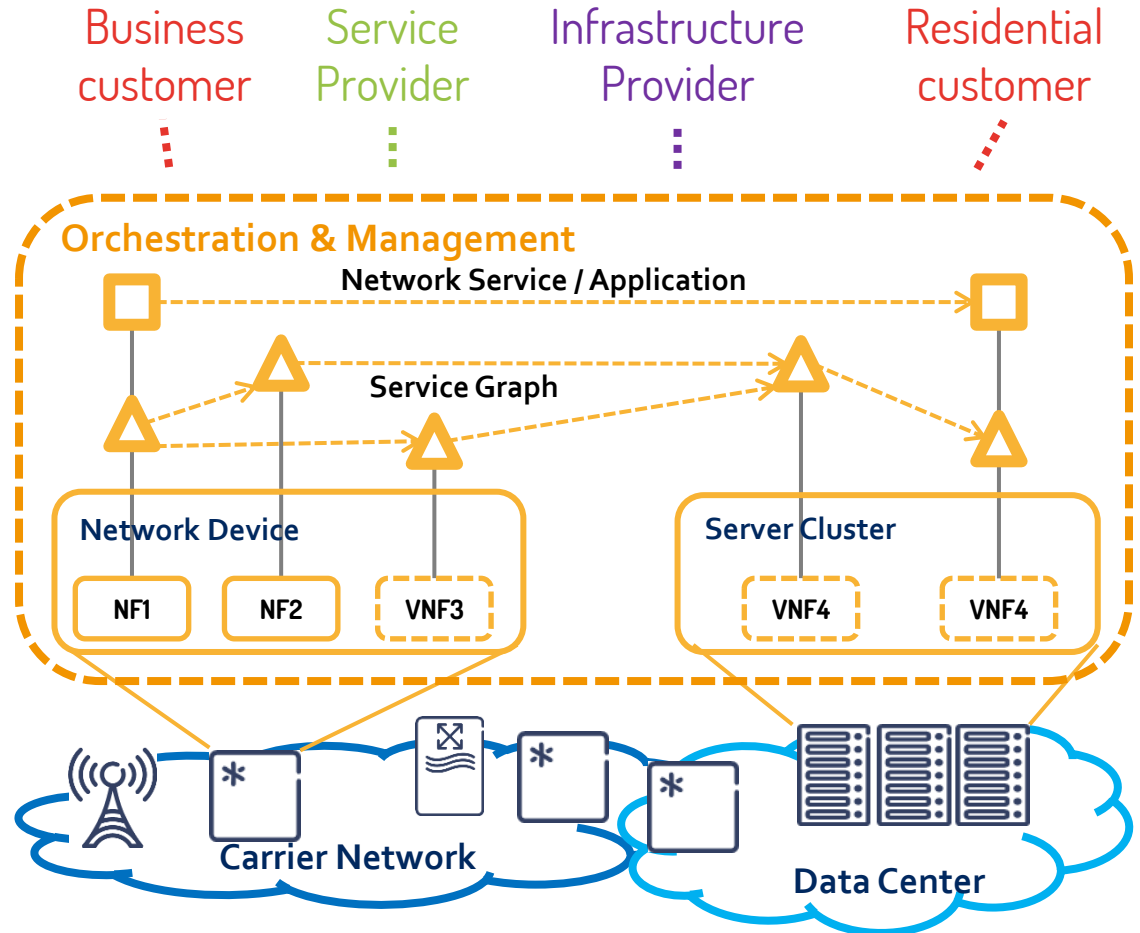
# Overview Use Case Groups.



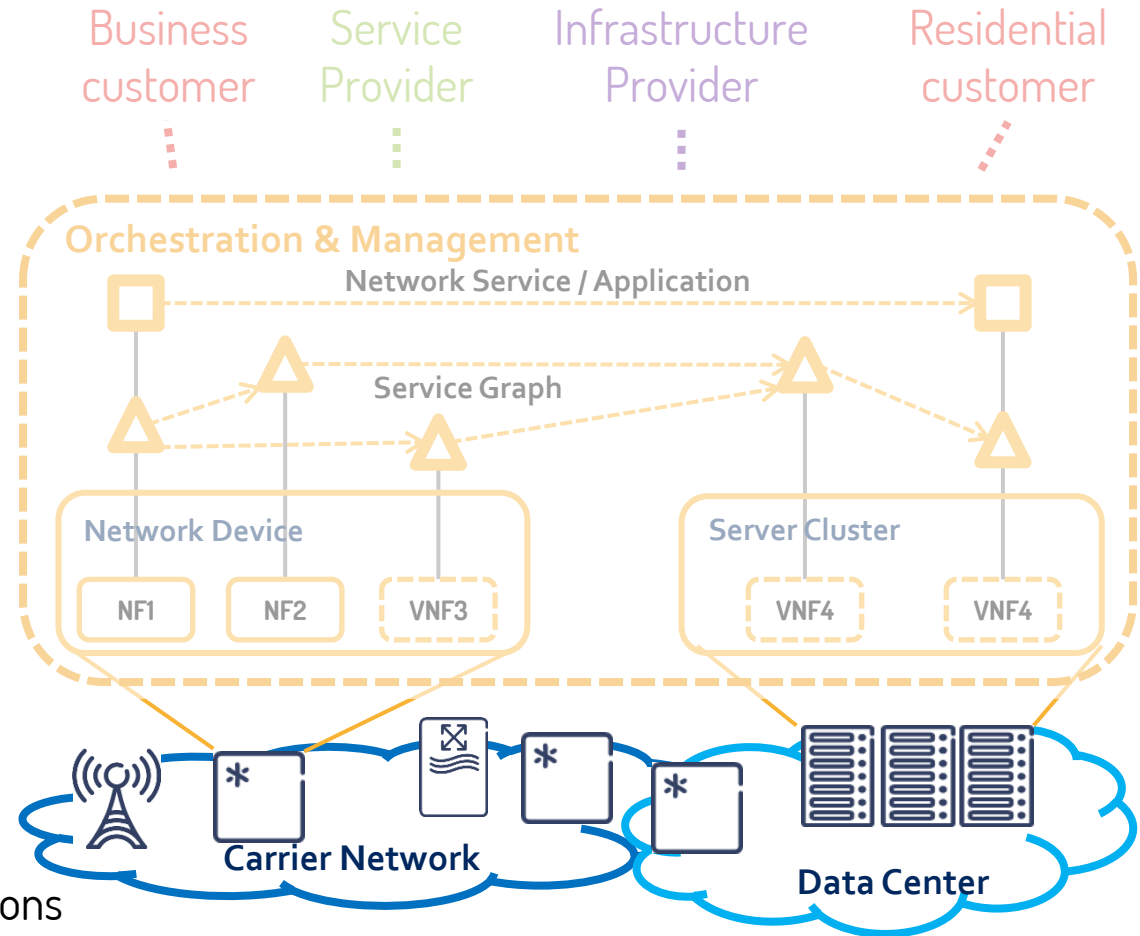
UC Group3:  
Invocation of Dynamic  
Service Chains

