

Architectural Leadership for the 5G era

Designing the flexible 5G system architecture

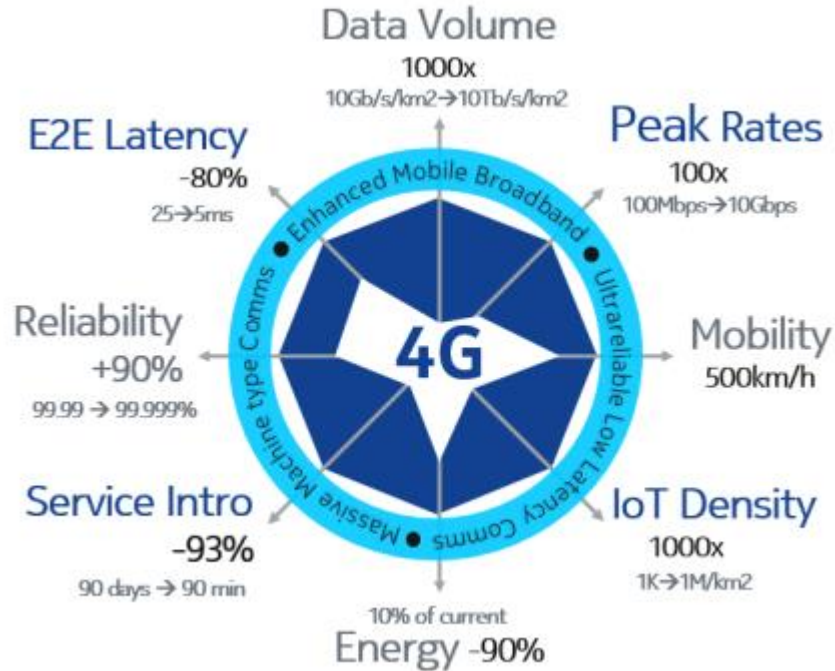
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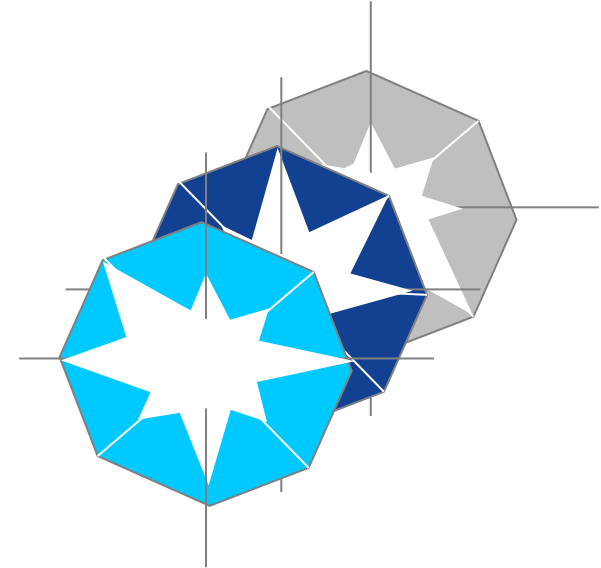
Designing the 5G system architecture: What capabilities will 5G need to bring?

Flexibility, software-ization all the way to radio, massive scalability, automation

