



FLAME

FACILITY FOR LARGE-SCALE ADAPTIVE MEDIA EXPERIMENTATION

FLAME 5G Service Delivery Platform

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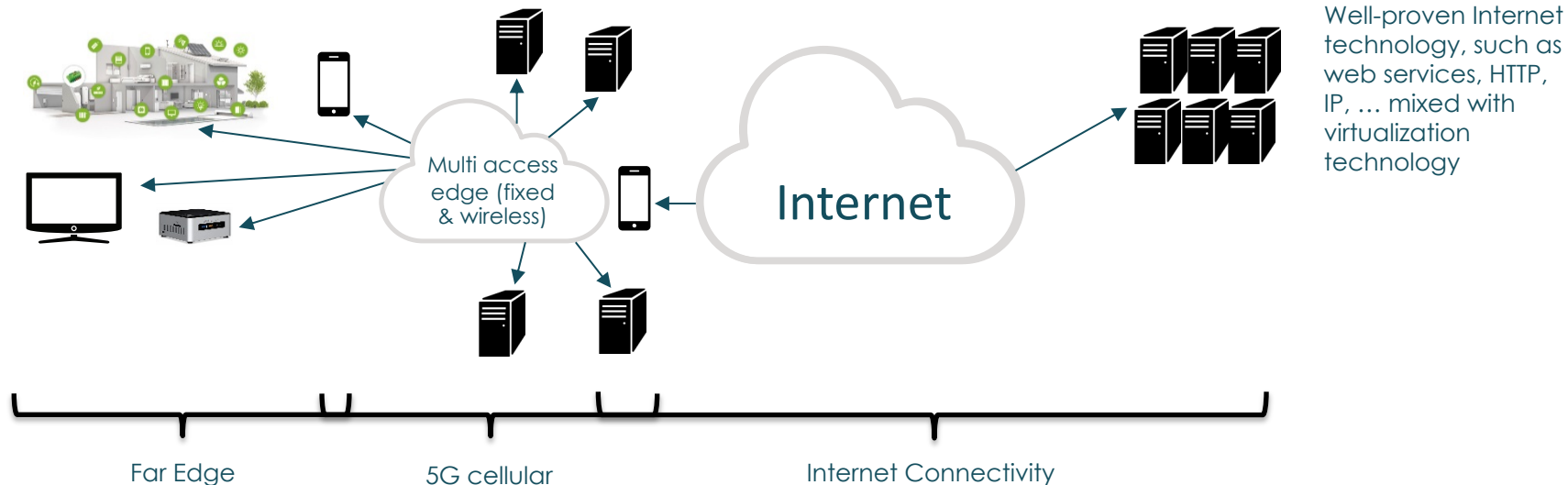
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BRINGING MEDIA AND TELCO TOGETHER IN THE 5G VALUE CHAIN

Micro-Services From Far-Edge to Distant Cloud

Anything-as-a-Service (new interactive, immersive experiences, localized where possible)

