TestOnNeed

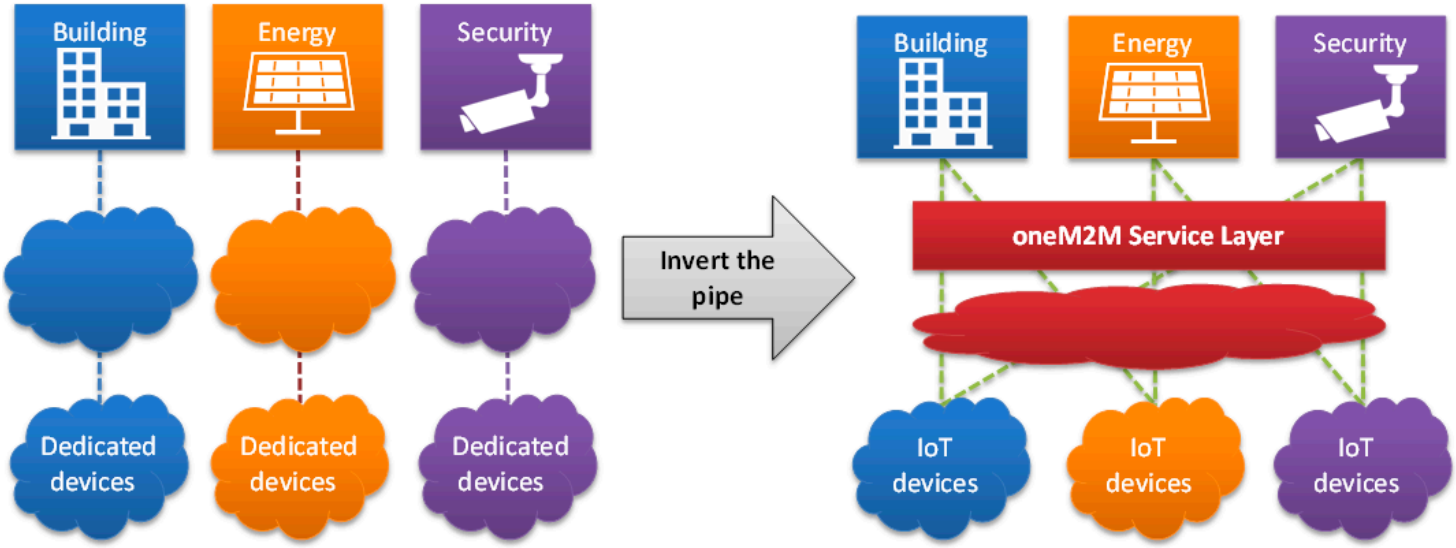
OneM2M IoT Testing with TestOnNeed

Conformance Test Specification

OneM2M, the standards for M2M and Internet of Things, purpose and goal, is to develop technical specifications which address the need for a common M2M Service Layer. It enables the IoT equipment manufacturers, and solution providers to readily embed within their various hardware and software. And, relied upon to connect the myriad of devices in the field with M2M application servers worldwide.

The architecture standardized by OneM2M defines an IoT service Layer, i.e., a software middleware sitting between processing or communication hardware and IoT applications providing a rich set of functions needed by many IoT applications.

> The picture depicts below the architecture, and you may read the details at http://www.onem2m.org/getting-started/onem2m-overview



The OneM2M architecture ensures the interoperability at the level of data and control exchanges via uniform Representational State Transfer (REST) API services. IoT equipment manufacturers and solution providers who bring IOT compliant products and applications to the market must comply with the specification to work in a multi-vendor deployment seamlessly. They spend a considerable amount of dollars on developing a conformance test plan and test cases.

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?

The test suite that validates all functions of API from the API requests and handling response, the attribute name correctness, its data, type definition, cardinality, and the associated values the attribute stores as defined by OneM2M.TestOnNeed offers precisely such a solution to our customers to improve their return on investment (ROI). We call it 'IoTEveryAPI Conformance Test Suite' that enables go-to-market fast with products and solutions to beat the slow.

IoTEveryAPI Test Suite Ordering Information

Part Number	Description	Test cases
TON-CAPI-IoT-S	Automated client conformance test cases for Service Layer Core aspects as defined in OneM2M as defined in OneM2M 004 v3.12.0 (05-2019)	438
TON-CAPI-IoT-D	Automated client conformance test cases for Field Device Configuration as defined in OneM2M as defined in OneM2M 022 v3.0.1 (05-2019)	924
TON-CAPI-IoT-M	Automated client conformance test cases for MAF and MEF Interface Specification as defined in OneM2M as defined in OneM2M 032 v3.0.0 (05-2019)	36
TON-CAPI-IoT-H	Automated client conformance test cases for Home Appliances Information as defined in OneM2M as defined in OneM2M 023 v3.7.3 (05-2019)	1262
TON-CAPI-IoT-ME	Automated client conformance test cases for Management Enablement as defined in OneM2M 006 v3.6.2 (05-2019)	36
TON-CAPI-IoT-SS	Automated client conformance test cases for Semantic support functions as defined in OneM2M as defined in OneM2M 034 v3.0.1 (05-2019)	265

TON-CAPI-IoT-SE	**Automated client conformance test cases for Secure Environment Abstraction as defined in OneM2M as defined in OneM2M 016 v3.0.2 (05-2019)**	**245**
TON-SAPI-IOT	**Automated server conformance testcases for** • Service Layer Core aspects as defined in OneM2M as defined in OneM2M 004 v3.12.0 (05-2019) • Field Device Configuration as defined in OneM2M as defined in OneM2M 022 v3.0.1 (05-2019) • MAF and MEF Interface Specification as defined in OneM2M as defined in OneM2M 032 v3.0.0 (05-2019) • Home Appliances Information as defined in OneM2M as defined in OneM2M 023 v3.7.3 (05-2019) • Management Enablement as defined in OneM2M 006 v3.6.2 (05-2019) • Semantic support functions as defined in OneM2M as defined in OneM2M 034 v3.0.1 (05-2019) • Secure Environment Abstraction as defined in OneM2M as defined in OneM2M 016 v3.0.2 (05-2019)	**3206**

Adding to the complexity, the API implementation changes over time with new features additions and more, as product and standard evolve. Testers have difficulties in keeping track of changes and possibly skipping 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.

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 "IoTEveryAPI Test Engine."

IoTEveryAPI Test Engine Ordering Information

Part Number	Description
TON-CAPI-IoT-Gen	IoTEveryAPI Test Engine that takes YAML API definition as input and creates automated client conformance test case framework with database and validations
TON-SAPI-IoT-Gen	IoTEveryAPI Engine that takes YAML API definition as input and creates automated server conformance test case framework with database and validations.

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
IoTEveryAPI Test Suite	Yes	Yes	Yes	Yes
IoTEveryAPI Test Engine	Yes	No	Yes	Yes

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

1. Installation package for IoTEveryAPI Test Suite or IoTEveryAPI Test Engine
2. YouTube videos that explain installation, configuration and usage of product.
3. TestLink is an open source test management tool where we record all of our IoT test cases.
4. Postman/Newman is an open source API test environment extended to support 'IoTEveryAPI Test Suite' and 'IoTEveryAPI Test Engine'.
5. 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/**

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