oneM2M

ONEM2M IOT SERVICE LAYER
A BRIEF INTRODUCTION
oneM2M IoT Service Layer
A Brief Introduction

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Content

• To **Overcome the Fragmentation** in the IoT Space
• The **Common Service Layer Toolkit**
• **A little bit of history**: highlighting key-events
• **Insights** - Learnings from Deployments
• What’s Next? - **Future Features**
• How To? – Pointer to **Tutorials**
• Takeaways
Developers use platform tools to build and support IoT systems

Traditional Market Structure

- Application
- Application Enablement Platform
- Connected Devices Platform
- Communications Networks

Many hundreds of platforms and incompatible tools

oneM2M’s Standards-based Structure

- Application
- Common Services Layer
- Communications Networks

Extensible ‘toolkit’ of common service tools
oneM2M Common Services “Toolkit”

IoT Application Layer
- Registration
- Communication Management
- Security
- Discovery
- Data Management & Repository
- Semantics
- Device Management
- Subscription & Notification
- Group Management
- Application & Service Management
- Location
- Service Charging & Accounting
- Network Service Exposure
- Transaction Management
- Time Management
- Session Management
- Process Management

oneM2M Common Services Layer

IoT Devices and Connectivity Layer
“oneM2M provides a very solid architectural foundation in terms of interfaces and data structures. It is built for interoperability and is very flexible.”

Andre Dutra, Deutsche Telekom

“Using oneM2M, our data hub collects and links data for a hundred different services. We plan to export it to other local governments.”

Seon-woo Yi, nTels

“oneM2M has been evolving continually and solutions to common problems faced by the IoT industry are incorporated quickly in its specifications.”

Anupama Chopra, C-DOT

“We rewrote our proprietary system to use oneM2M’s open standard and now operate at scale, meeting over 99% of our customers’ reporting metrics and delivering over 3 billion meter reads daily”

Ray Bell, Aetheros
oneM2M Future Feature development

Release 5

• AI enablement
• Support of Data Protection Regulations
• Support of Data License Management
• Advanced Semantic Discovery
• Enablement of IoT in the metaverse
• Digital Twins Enablement in oneM2M
• Integrating NGSI-LD API in oneM2M
• Additional Interworking (e.g. OGC’s Sensor Thing API)
• Enhanced Filter and Queries
• Enhanced Public Warning Service Enabler
• Effective IoT Communication to Protect 3GPP Networks (cont’d)
The first set of the oneM2M Tutorials using Jupyter Notebooks is now online!

oneM2M Wiki
https://wiki.onem2m.org/index.php?title=OneM2M_Jupyter_Notebooks

YouTube
https://www.youtube.com/playlist?list=PLDd4EJmw5gUnA_d1RgYnxrOryYeYuHdH5u

GitHub & Discussions
https://github.com/oneM2M/onem2m-jupyter-notebooks
https://github.com/oneM2M/onem2m-jupyter-notebooks/discussions

MyBinder Runtime
https://mybinder.org/v2/gh/oneM2M/onem2m-jupyter-notebooks/master?urlpath=lab/tree/__START__.ipynb

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Takeaways

oneM2M

- is a global open standard, not controlled by a single private company
- specifies a common set of horizontal IoT services
  - architecture, common services functions,
- enables data interoperability
  - Information model, semantics, ontology-based interoperability
- interworks with existing IoT technologies
- has interoperability testing and a certification program
- standardized APIs simplify the life for IoT stakeholders
  - minimize development, deployment & maintenance costs
- is a mature and a commercially deployed technology
Thank You!

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