Service-based architecture across all edge and the Internet



Technical Proposition

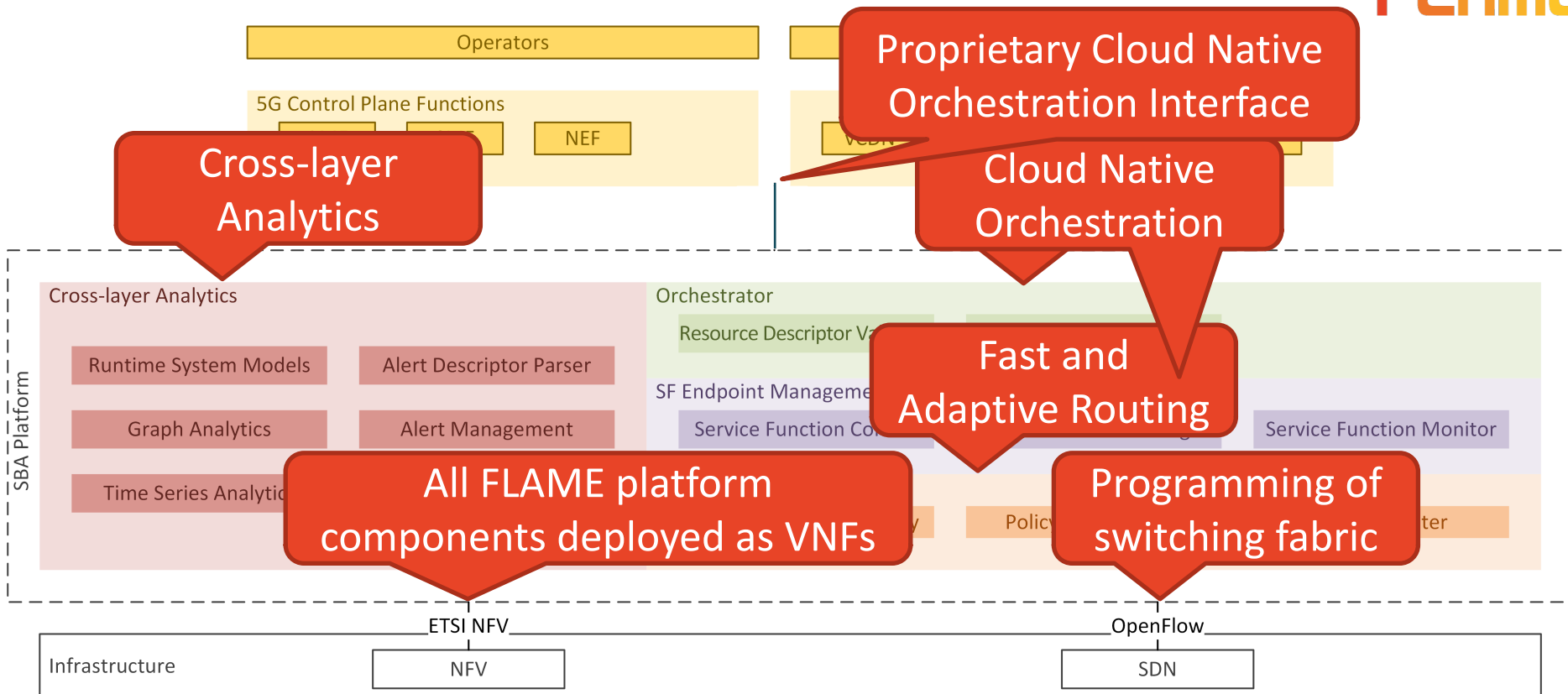
FAST AND ADAPTIVE SERVICE ROUTING

- **Service Routing** among microservices implementing a vertical application
 - **Transparent dynamic routing** supporting the telco edge with endpoint changes in tens of milliseconds, avoiding inefficient triangular routing
- **Service Cost Reduction** for HTTP-based delivery in multi-user scenarios
 - **Multicast delivery of http responses** through efficient Layer 2 multicast with constant costs at intermediate (SDN) switches

