

# Dynamic Equilibrium Capacity across Multiple Regions in NFV Environment

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**Abstract**—Recently, most emerging challenges associated with the Network Functions Virtualisation (NFV) are related to the automated, large and scalable deployment of virtualised network functions (VNFs), their availability as well as reliability. In this manner, VNF applications are vastly distributed to allow high accessibility to users all over the world. Therefore, a VNF application that has a distributed deployment over multiple datacenters located at the different regions, can perfectly fit needs and requirements of provider. In order to efficiently resolve the most emerging challenges to meet requirements of service provider (SP), efficient and optimal resource capacity management across multiple regions of NFV services is critical aspect. This paper proposed a dynamic equilibrium capacity method for automatically managing virtualized resources assigned to each project that is spread over different regions. This brings significant benefits to users to manage capacity more accurately and maximize the acceptance ratio of requests in a long run while minimizing the usage of resource efficiently, which leads to use a minimum deployment cost responding to user demands.

**Keyword**—NFV, PlaynetMANO, Dynamic Equilibrium, Capacity Management, Multiple Regions



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