

## 2. 英文部份

(KEY WORDS) : Cloud Computing, Edge Computing, Dynamic System Reconfiguration, Microservice, Service Mesh

Service Mesh is an emerging application-layer communication infrastructure for microservice-based systems. It enables transparent service-to-service traffic monitoring, control, and management, and therefore improves composability and availability of microservice-based systems. However, very few academic studies and Industrial and commercial practices addressed the issue of service mesh over cloud-edge federated computing platform. In this proposal, we aims to develop an automatic service-mesh-reconfiguration mechanism. The mechanism enables cloud-edge autoscaling for microservice function chains on the edge clusters when network connection between the cloud and the edge is healthy. In the case that the connection between the cloud and the edge is broken, the microservice function chains for the edge should be recovered automatically, even when some microservices of the function chains were originally placed on the cloud.