8th OSM Hackfest
Demo 0 - OSM in action!
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• Dutch national research institute, ~3500 people, 9 Units
• Connects business, academia and government for research and innovations
OSM in action!

- From standards and models to applications
- Please note this is demo session, hands-on sessions will follow
Design, deploy, operate – from one place

- **OSM ambition: provide end-to-end solution for services:**
  - Design: components, functions, constraints
  - Deploy: initial configuration and actual instantiation
  - Operate: run-time (re-)configuration
Composition: VNFD

- VNFD – Virtual Network Function Descriptor
  - VNF ≈ Virtual Machine, performing certain function (e.g., HTTP server)
  - VNFs – building blocks of Network Service
  - Descriptor: VNF characteristics
    - CPU/memory/storage/network interfaces
    - Configuration script
    - Relations with other VNFs
Composition: NSD

- **NSD: Network Service Descriptor**
  - Groups VNFs to provide service (e.g., HTTP server and HTTP client)
  - Provides topology information
  - Structured text file – fulfils Infrastructure-as-a-Code Principle
    - Versioning, sharing, reproducibility
Instantiation

- Composed model in instantiated in cloud backend
  - Create VMs, create networks, configure VMs
- The same model good for Openstack, VMware, AWS, …
Instantiated VMs are configured and operated by *juju charms*
Actions: interaction with VNF

• Actions
  • Allow to expose certain operations

• Examples
  • Create new file on HTTP server
  • Stop HTTP server
Advanced service deployment

• Service for experimenting with 6DOF VR video…
• …running on top of Fraunhofer Open5GCore
• …with emulated eNB and emulated UE
• Outcome of TNO activities in:
  • 5Groningen Project
  • OSM PoC#4 (w/Canonical)
  • H2020 5GINFIRE 5GMedia Vertical
5G Edge Masker

- 6DOF VR – bandwidth hungry and delay sensitive
- Instead of sending full spherical video, send only interesting part and mask the rest
- If delay is too large, ask network to switch to faster path
VR over 5G NSD

Control plane

Data plane

VR service

Emulated radio and clients
App and relations

- Deployed service consists of several apps
  - 5G specific
  - Media specific
- Model describes *relations* between apps
  - eNB provides connection parameters to UE etc.
Welcome to OSM!

After this week you will be able to develop a basic network service

Join the community (it’s “free” as “free lunch” and “free speech”)

OP, DEV, PoC, spread the word,…