

Abstract

In recent years, edge computing has drawn lots of attention in the development of Internet of Things applications as a way to bring computing resources close to data sources. Containerization technology provides an efficient virtualization solution to run computing services on edge devices. Kubernetes allows containers to be easily orchestrated on edge devices. Most of the existing research was done under the assumption that when an edge device is registered as part of an edge computing system, the device is always running with high availability. In this paper, we present a system that uses K3S, a lightweight Kubernetes implementation, to orchestrate computing services onto low availability edge devices to convert these devices into edge computing resources.