Software Defined Networking (SDN)
Network Function Virtualization (NFV)
Edge Computing

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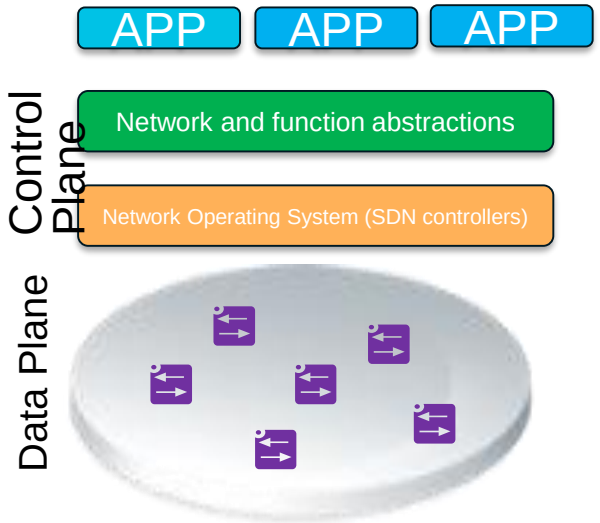
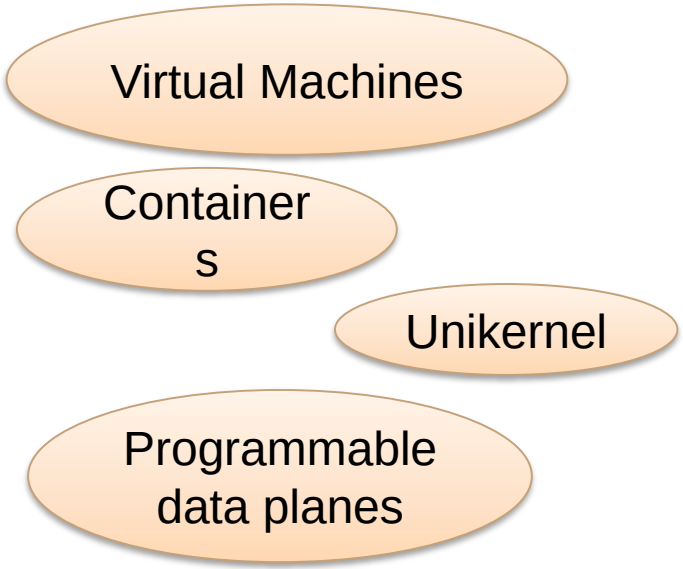
History and terminology

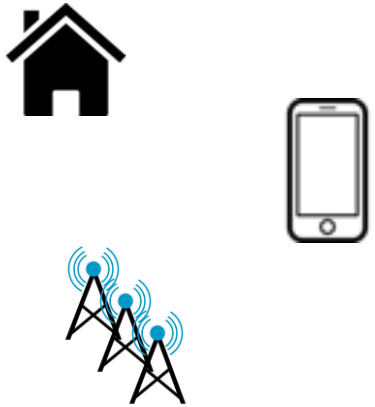
SDN: decouple control/data plane



Virtualization, from DCs to NFV and programmable data planes



From network core to edge platforms



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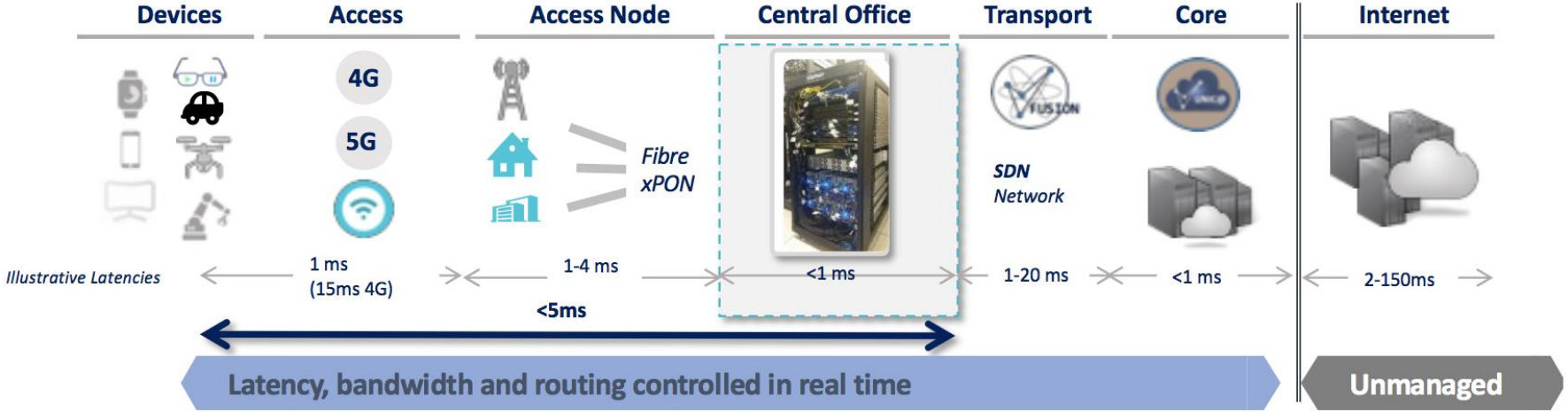
Use cases



