Towards Self-management in Software Driven Networks

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The rapid and continuous evolution of network technology and changing user requirements drives the research community to explore new concepts and paradigms for Future Networks that need to be addressed in the following 5-10 years. The final goal of the research and development is to devise a flexible, scalable, and robust end-to-end smart integrated network, which addresses the requirements coming from both users and operators, and is able to cope with the changes and constraints imposed by both fixed and wireless access infrastructures.

This challenge could be fully realised through Software Driven Networking (SdNET) or Software Defined Networking (SDN) – a programmable network infrastructure that support service and management-aware characteristics as software driven features, which can be instantiated on-demand, based on the changing requirements and resource constraints. SdNET design goals, would include: network programmability and elasticity; integrated virtualisation and control of connectivity, storage and processing resources; In-network Self-Management.

This presentation will further elaborate on these backgrounds and perspectives as they are identified by the ITU-T recommendation Y.3001 “Future Networks – Design Objectives” (http://www.itu.int/en/ITU-T/focusgroups/fn/Pages/Default.aspx), Open-Flow Networking (http://www.openflow.org/) and other initiatives. This presentation will emphasis on self-management technologies and architectures as they apply to SdNETs.

An example on Self-Management of SdNETs will be analysed and presented/demonstrated as one of the results achieved in the European research project FP7 Universal (http://www.univerself-project.eu/).