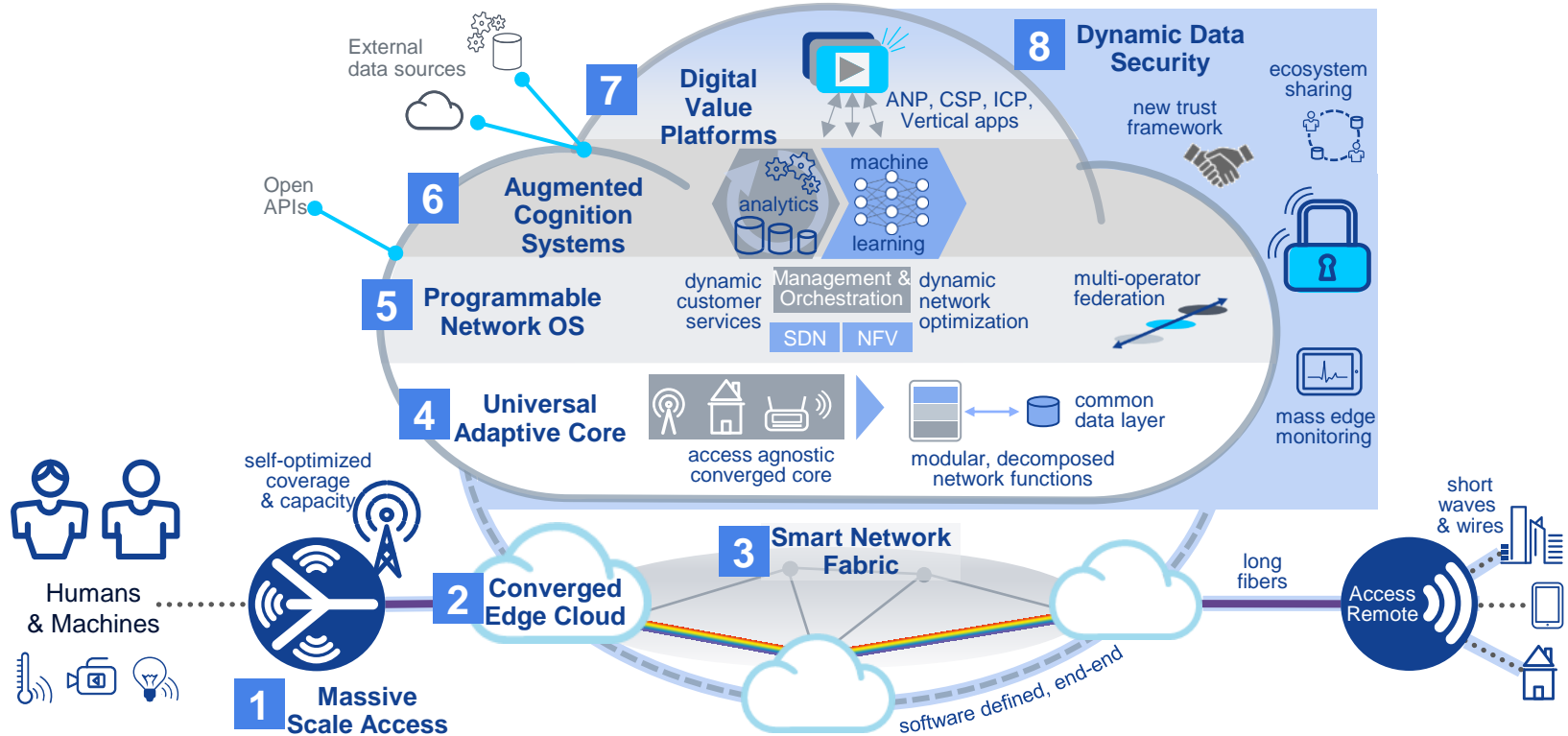


Dynamic, flexible and automated
Network slicing for
different use-cases:

➔
Differentiated service
management and value
optimization for
operators



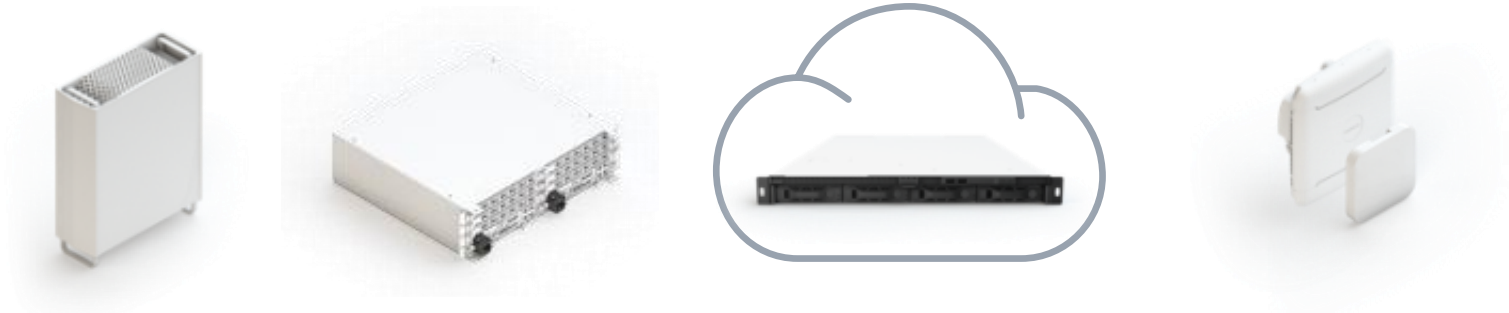
Architecture Vision for the 5G era: The Future X Network



Cognitive and converged and cloud-optimized network evolution

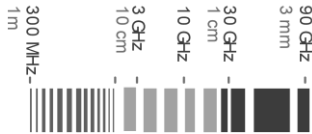
The flexible 5G system architecture: Nokia AirScale radio portfolio

Ready to support 5G technologies

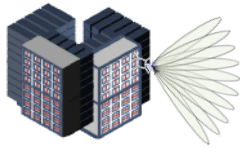


Backward compatible new platforms addressing:

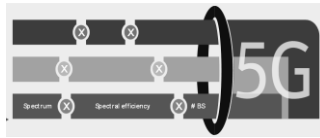
All kind of spectrum and bandwidth



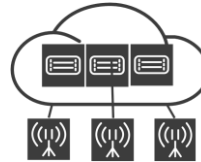
Scalable Massive MIMO, 3D MIMO, beamforming and beamsteering



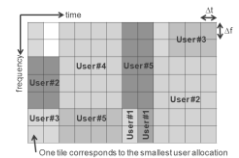
Multi-connectivity and aggregation



Cloud RAN for massive scalability & openness



Flexible frame design, dynamic optimization



The flexible 5G system architecture: Nokia Cloud Packet Core portfolio

Web scale capacity and programmability, dynamic network slicing



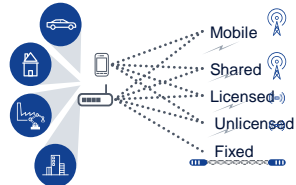
Configurability

Separation of control and user (data) plane

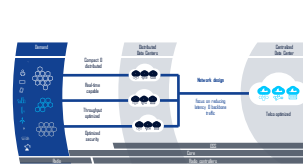
Control plane

User plane

Multi-access



Deployment flexibility



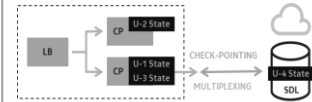
Scalability

Cloud data store such as Shared Data Layer

Shared Data Layer

Stateless control plane VNFs

State-efficient VNF processing



Services transformation as integral pre-requisite for 5G architecture design

Self Optimizing networks

for simplifying network optimization through automatic detection and continuous correction

Continuous Delivery

to enable low risk software release management, better quality and seamless recovery

Predictive Analytics

for outage prevention and root cause determination

Crowd Operations

using trained resources from the global community to perform operations, tasks, and services remotely via the cloud.

Automation of E2E Workflows and service delivery

- **Automated E2E workflow** orchestration of processes and tools
- **Zero touch, Self service, Plug and Play** type of service delivery tools

E2E Cloud based infrastructure

- **Common platform** to provision, monitor, and manage network resources
- Enable IaaS, SaaS, BDaaS, and PaaS offerings **with zero time to market**

