

5G Networks must be autonomic



• Dr. Sven van der Meer, PDU OSS, NM-Lab, Ericsson

NOMS 2018, NMRG Discussion

• sven.van.der.meer@ericsson.com

Problem Statement



5G Networks

- Are inherently complex
- Serve hard KPIs (e.g. latency)
- Support new traffic mix
- Address various functional and non-functional requirements

A few challenges

- RAN: radio access split, e.g. CUPS
- Fixed Wireless Access (FWA)
- Edge computing: (O)MEC
- Cloud RAN (including radio split)

Scale and challenges in single 5G network

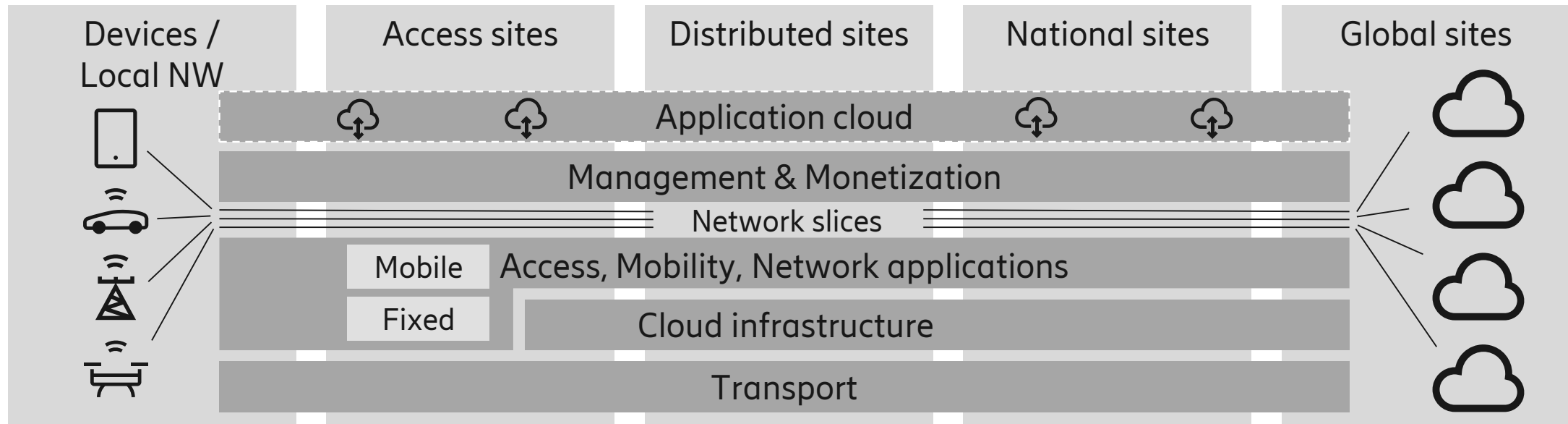
- Massively larger than in today's networks
- Contains large eco-system of devices, nodes, storage, compute, security components
- Is multi-vendor, multi-purpose, multi-vertical

Main challenges for OAM

Automation

(control loops, workflows, adaptive policies)

5G Example



Some things we are missing



Models (standardized, simple)

- Resource, network, service
- Semantic, federation, coordination
- Control loop
- Data models for several domains

Abstraction, simplifying domains

- E.g. an OAM resource and/or network abstraction
- E.g. a control loop abstraction

- “Intent-based” might be a good starting point

