数学与系统科学研究院

计算数学所网络学术报告

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报告题目：

Optimal Network Slicing for Service-Oriented Networks with Flexible Routing and Guaranteed E2E Latency

邀请人： 刘亚锋 副研究员

报告时间： 2020 年 6 月 13 日（周六）

下午 **14:00-15:00**

报告工具： 腾讯会议（**ID：581 218 822**）

直播地址：

https://meeting.tencent.com/s/FJHrhRcIeo7s

Abstract：

Network function virtualization is a promising technology to simultaneously support multiple services with diverse characteristics and requirements in the fifth generation and beyond networks. In practice, each service consists of a pre-determined sequence of functions, called service function chain (SFC), running on a cloud environment. To make different service slices work properly in harmony, it is crucial to appropriately select the cloud nodes to deploy the functions in the SFC and flexibly route the flow of the services such that these functions are processed in the order defined in the corresponding SFC, the end-to-end (E2E) latency constraints of all services are guaranteed, and all cloud and communication resource budget constraints are respected. In this talk, we first discuss two new mixed binary linear program formulations of the above network slicing problem that optimize the system energy efficiency while jointly consider the E2E latency requirement, resource budget, flow routing, and functional instantiation, and then show that these two formulations are equivalent. In particular, while the first formulation is more natural and easier to understand, the second one contains a significantly smaller number of variables and constraints, which makes it more efficient to solve the network slicing problem especially when the size of the corresponding network is large. Numerical results show the advantage of the proposed formulations compared to the existing ones.

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