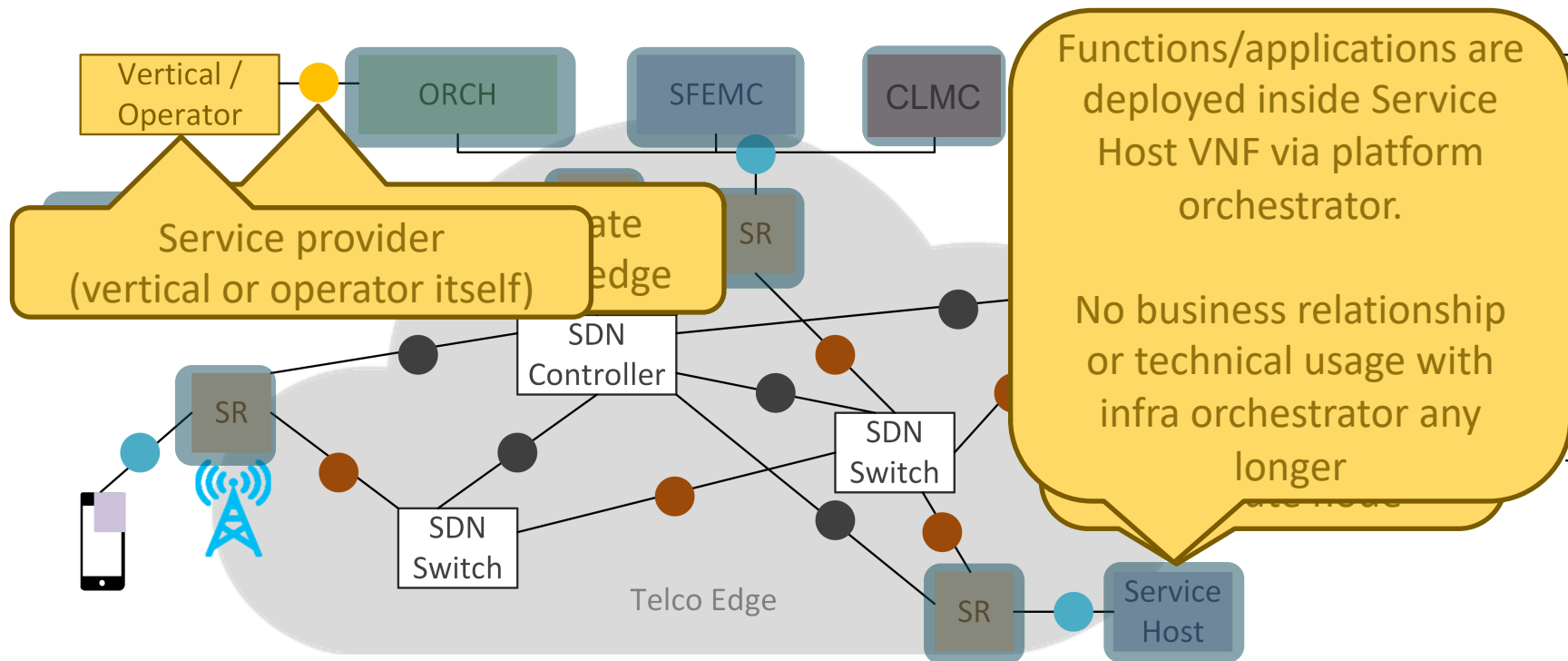
SERVICE-CENTRIC ORCHESTRATION FOR THE TELCO EDGE

- **Service Provisioning** of vertical applications supporting the telco edge
 - **Cloud-native** “telco-agnostic” and location-aware service orchestration (TOSCA-like) for Verticals through amended IP value chain
- **Service Lifecycle Management** driven by supply, demand and QoS factors
 - **Service Instance lifecycle states** enabling Service deployment driven by policies, based on QoS monitoring
- **Cross Layer Analytics** across the stack including application, platform and infrastructure
 - **Time-series and graph monitoring** of end-to-end system properties driving dynamic control of Serve Instance

