

Network Functions Virtualization-Based Virtual Routing Function Deployment under Network Delay Constraints

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Abstract : NFV-based network implements a variety of network functions with software on general-purpose servers, and this allows the network operator to select any capabilities and locations of network functions without any physical constraints. In this paper, we evaluate the influence of the maximum tolerable network delay on the virtual routing function deployment guidelines which the authors proposed previously. Our evaluation results have revealed the following: (1) the more the maximum tolerable network delay condition becomes severe, the more the number of areas where the route selection function is installed increases and the total network cost increases, (2) the higher the routing function cost relative to the circuit bandwidth cost, the increase ratio of total network cost becomes larger according to the maximum tolerable network delay condition.

Keywords : NFV (Network Functions Virtualization), resource allocation, virtual routing function, minimum total network cost

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