TestOnNeed

Multi-access Edge Computing (MEC) Testing with TestOnNeed

Conformance Test Specification

Multi-access Edge Computing (MEC), also described as Mobile Edge Computing is an industry innovation that improves the performance and intelligence of the software applications that deliver services such as Internet-of-Things (IoT) to end customers. The improved ultra-low latency and high bandwidth performance are made possible by deploying applications in the data center at the edge of the network closer to the customer. The improved intelligence is by real-time access to radio network information that can be leveraged by applications. The Figure 01 picture depicts the difference between MEC and Non-MEC deployments.

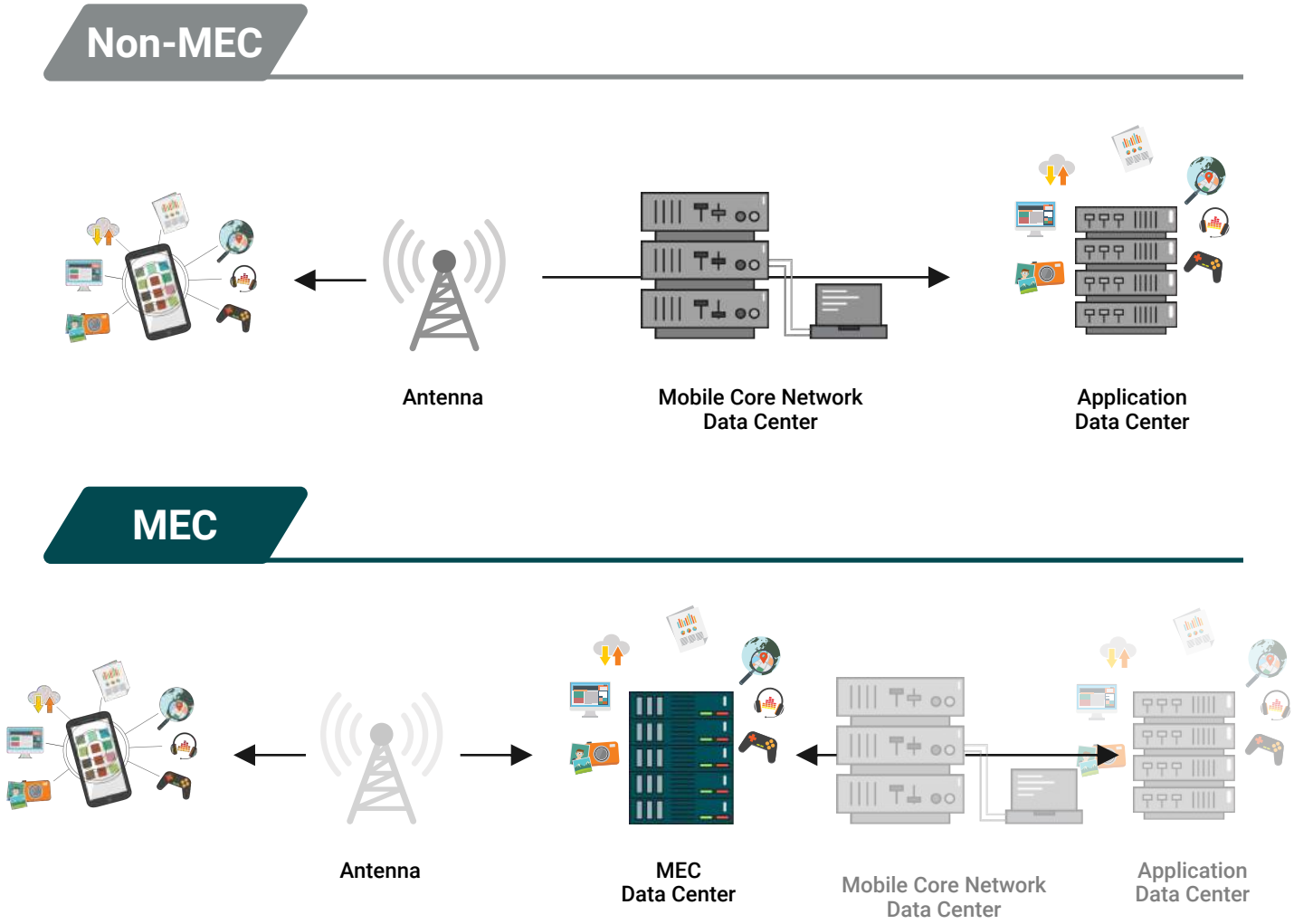

Figure 01: MEC vs. Non-MEC System

To achieve the promises made by MEC technology the edge data center should support MEC framework and deployments as defined by European Telecommunications Standards Institute (ETSI) in standard specification ETSI GS MEC 003 V1.1.1 (2016-03). In summary, the implementation minimum requires the MEC platform that hosts and manages MEC applications on an NFVI infrastructure. Also, the MEC and NFV management that manages its respective domains as shown in the simplified Figure 02.

