Webinar on Next Generation IoT
The Fourth Edition

IEEE Communication Society
Technical Committee Communications Software: Special Interest Group on "NFV and SDN Technologies"

Title: On Programmable Data Plane Network Switches and their Applications to IoT systems

Abstract: In Industry IoT systems, the data generated by IoT devices are forwarded to other intermediate nodes such as aggregation devices, gateway/sink nodes for processing. Traditional network switches and IoT gateway nodes are configurable, but not programmable. They can only perform a small set of specific switching-related activities. The advent of programmable data planes (PDP), realized using hardware switches, and the Programming Protocol-independent Packet Processors (P4) language enable a switch to be customizable and field-programmable. In this talk, we show how PDP and P4 concepts can be used to realize in-network computing for Industrial IoT systems.
(This work was done jointly with Ganesh Sankaran and Harsh Gondaliya).

Prof. **Krishna Moorthy Sivalingam**
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Title: Stateful Container Migration in Geo-Distributed Environments

Abstract: Container migration is an essential functionality in large-scale geo-distributed platforms such as fog computing infrastructures. Contrary to migration within a single data center, long-distance migration requires that the container's disk state should be migrated together with the container itself. However, this state may be arbitrarily large, so its transfer may create long periods of unavailability for the container. We propose to exploit the layered structure provided by the OverlayFS file system to transparently snapshot the volumes' contents and transfer them prior to the actual container migration. We implemented this mechanism within Kubernetes. Our evaluations based on a real fog computing test-bed show that our techniques reduce the container's downtime during migration by a factor 4 compared to a baseline with no volume checkpoint.

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More details can be found **here**
Date: **October 14, 2022**
Time: **2:00 PM – 3:30 PM, Indian Time (IST)**

All participants need to pre-register by 5 PM (IST), January 20, 2022 by filling-up the following form: **Registration Link**
Zoom sign-in details will be shared with the registered participants using the email address provided in the registration form.