

## **Multi-controller model for improving the performance of IoT networks**

### **ABSTRACT**

Internet of Things (IoT), a strong integration of radio frequency identifier (RFID), wireless devices, and sensors, has provided a difficult yet strong chance to shape existing systems into intelligent ones. Many new applications have been created in the last few years. As many as a million objects are anticipated to be linked together to form a network that can infer meaningful conclusions based on raw data. This means any IoT system is heterogeneous when it comes to the types of devices that are used in the system and how they communicate with each other. In most cases, an IoT network can be described as a layered network, with multiple tiers stacked on top of each other. IoT network performance improvement typically focuses on a single layer. As a result, effectiveness in one layer may rise while that of another may fall. Ultimately, the achievement issue must be addressed by considering improvements in all layers of an IoT network, or at the very least, by considering contiguous hierarchical levels. Using a parallel and clustered architecture in the device layer, this paper examines how to improve the performance of an IoT network's controller layer. A particular clustered architecture at the device level has been shown to increase the performance of an IoT network by 16% percent. Using a clustered architecture at the device layer in conjunction with a parallel architecture at the controller layer boosts performance by 24% overall.