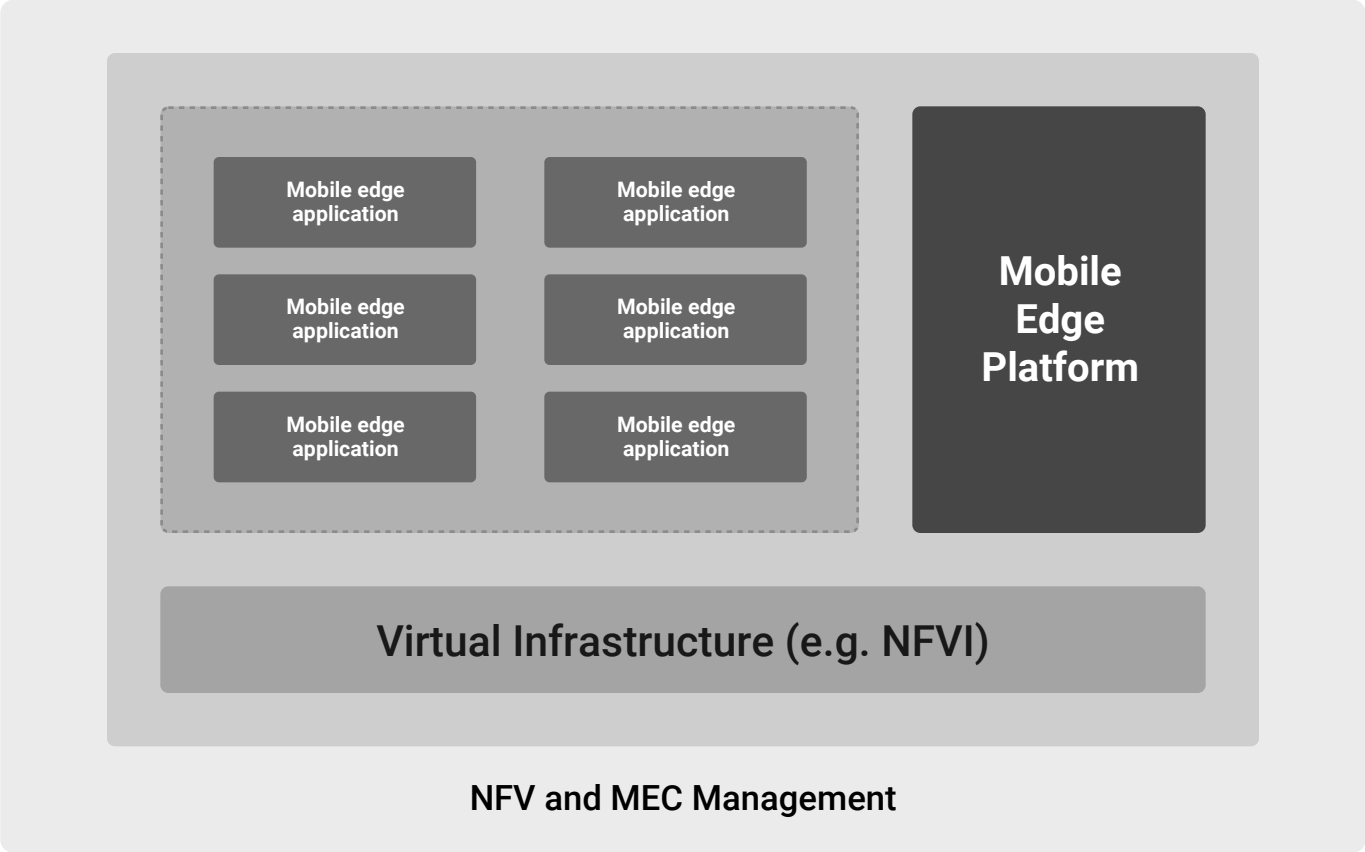

Figure 02: MEC Framework

The next generation technology such as MEC and NFV requires protocols to communicate between Antenna (e.g.) eNodeb, MEC platform, MEC applications, NFVI, and management entities. The connectivity between these entities is called 'Reference Points." ETSI defines the API, data model, and data format in the specification for these reference points. The companies who bring MEC compliant products and applications to the market must comply with this specification to work in a multi-vendor deployment.

These companies spend a considerable amount of dollars to develop a conformance test plan and test cases to test these API with commercial test tools. The testers spend

a lot of time preparing the manual and automation conformance test cases that must validate the API requests and handling response, the attribute name correctness, its data type definition, cardinality, and the associated values the attribute store as defined by ETSI.

