

NFVdeep: Adaptive Online Service Function Chain Deployment with Deep Reinforcement Learning

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Abstract

With the evolution of network function virtualization (NFV), diverse network services can be flexibly offered as service function chains (SFCs) consisted of different virtual network functions (VNFs). However, network state and trace typically exhibit unpredictable variations due to arriving requests with different quality of service (QoS) requirements. Thus, an adaptive online SFC deployment approach is needed to handle the real-time network variations and various service requests

1 Introduction

Switching the way of implementing the hardware middle boxes into software based virtual network functions (VNFs) instances, network function virtualization turns to be very promising in terms of flexibility and efficiency. A service request is represented by service function chain which is composed of number of network functions. NFV helps in improving the system performance, efficiency and the quality of service (QoS) of service requests our problem now is the Deployment of service function chains placement of VNF

2 Architecture of NFVdeep

[width=]fig1

graph to show the hierarchy and the blocks in NFV system

3 principals

3.1 Markov decision process Model

3.2 types of policies

we use policy Gradient not value

4 Adaptive, Online Approach for SFC Deployment

-how to deal with NFVdeep system -SFC deployment

5 Comparison with other systems

in this section we show some graphs to compare between NFVdeep and other systems in terms of performance , cost and the number of servers used

6 Conclusion

7 References