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The Impact of Internet of Things in Big Data Approach and Future Internet

Abstract

The evolution of the Internet towards the Future Internet, with the Internet of Things (IoT) as one of the main drivers, is defining an extension from the initial Internet. This Intranet of Things is being extended to smart things with a higher scalability, pervasiveness, and integration into the Internet Core. The ongoing and future work aims to create an extended Internet of Things. This requires both an architecture and products that allow for the extension of the Internet technologies, in order to reach a homogeneous integration of the Future Internet, Services, People, and Things with the Future Internet of Things, Services and People.

This drives to integrate everything into the Internet Core is motivated by the market wish to have all processes remotely accessible, together with an understanding that re-engineering an infrastructure to allow this for each application would be prohibitively costly and time-consuming. Moreover, the current evolution from uniform mass markets, to personalized ones, where the customization and user-specified adaptation is a requirement, makes the sort of uniform infrastructure found in Internet, imperative. This allows many components to be re-used, and services to be shared, with correspondingly huge economies of scale and shortened completion times.

The Internet of Things (IoT) fills the gap between the needs arising from the evolution of the market, information, users, and things, by moving all of them to a common framework, the Internet, and at the same time give possibility to new challenges as the amount of additional information that can be generated and use. This Big Data challenge will have also impact on the use of IoT in new areas like Smart Cities, Transportation and several others what will affect the Future Internet ecosystem globally.

In this talk, recent efforts in the integration of IPv6 into the IoT, with emphasis on legacy system support and the coexistence strategy for the management of heterogeneous technologies and architectures. These integration efforts will be presented over some environments and instantiation that are devoted for support Smart Cities scenarios like efficient energy management, or intelligent transport systems and the use of the data gathering capabilities over new decision support system based on the IoT integration.