What If testers have a solution that provides tens and hundreds of ready-to-go client-side API, and server-side API conformance test cases? TestOnNeed offers precisely such a solution to our customers to improve their return on investment (ROI), thus enabling them to go to market fast with their products to beat the slow. We call it as **"MECEveryAPI Conformance Test Suite."**

MECEveryAPI Test Suite Ordering Information

Part Number	Description	Test cases	Subscription Price / Year
TON-CAPI-MEC-P	Automated client conformance test cases for Mobile Edge Platform Application Enablement API as defined in ETSI GS MEC 011 V1.1.1 (2017-07) specification	112	3,000 USD
TON-CAPI-MEC-R	Automated client conformance test cases for Radio Network Information API as defined in ETSI GS MEC 012 V1.1.1 (2017-07) specification	512	6,000 USD
TON-CAPI-MEC-L	Automated client conformance test cases for Location API as defined in ETSI GS MEC 013 V1.1.1 (2017-07) specification	50	1,000 USD
TON-CAPI-MEC-UI	Automated client conformance test cases for UE Identity API as defined in ETSI GS MEC 014 V1.1.1 (2018-02) specification	17	500 USD
TON-CAPI-MEC-B	Automated client conformance test cases for Bandwidth Management API as defined in ETSI GS MEC 015 V1.1.1 (2017-10) specification	65	1,500 USD
TON-CAPI-MEC-UEI	Automated client conformance test cases for UE Application Interface API as defined in ETSI GS MEC 016 V1.1.1 (2017-09) specification	60	1,500 USD

TON-SAPI-MEC	**Automated server conformance test cases for** • Mobile Edge Platform Application Enablement API as defined in ETSI GS MEC 011 V1.1.1 (2017-07) specification • Radio Network Information API as defined in ETSI GS MEC 012 V1.1.1 (2017-07) specification • Location API as defined in ETSI GS MEC 013 V1.1.1 (2017-07) specification • Identity API as defined in ETSI GS MEC 014 V1.1.1 (2018-02) specification • Bandwidth Management API as defined in ETSI GS MEC 015 V1.1.1 (2017-10) specification • UE Application Interface API as defined in ETSI GS MEC 016 V1.1.1 (2017-09) specification	**816**	**18,000 USD**

Adding to the complexity, the API implementation changes over time with new features additions and more, as product and standard evolve. Testers have difficulties to keep track of changes and possibly skip creating and executing test cases. As a result, it incurs companies' high costs due to excessive failures found at later stages and even in production live network.

All must understand that the general practice is to define API also called "API definition" using human-readable data serialization or modeling languages such as YAML. An API definition allows both humans and computers to discover and understand the capabilities of the API without access to source code, documentation, or through network traffic inspection. It can then be used for documentation generation, code generation, and many other use cases.

What if testers have a solution that takes input as API definition file such as YAML and automatically creates business logic required for conformance testing? TestOnNeed offers precisely such a solution to our customers to improve efficiency, reduce cost and deliver uncompromising quality with little room for failures. We call it as **"MECEveryAPI Test Engine."**

MECEveryAPI Test Engine Ordering Information

Part Number	Description	Subscription Price / Year
TON-CAPI-Gen	MECEveryAPI Test Engine that takes YAML API definition as input and creates automated client conformance test case framework with database and validations	10,000 USD
TON-SAPI-Gen	MECEveryAPI Engine that takes YAML API definition as input and creates automated server conformance test case framework with database and validations	20,000 USD

TestOnNeed offers all our test solution using and extending the open source with the goal to help companies to reduce their CAPEX expenditure by not having to pay for any commercial tools.

Installation Package	YouTube	TestLink	Postman	License
MECEveryAPI Test Suite	Yes	Yes	Yes	Yes
MECEveryAPI Test Engine	Yes	No	Yes	Yes

The purchase of MEC test solution will come with the following deliverables:

- Installation package for MECEveryAPI Test Suite or MECEveryAPI Test Engine
- YouTube videos that explain installation, configuration and usage of product
- TestLink is an open source test management tool where we record all of our MEC test cases
- Postman/Newman is an open source API test environment extended to support 'MECEveryAPI Test Suite' and 'MECEveryAPI Test Engine.'
- Licensing purchaser comply to is based on end-user license agreement (EULA)

TestOnNeed

TestOnNeed is an on-need opensource test, automation, and DevOps solution provider to better the speed, scale, coverage, and quality of software application products. We live only to help Business seeking the winning formula to bring their products, and services to the market fast to beat the slow. We do this by helping our customers to create flawless, high quality, high-performance Blockchain, Artificial Intelligence (AI), Internet of Thing (IoT), Multi-Edge (Mobile) Edge Computing (MEC), 5G, Cloud, Microservices, Augmented Reality (AR), and Virtual Reality (VR) software application products. Moreover, we make it all happen with open sources using an open source testing ecosystem.

At TestOnNeed, we don't just test products; we make products better. Being fast is all about transformation and success is all about welcoming it. To discover more, visit us at **https://testonneed.com/**

If you need additional information or have questions about our solutions or demo and Purchase, please reach us at **sales@testonneed.com**