Cloudy, Foggy and Misty Internet of Things

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Abstract

Early Internet of Things(IoT) applications have been build around cloud-centric architectures where information generated at the edge by the "things" in conveyed and processed in a cloud infrastructure. These architectures centralise processing and decision on the data-centre assuming sufficient connectivity, bandwidth and latency. As applications of the Internet of Things extend to industrial and more demanding consumer applications, the assumptions underlying cloud-centric architectures start to be violated as for several of these applications connectivity, bandwidth and latency to the data-centre are a challenge.

Fog and Mist computing have emerged as forms of "Cloud Computing" closer to the "Edge" and to the "Things" that should alleviate the connectivity, bandwidth and latency challenges faced by Industrial and extremely demanding Consumer Internet of Things Applications.

This keynote, will (1) introduce Cloud, Fog and Mist Computing architectures for the Internet of Things, (2) motivate their need and explain their applicability with real-world use cases, and (3) assess their technological maturity and highlight the areas that require further academic and industrial research.

Keywords: IoT; IIoT; Cloud Computing; Fog Computing

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