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Mr. **Atsushi Kitazawa** has been working on the Information Management (IM) for over 30 years primarily developing database management software in NEC Corporation. Meanwhile he has been working for telecom industry implementing standard protocols for core networks as well as service delivery networks. He is now leading a division in charge of big data in NEC Solution Innovators and extending its reach to IoT. He is also leading IM technology in NEC.

Keynote Title: **Standards in IoT and the Role of Semantics**

Abstract:

While the number of interconnected things is constantly growing, many new opportunities of taking advantage of the information generated by those things are emerging, starting a whole new era of the information age. The main question these days is how to best make use of this abundance of information. How can we extract meaning from the generated data, and how can we “make sense out of data for humans or automate decisions”[1]? This is where semantics come into the picture of the IoT landscape in standardization.

In this talk, we start by an overview of IoT from the history of old-age M2M to a review of the latest proliferation of connected things. We then report on our experience in one of the smart city project in Europe from a commercial point of view, and we give an overview of the IoT standards landscape, which is currently highly fragmented and heterogeneous.

Despite this heterogeneity, we see a commonality especially by looking at it from the "semantic” point of view, where “semantic” is defined as “meaning”, "context", “intention”[2]. We will explain how the OMA NGSI Context Management(OMA/CM) standard makes use of contextualized date; focusing on the use case scenarios of (1) open data in a smart city project where meaning is added to measured values in terms of metadata, (2) a smart display which actively responds to the current context, and (3) a dynamic camera device discovery mechanism based on a given context query by a police officer.

We conclude by demonstrating the feasibility of semantics in IoT standards, showing an interworking showcase between OMA and oneM2M where ontology plays an important role by matching each elements of metadata derived from each standards.

[1] Top 10 Technology Trends Impacting Information Infrastructure, 2013, Gartner
[2] http://www.scconsortium.org/