5G Future Forum

Multi-access Edge Computing Exposure and Experience Management Abstract

As 5G continues to grow in reach and accessibility around the world, the 5G Future Forum (5GFF) is collaborating to develop specifications to enable global adoption of interoperable Multi-Access Edge Compute (MEC) products and services. The Forum's founding members are América Móvil, KT Corp, Rogers, Telstra, Verizon, and Vodafone, covering key regions across the world, including the Americas, Asia-Pacific, and Europe. Together, we are working to make it easier to discover, deploy, manage, and orchestrate applications and services on MEC environments at the network edges. The result will enable Telecommunications Service Providers (TSPs) and Cloud Service Providers (CSPs) to work together to deliver efficient and innovative services to end customers.

The introduction of 5G and MEC will transform the way services are being delivered to customers by bringing powerful compute capability to the edge of a TSP network through public and private marketplaces. Bringing the computing power closer to users allows for the data generated to be processed locally, unlocking a wealth of potential for new and enhanced enterprise and consumer applications that require faster response times, greater resilience, enhanced privacy and a better customer experience for the next wave of customer use cases. To tap into this potential, developers should be able to use the tools and dashboards from a variety of CSPs.

The 5GFF MEC Exposure and Experience Management API specification enables TSPs to expose their 5G and MEC APIs to external marketplaces and provide services for System Integrators and Independent Software Developers to employ. This provides a framework of intent-based, technology-agnostic RESTful APIs, which allows the discovery of the available cloud computing resources that are deployed in TSP network edges. Application developers can interact with the MEC APIs using familiar CSP tools to discover network edge capabilities, place and manage workloads (through TSP orchestration) across multiple clouds and across the cloud-to-edge continuum by requesting CSP/TSP feature sets appropriate to their application.

This includes discovery of optimal MEC platforms for a defined service profile, density and region; and also the operational and lifecycle management of those MEC resources. The APIs also establish a common framework for interoperability to facilitate application/workload roaming across compliant TSPs. This allows applications/workloads to seamlessly follow users by moving through the network and between different TSP networks to maintain the differentiated user experience 5G and MEC brings (e.g. maintaining low latency connectivity for near-real-time mobile applications).

The use of intent-driven APIs play a foundational role in keeping the underlying 5G and MEC infrastructure safe, secure and accessible to partners, developers and customers - acting as the "front door" for applications to access the services/applications that MEC has to offer. It also provides the necessary abstraction and intelligence on monitoring, logging and lifecycle features, freeing application developers to set the pace of innovation and leveraging transformational 5G and MEC capabilities. The API Gateway which frontends the exposed APIs has functions to authenticate, authorize, and protect CSP and TSP services, preventing accidental or deliberate use of requests targeting the infrastructure and services.

The API framework will provide a consistent guideline to develop and deploy 5G and MEC services. It allows developers the freedom to create new products and services using tools from their preferred ecosystem. With this approach, the next generation of innovation lies within the vision, passion, and creativity of the world's developer communities.

Requesting a copy of the Specification

At present, this abstract has been published to provide a summary of the sections in the Multi-access Edge Computing Exposure and Experience Management Specification drafted by 5GFF. The draft Specification is currently a working draft and available to existing 5GFF members. A process for non-members to request access to these documents will be published in the upcoming months.