Standardized M2M/IoT Service Delivery Platform
Scalable Horizontal M2M/IoT Service Delivery Platform

- Conforms to the global oneM2M R1 Standard
  - Also compliant with ETSI TC M2M R1 & R2 standard
- Facilitates development of M2M/IoT and emerging Internet of Things (IoT) applications across multiple verticals
  - Fast time to market
  - Reduced development costs
- Common API available for most development environments
- Configurable and easy to use SDK
- Standards compliant test and development tools:
  - Wireshark Dissectors to monitor the M2M/IoT standard primitives/protocols at runtime
  - Resource Tree Viewer to monitor the service layer operations at runtime

Advances in wireless communications, storage capacity, embedded processing power, and IT technologies have led to inexpensive devices, sensors, and actuators with increased computing power and low power consumption. These advances provide a huge opportunity for growth in M2M/IoT applications. M2M/IoT technologies will benefit a broad range of market segments including smart grid, telematics, eHealth/mHealth, vehicular networking and systems, industrial control, home automation, and environmental monitoring, to name a few.

Global standards are defining service layer solutions to accelerate the development and reuse of M2M/IoT data and applications. InterDigital’s Standardized Service Delivery Platform (SDP) provides a middleware solution with a set of common Application Programming Interfaces (APIs) for scalable and horizontal M2M/IoT services that enables:

- Rapid and efficient application development
- M2M/IoT service providers to enable different applications and manage the whole M2M/IoT eco-system with greatly reduced CAPEX and OPEX
- Device vendors to expand and improve their products with value-added features and interoperability with different devices
InterDigital’s Standardized Service Delivery Platform (SDP) is available in a oneM2M compliant solution and/or an ETSI TC M2M compliant solution. Both solutions consist of Cloud, Gateway, and Device service nodes and support all the defined interfaces of the standard. Each solution also provides a REST (REpresentational State Transfer) based API that facilitates communication between the service nodes and applications.

InterDigital’s M2M/IoT Service Platform: Standards-Aligned, Scalable, Interoperable

Interoperability between Diverse Applications, Networks and Devices
InterDigital’s M2M/IoT Service Delivery Platform Overview

InterDigital’s M2M/IoT Service Delivery Platform Advantages:

- Conforms to oneM2M Release 1 global standard
- Conforms to ETSI TC M2M Releases 1 & 2 standard
- Standards-compatible architecture provides faster service applications development and lower development costs
- Common architecture configurable to optimize target deployment
- Standards-compatible interfaces and procedures enable plug & play communication, thereby reducing deployment cost
- Service packages can be reused, shortening time to market and reducing cost
- Offloading to Operator-trusted Gateways at the edge reduces traffic in the core network, leaving more capacity for higher value traffic
The InterDigital IoT Service Platform is built upon the Open Message Bus (OMB) architecture. The OMB provides a flexible and scalable architecture that enables different types of services to interconnect and interoperate with one another in a seamless and generic manner. In this way, oneM2M, ETSI M2M, and third party/advanced services can interface to one another over the OMB. The architecture can be scaled based on the desired deployment so that it can support cloud based services all the way down to device based services. The OMB backbone supports a set of native services which include an OMB Database Service, an OMB Service Directory, and an OMB Administration Console. These native services provide services to those entities connecting to the OMB. All services interface to the OMB via OMB clients which provide a layer of abstraction between the services and the underlying transport.

The InterDigital IoT SDP platform brings together a standards compliant platform with a number of advanced and value added features that provide enhanced capabilities for IoT applications.
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| Interworking / proxy support for proprietary systems                   | • Enables device/app interoperability between standards-based and proprietary systems  
• Interim solution while proprietary solution vendors migrate to the oneM2M standard |
| REST/Web-friendly based solution                                        | • Facilitates interoperating with applications and interworking with proprietary systems                                                |
| Three deployment models based on a common architecture                | • Scalable solution targeted for Cloud based deployments  
• Finite storage & resource solution for fixed (Gateways) & mobile (Tablets, phones) deployments                                           |
| Open APIs are easy to use and provide deployment flexibility           | • Open Message Bus client  
• Generic database interface  
• oneM2M Service Layer Mca / Mcc  
• ETSI M2M Service Layer mia / da / mld                                                                                |
| Open Message Bus                                                       | • Supports AMQP, UDP, and/or Inter-Service Communication. Future versions to support MQTT, XMPP, and Web Sockets  
• Defines interface between individual services (SCs, CSFs, etc, )  
• Compliments and is meant to co-exist with ETSI & oneM2M reference points  
• Supports clustering of services across geographical locations such as different data centers and gateways deployed at network edge |
| Service oriented architecture                                          | • Enables providers to generate new revenues from M2M/IoT via service platforms  
• Increases profit and ROI                                                                                                       |
| Larger networks                                                        | • Improved reach and scalability for connected devices  
• Flexibility in choosing transport network  
• Network agnostic                                                                                                              |
| Global standard interfaces and procedures                              | • Allows applications (remote and device based) to communicate, enabling a variety of M2M/IoT services  
• Reduces standardization overlaps and confusion  
• Drives down cost and increases demand  
• Enables service revenue growth, improves ROI and profitability                                                                |
| Standard applications and protocols                                   | • Enables re-use of service packages, giving lower total product/service cost and faster time to market  
• Increases market opportunity  
• Equipment compatibility among vendors  
• Enables service revenue growth, improves ROI and competitiveness                                                                 |
| Offloading to operator-trusted M2M/IoT gateway at the edge             | • Minimizes M2M/IoT traffic in the core network  
• Provides services closer to the end devices                                                                                     |
| M2M/IoT SDP Portal                                                     | • Allows user to configure the SDP to their needs  
• Provides API libraries, sample applications, and tutorials  
• Facilitates use of our virtual M2M/IoT Server (network SDP entity)                                                            |
| Advanced features supporting the Internet of Things (IoT)             | • Light weight M2M  
• Charging/MCN integration  
• Semantics  
• Analytics (big & small data)  
• Identity & event management  
• Negotiation services  
• Service discovery                                                                                                                  |
InterDigital is focused on supporting the entire eco-system by providing advanced wireless technologies for all M2M/IoT markets and the emerging Internet of Things. Please visit http://www.interdigital.com/iot for more information on InterDigital’s M2M/IoT Service Delivery Platform solutions.
About InterDigital®

InterDigital develops wireless technologies that are at the core of mobile devices, networks, and services worldwide. As a long-standing contributor to the evolution of the wireless industry, we solve many of the industry’s most critical and complex technical challenges years ahead of market deployment. Our advanced solutions support more efficient wireless networks, a richer multimedia experience, and new mobile broadband capabilities. Accordingly, we have established licenses and strategic relationships with many of the world’s leading wireless companies.