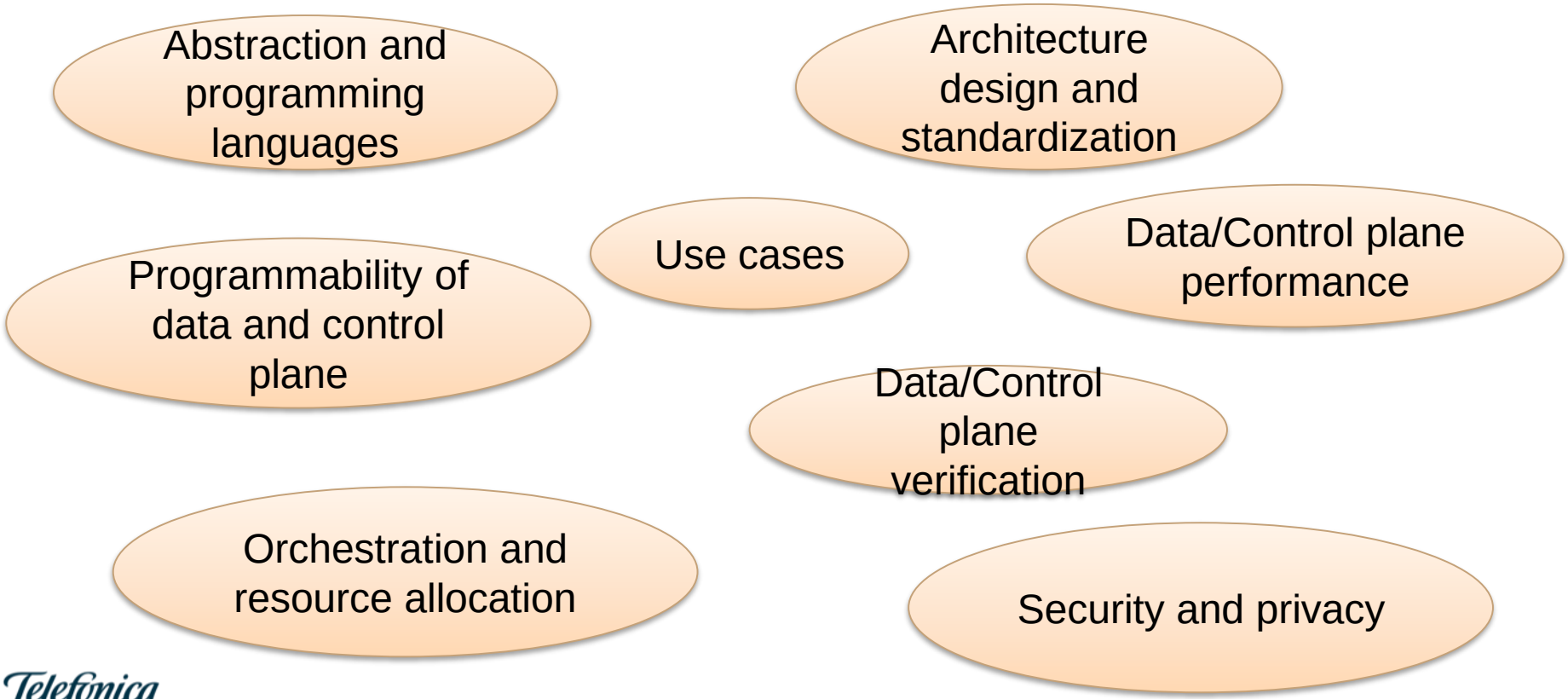
NFV: vOPG, vCPE, vCDN, …

MEC: gaming, AR/VR, ML/DL, massive IoT, vehicle services,…

NFV/computing: core routers, management platforms, etc.

Source images: Telefónica Open Access and Edge Computing White Paper 2019

Research work past and present



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Hot trends : edge computing and data plane programmability

- Architecture design for heterogeneous HW
- Abstraction for reconfigurability and management
- State management and representation
- Performance, security and HW offload
- Monitoring, verification, anomaly detection
- Orchestration, resource allocation, slicing
- Multi-operators environment, cloud vs edge
- Use case driven work: e.g., real time and ML/DL functions
- Measurements with first deployments
- Granularity and technology: microservices, serverless, unikernels, processes, …

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Thank you!