Fog and Edge Computing: Challenges and Emerging Trends

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Abstract

Just as the trend of data and computing consolidation via cloud computing starts to fade out, new paradigms that can better handle the unique demand of Internet of Things (IoT) and Big Data emerged in the form of edge and fog computing. Although the literature provides different accounts for the differences between these emerging paradigms, they both rely on computing and storage devices that are closer to IoT devices and users than regular cloud data centers. With the advantage of smaller latencies, they introduce issues such as higher complexity for application development and deployment. In this talk, I will present the context in which these paradigms developed, challenges inhibiting their adoption, and emerging approaches to address some of these issues.

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Short bio

Dr. Rodrigo N. Calheiros is a Senior Lecturer and Associate Dean, Research in the School of Computer, Data and Mathematical Sciences, Western Sydney University, Australia. He has been conducting research in the area of Cloud computing since 2008, and contributed to diverse aspects in the field including Multiclouds, energy-efficient cloud computing, and Edge computing. He is also one of the original designers and developers of CloudSim, a widely used simulator of Cloud environments. He co-authored more than 70 papers, which attracted together 13,000 Google Scholar citations. His research interests also include Big Data, Internet of Things, Internet Computing, and their application. He is a Fellow of the Higher Education Academy of UK, Senior Member of the IEEE and Senior Member of the ACM.