

Enable seamless access to 4G/5G network capabilitites



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4G/5G network capabilities exposed through APIs provide a large benefit for customers. By hiding telco complexity behind APIs and making the APIs available across telco networks and countries, CAMARA enables an easy and seamless access.

5G network capabilities Introduction



5G network capabilities are functions partly available already in 4G but new and much more powerful in the 5G network. These functions enable to get information out of the network but also to configure the network.

The on-demand, secure and controlled exposure of these capabilities pave the way for transforming operator networks into service enablement platforms, facilitating the application-to-network integration, which will be key to deliver enhanced and service-tailored customer experience in the 5G era.

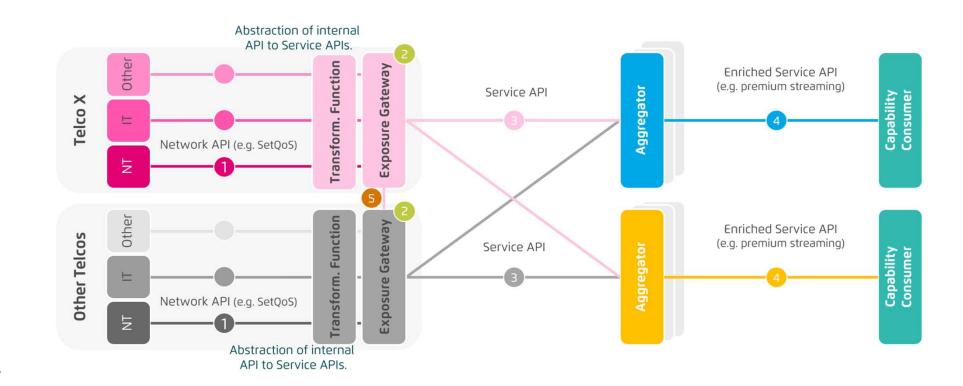
Abstraction API Architecture

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Abstraction from Network APIs to Service APIs is necessary:

- To hide telco complexity making APIs easy to consume for customers with no telco expertise (user-friendly APIs)
- To fulfil data privacy and regulatory requirements
- To facilitate application to network integration



1 Capabilities Exposable via Network APIs e.g. slicing, positioning, managed QoS, IDM etc.

exposure
of Service Functions via Service
APIs. Common means of access
across all operators

Service APIs
Service APIs incl. also access
control, billing, cross-operator
federation etc.

Technical Aggregation (optional)
Enrichment of Service APIs e.g. cloud or platform providers

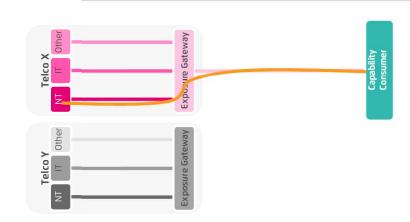
Interoperability
e.g. API roaming,
etc.

Abstraction API Distribution Options

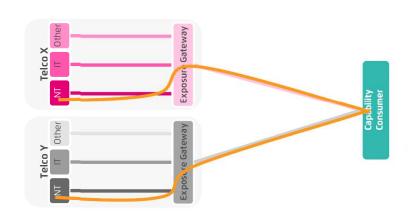
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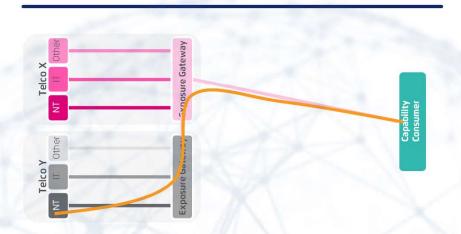
A. Single-Operator Relationship



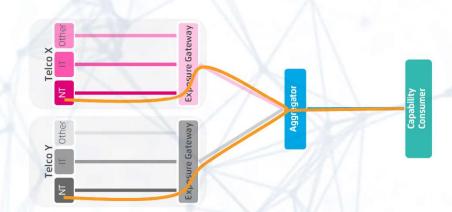
C. Multi-Operator Relationship



B. Single-Operator "API Roaming"



D. Operator Aggregation



Availability Benefit





Availability across telco networks and countries is necessary:

- To ensure seamless customer experience
- To accelerate technology development and commercial adoption (minimize implementation effort)
- To accelerate education and promotion
- To support application portability

CAMARA Mission





CAMARA is an open source project within Linux Foundation to define, develop and test the APIs. CAMARA works in close collaboration with the GSMA Operator Platform Group to align API requirements and publish API definitions and APIs. Harmonization of APIs is achieved through fast and agile created working code with developer-friendly documentation. API definitions and reference implementations are free to use (Apache2.0 license).





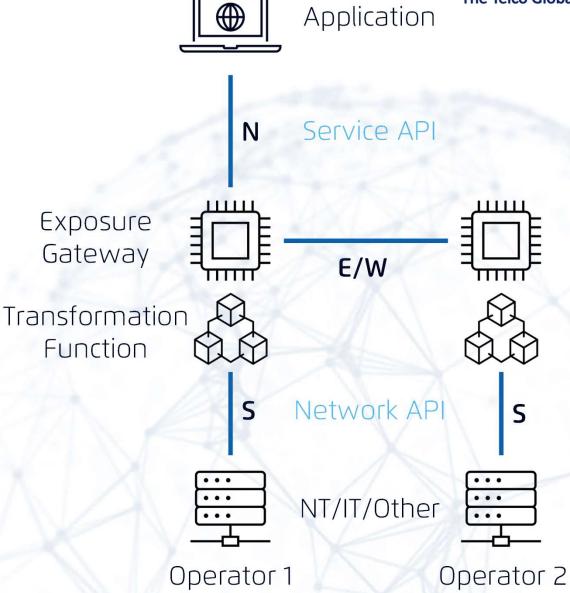
CAMARA Scope

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From functional perspective the scope is limited to **telco APIs**, that means APIs in the domain of telco mobile networks, telco fixed line networks or supporting these.

Thereby the focus is on the **northbound interface** (between telco operator and aggregator or capability consumer). To enable API roaming also the **east-/westbound interface** (telco operator to telco operator) is considered.



CAMARA Scope



The scope of the CAMARA Project is limited to the following activities:

- Collect API requirements from GSMA Operator Platform Group and other sources
- Define Service APIs
- Create test plan / cases / tools from an API consumer perspective
- Develop and test Service APIs
- Create developer friendly documentation for Service APIs

The following deliverables are provided by the CAMARA Project:

- Service API definitions, code and documentation
- Test plan, cases and tools for Service APIs both contained in deployment packages.

Project resources can be found in the **GitHub repository**: https://github.com/camaraproject/rep_main



CAMARA Logos

























Tomorrow, Together

































