

WoT and IoT: What's the Difference?  
2<sup>nd</sup> W3C Workshop on the Web of Things  
Michael.Lagally@oracle.com

## **Outline:**

The vision of the Web of Things is to connect devices from different manufacturers across different verticals and to bridge the gaps between isolated domain-specific IoT standards.

Several IoT standards coexist in the market, however no single standard has evolved so far that enables out-of-the-box integration of devices and cloud services without the need of deep level device customization to facilitate the integration of devices and services. Some standards define a fixed set of device types with predefined metadata, properties and actions. They typically prescribe fixed protocols and information exchange formats.

The Web of Things model goes beyond this fixed set of device models and selects a common abstraction for modeling devices and things.

It defines a common JSON based format that allows describing the data model, interaction model and protocol bindings in a formal way. This abstract model and a common description language makes it possible to build aggregations and networks of individual devices, so called "virtual things" or digital twins.

The description format can be optionally augmented with semantic annotations, that enable dynamic discovery and usage of devices.

It allows to define mashups and rule-based modeling and simulation systems, which can be defined after devices have been already deployed to the market.

This session outlines the commonalities and differences between the Web of Thing and other IoT standards.

It gives an overview use cases and architecture patterns that were identified in the Web of Things architecture and the building blocks, that have been standardized so far.

It describes what scenarios can be addressed by the existing specifications and looks into the requirements and use cases for additional standardization work to achieve the "out-of-the-box" vision:

- Discovery mechanisms
- Thing directories
- Digital Twins
- Common security mechanism
- Lifecycle model
- Cloud abstraction