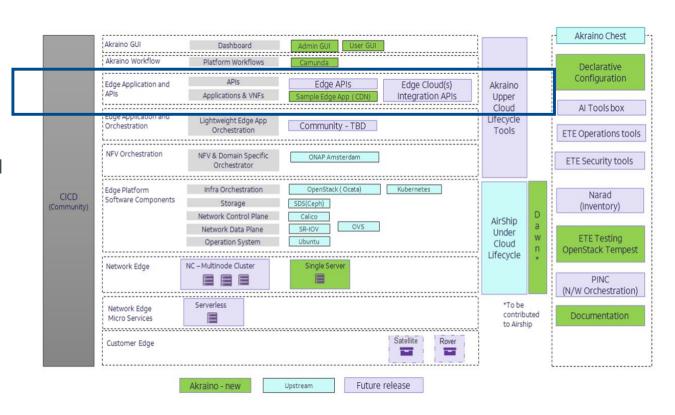
#### API framework



API Framework is a collection of mechanisms to enable applications in distributed cloud. The framework offers services that bring applications and services together by allowing application to offer or consume services either locally or remotely. The basic functionalities of API framework are service registration, services discovery, new service notifications and service availability notifications. The services can be offered by a platform that provides this API framework or applications that are associated with this framework, and with these functionalities a microservices environment can be created.

The basic communications protocol is over RESTful Http, but for services that require more powerful or one to many communications, the API framework supports discovery for alternative transports such as MQTT, AMQP, Kafka or other transports.

The API framework in scope of the work, is built on OpenAPI2.0/3.0 definitions of ETSI MEC available at forge.etsi.org



**Akraino Telco Cloud Reference Arch** 



### Building blocks to enable Apps in Distributed Cloud

## Application Enablement (API Framework)

A framework for delivering services which may be consumed or offered by (*locally hosted or remote*) authorized applications. It enables:

- registration, announcement, discovery and notification of services;
- communication support for services (query/response and notifications).

#### **API Principles**

A set of API principles and guidance for developing and documenting APIs inside or outside ETSI which *ensures* that a consistent set of APIs are used by developers.

**The work was inspired** by the TMF and OMA best practices.

The APIs are designed to be application-developer friendly and easy to implement so as to stimulate innovation and foster the development of applications.

### Specific service-related APIs

Services expose network and context information via specific service-related APIs.

A different set of services may be applicable at different locations

### Management and Orchestration related APIs

Facilitate the running of applications at the correct location at the right time, based on technical and business parameters

# Examples of service-related APIs (ETSI MEC) Flexible framework to allow services ecosystem in distributed clouds

Edge applications MEC specific service-related APIs Radio Network Fixed Network Location 3<sup>rd</sup> Party API 1 Edge Application Edge Application • Cell ID Handovers Fixed Access Info PLMN info Device Info GEO location • Cable Line Info Zonal presence RAB changes Timing Advance Optical NW Info • UF at 7 one 3<sup>rd</sup> Party API 2 **Subscribe - Notify** Edge Application Edge Application Measurements ONU Alarms • UE distance CA Cable Modem lookup reconfigurations Conn UE area lookup **Queries Edge Application** Edge Application WLAN network **UE** Identity API 3<sup>rd</sup> Party API N **RESTful HTTP**  BSS load • UE identity tag Associated Routing per tag Message Bus stations Edge Application Edge Application • Neighbor info V2X API WAN metrics Flexible and AP & STA • Inter MEC system extensible location App comms framework allows RSSI • Inter MEC system PHY rates integration and service exposure Station statistics offering of third-Fine Time Meas party service APIs