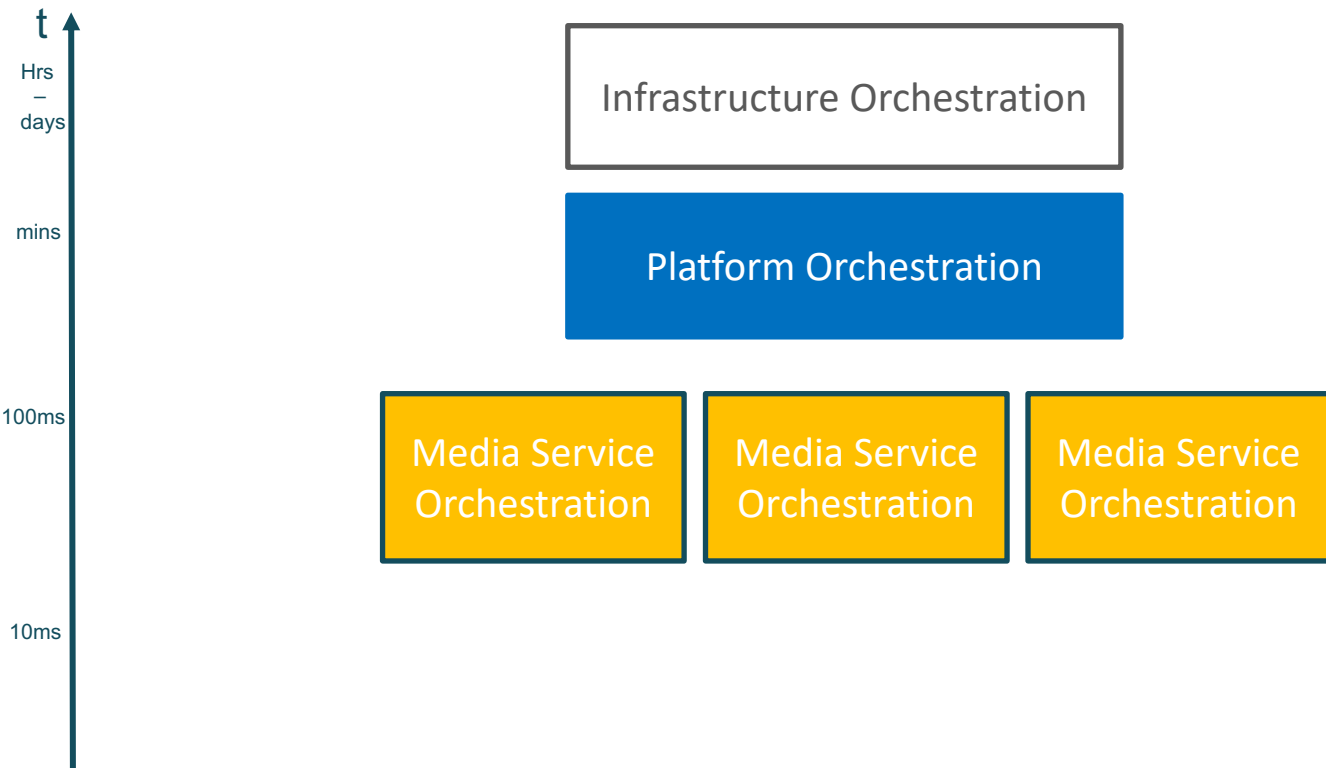
The FLAME Service Delivery Platform



System Architecture

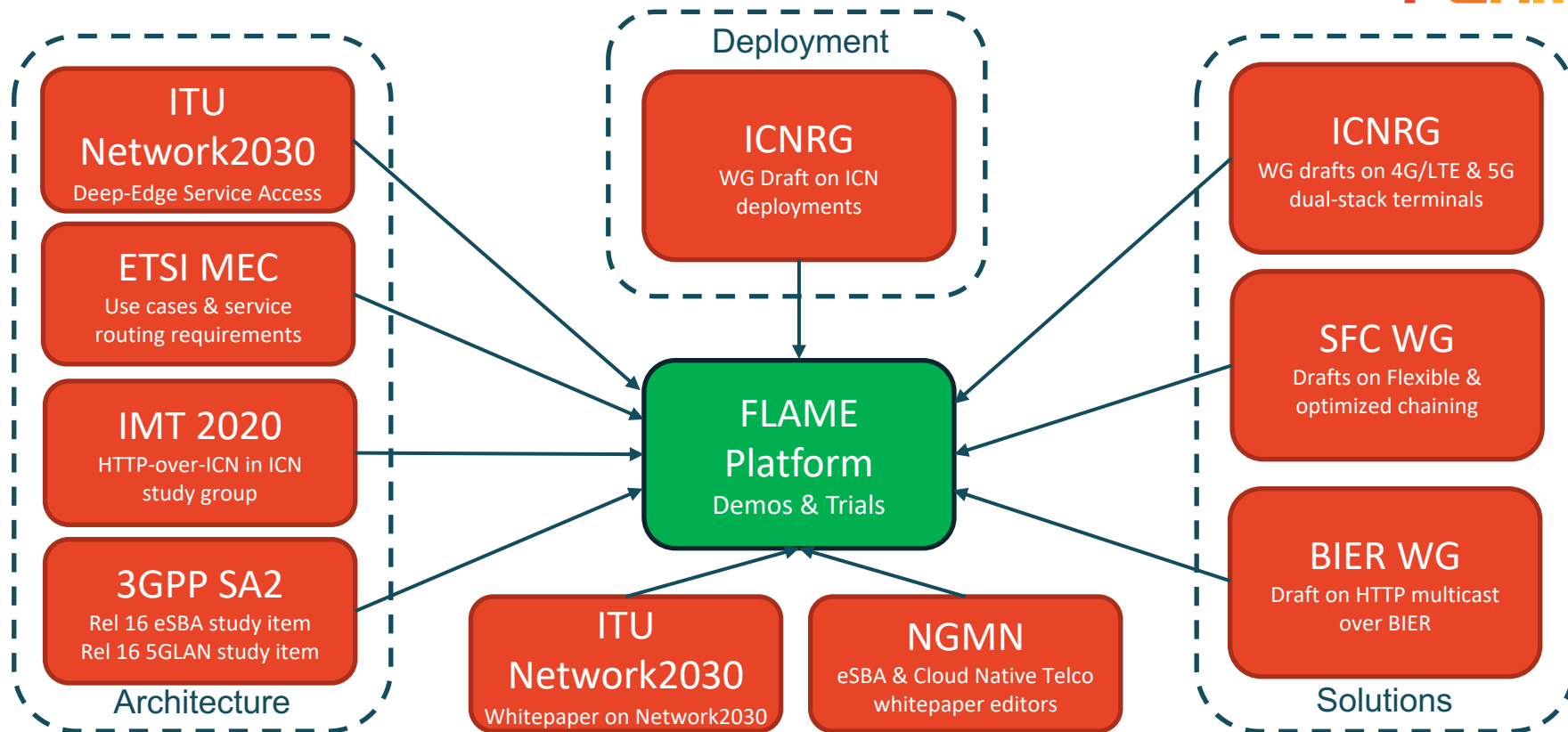


Orchestration Lifecycles of the Overall System



- Provide slice based on long-term relationship (infrastructure provider)
- Provision resource pool for long-term service offering (platform provider)
- Manage AND control service-specific resources (media service provider)

Standardisation Approach



**Service routing one of three deployment choices for
3GPP Rel. 16 control planes in TS23.501**

90+ standard contributions since 2017

RFC 8677 on name-based service function chaining

Soon-to-come RFC on ICN deployment choices

**3 service routing solutions in IETF BIER WG and
ICNRG last call with aim for RFCs in 2020**



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This project received funding from the European Union's Horizon2020 research and innovation programme under grant agreement No 731677



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