OSM 5G Day (Lucca, Nov’19)
5GaaS: 5G as a Service
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Telcos & Verticals have evolved differently...
Creative extension of takeaway

3rd Party (Vertical/Customer with IT skills)

You don’t speak my language!

Virtual Reality
Extended Reality
6 Degrees of Freedom
Point Cloud

User Plane Function
Session Management Function
gNodeB
Edge Cloud

Network Functions
Orchestrator

Source: 3GPP

Existing: 5G infrastructure at telecom operator

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Serious presentation from now on
5GaaS is a layer on top of existing 5G infrastructure to enable simple access and 3rd party innovation.

3rd Party (Customer/Vertical with IT skills)

**Generic** 5GaaS platform with open API specification

**Infrastructure Controller** to make platform vendor-independent

**Existing** 5G infrastructure at telecom operator

**Orchestrator**

**Network functions**

**API**

**Upload composed service**

**Available templates**

**Intent Engine** - translate “8k live video” to “VM with GPU in Datacenter X”
5GaaS enables customers to compose their own 5G services in a simple way

Operator defines elementary 5G building blocks

Templates are created based on pre-defined 5G building blocks by operator (or 3rd party)

Using the templates with some degrees of freedom, 3rd parties (with IT skills) can compose their own services

Analogy from other domain

5G building blocks
5GaaS template.yml
5GaaS compose.yml

Defined by operator

Created by 3rd party
Quick and easy service delivery

Example: “Upstream journalist case”

- A service provider (SP) wants to provide an upstream video service on demand (“pay as you go”)
- …also in case of an unplanned incident (e.g. “Breaking news”)
  - On the spot, live
  - Quick setup
  - Premium service (pricing: high)
5GaaS: Upstream Journalist example

- Service template in understandable language
- Choose video quality, latency, location,…
- 5GaaS does a heavy lifting
Under the hood...

"description": "A ready-to-deploy description of the upstream journalism infrastructure",
"endpoints": {
  "mobile": {
    "camera": {
      "name": "Camera",
      "networks": [ "camera" ],
      "max_instances": 3,
      "features": [],
      "locations": [ "Groningen" ]
    },
  },
  "service": {
    "nass": {
      "name": "Network Assistance Server",
      "image": "tno-nass:latest",
      "max_instances": 1,
      "networks": [ "nass" ],
      "locations": [ "Groningen" ]
    }  
  },
  "networks": {
    "mobile": {
      "camera": {
        "name": "Camera link",
        "ingress": {
          "throughput": 20000000,
          "latency": 100
        },
        "egress": {
          "throughput": 128000,
          "latency": 100
        }
      }
    }
  }
}
Current status: PoC v0

- Very first implementation
  - 3 deployable templates
  - Stubs and mock-ups (no intent engine etc.)
- OSM as orchestrator
  - No connection (yet) to Service Assurance
  - new interesting Placement Module on a way
- Looking for feedback

Available templates

3rd Party (Customer/Vertical with IT skills)

Upload specific composed service

Video Aggregation
VR streaming
Simple IoT sensor

Infrastructure Controller

Orchestrator
Network Functions

5GaaS

API
Summary

• 5G offers possibilities of creating new exciting services
• 5GaaS ambition: make this process quick and easy
  • Idea seems to be ‘in the air’ within (broad) community
• Feedback is welcome
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