UC Group2:  
Dynamic Service Chains

UC Group1:  
Infrastructure Virtualization



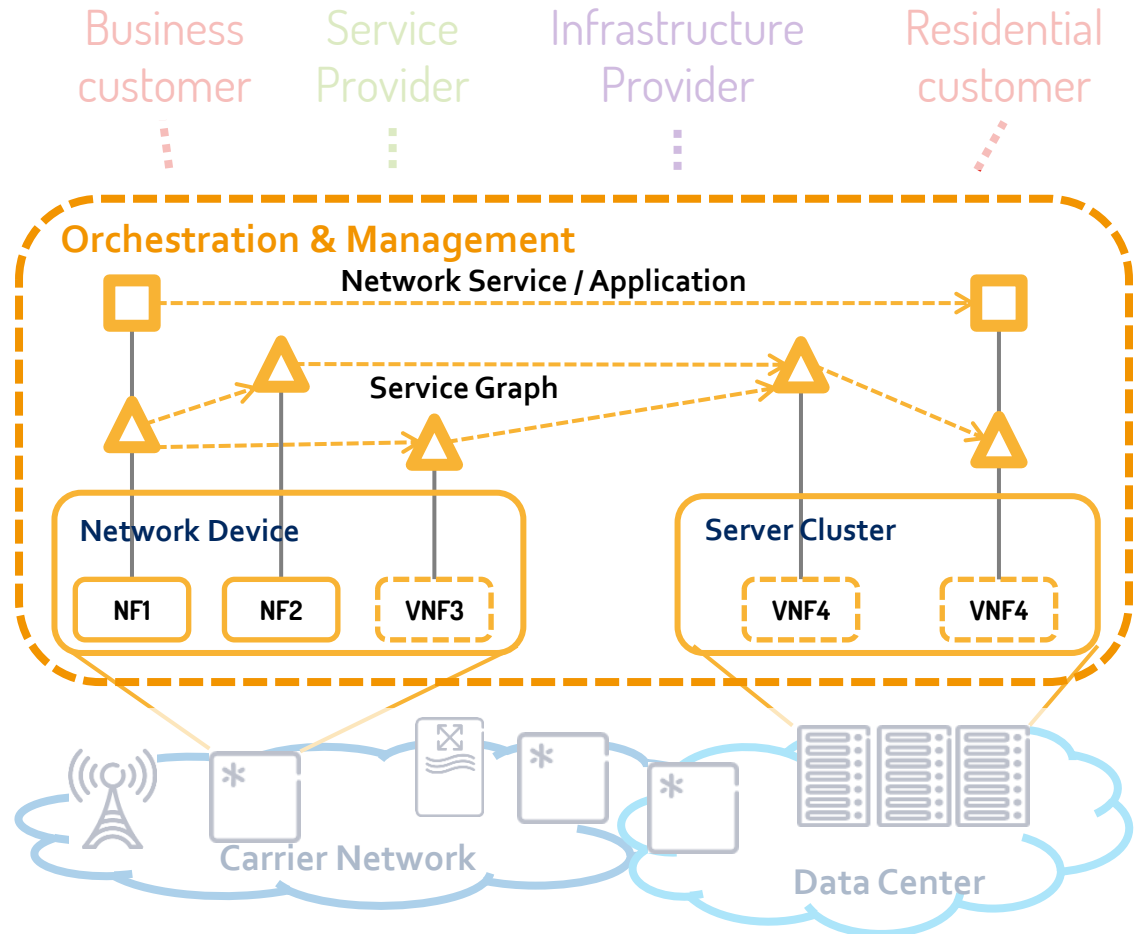
# UCGroup1: Infrastructure Virtualization



- Generic hardware based on standard x86
- Instantiation of network functions

# UC Group2: Dynamic Service Chains.

- Service graphs combining network functions
- Integration of existing and virtual network functions
- Abstraction allowing programmability



# UC Group3: Invocation of Dynamic Service Chains



- Multi-provider support
- Self-Service support for end-customers

