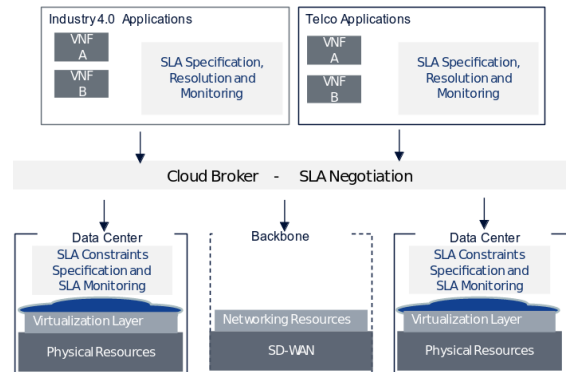




# Service Level Agreement Specification and Resolution for Policy-based Security Management

## Background

In the SENDATE project ([www.sendate.eu](http://www.sendate.eu)) one of the main research topics is policy based security management for distributed Telco and IT cloud environments. Distributed cloud networking enables the deployment of a wide range of digital services in the form of elastic software functions instantiated over general purpose hardware at distributed cloud locations, and interconnected by a programmable network fabric. However, fundamental issues related to security and fulfillment of Service Level Agreements (SLAs) are not yet fully addressed.



## Research

This research subject focuses on SLA specification and the SLA resolution process. Today, few security services have been specified in terms of SLAs and this raises the question if security can be adequately expressed in the SLA context. The goal is to generate meaningful SLAs for security management activities (e.g. Intrusion Detection). The SLA resolution process will identify the required infrastructure resources for those SLA requirements and define corresponding policies for security management to enable automatic enforcement.

## Task

- Explore the security relevant SLAs in today's IT environments (IaaS, SaaS).
- Define a preliminary set of categories for security relevant SLAs in modern Telco and IT environments (e.g. for monitoring use case).
- Translate SLA requirements into technical manifestations for provisioning the underlying infrastructure.

## Organization

### NOKIA Bell Labs

This Master Thesis is conducted in cooperation between Nokia Bell Labs and TUM as part of the SENDATE-PLANETS project. Nokia Bell Labs will lead the supervision, an accompanying internship contract with Nokia is possible and desirable. Preferably you will work at Nokia Bell Labs most of the time and have regular exchange with the advisors from TUM. Language for work documentation and Thesis is English.

## Contact

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