EU ICT 2018

Networking Session

- December 4th, 2018
- Stakeholder interaction and feedback

Outline

- **Part one: questions to the plenary**
- Part two: feedback forms
- Part three: Q&A during the intro session

What do you want to achieve in future with networking solutions within your business

- Automated vertical-oriented slice creation
- Open APIs for network slicing provided to Over-the-Top players
- Dynamic slice optimization based on QoS monitoring
- Dynamic management of resources and SLAs conformance
- Multi-service control layer implementation
- Reliability on wireless networks like on real-time ethernet networks
- 1msec latency
- URLLC reliability 99,99%
- Better power efficiency

What are the problems with your current network solution (if applicable)?

- Availability
- Latency
- Throughput
- Loss
- 99,99% is not achievable for URLLC use cases with current technologies
- Translation of application requirements to network slice requirements
- No means for formal modeling and translation
- Roaming between MNOs (to achieve E2E roaming for services)

Which of the presented use cases / applications do you see as relevant for your business / company?

- Smart Sea Port use case, in particular URLLC
- Smart Sea Port – all use cases
- Both testbed‘s use cases

What is your opinion on network slicing as appropriate solution covering your needs?

- Neutral host for RAN
- Very effective if integrated with dynamic control
- Opening the network resources and infrastructure for other service providers to deploy their solutions, based on SLAs

Which further use cases / applications do you see as relevant for your business / company?

- Health and safety control of refineries
- MTC scenarios for emergency situation applications – how can network slicing be used for this?
- Cost-effective rural coverage
- Drones traffic management
- Coverage extension through mobile base stations carried by aerial vehicles / drones

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Session feedback
Questions

1. How was your overall impression of the networking session
   a) Informative: IIIIIIIIIII
   b) Interesting but not applicable to my business
   c) Needs improvement
2. Could we boost your understanding of the potential of 5G network slicing?
   a) Yes: IIIIII
   b) Somewhat: IIIIII
   c) Not really – I was missing:
3. Which business / technology area do you come from?
   - Regulator
   - Manufacturing
   - TV Station
   - Oil refineries
   - Construction companies
   - Telecom – PHY
   - Automated driving
   - Video streaming, Over-the-Top VoIP, QoS
   - Mobile roaming services https://www.starhomemach.com/
   - 5G Research / Academia
   - Software
   - Communication technology

Session feedback
Questions

4. Which other use cases beyond the mentioned ones would be of interest for your future business
   - Medical
   - Anything related to smart cities and outdoor scenarios
   - Transport safety on rural roads
   - Application level slicing
   - Dynamic slice optimisation
   - Robotics / autonomous vehicles
   - Cloud provider & operator perspective
   - Media: filming sports events
   - MTC highly reliable use cases

5. What is your driving viewpoint?
   a) Business relevance: IIII
   b) Technical applicability: IIIIIII
   c) Ease of use: I
   d) Other

6. Any further feedback / recommendations?
   - Great presentation & interactive session
   - Nice presentation and very responsive representations of the project
   - Well done ☺
   - We would be interested in an open platform that can be used to test our use cases and appliations

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Questions

- Could the use cases in the Smart Sea Port and Turin testbeds not actually be implemented with current networks (4G) yet?
  - 4G networks' technology cannot fulfil the requirements in particular with respect to reliability and flexibility, and 4G does not provide network slicing, i.e., logical independent and isolated networks with use case / application specific functionality (etc, etc)
- Resilience in the Smart Sea Port testbed – how is this achieved? Is this already possible with legacy networks?
  - The dual / multi-connectivity feature is developed as part of 5G-MoNArch and cannot be simply implemented with LTE as it requires considerable modifications of the protocol stack
- Are the slices in the Turin testbed fixed in terms of their setup, or are they flexible?
  - The slices themselves are fixed, but the network functions and their allocation is flexible as foreseen in the concept
- Which frequencies do we use?
  - 700MHz (LTE PHY) in Hamburg (Macro coverage), 3.5GHz in Turin (Pico coverage)
- Who is providing the core network for the testbeds?
  - For the Smart Sea Port testbed, there is a full core network deployment (local Edge Cloud in Hamburg + Central Cloud in Nuremberg) using the data centre infrastructure of Deutsche Telekom and commercial AirFrame servers from Nokia
  - For the Touristic City testbed, there is a small-scale local core network deployment dedicated to the testbed, as the testbed is not connected to the operational core of TIM


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