Network Virtualization Overlays
Internet-Draft
Intended status: Standards Track
Expires: January 13, 2014

Chen. Li
Rong. Gu
China Mobile
July 12, 2013

Network as a service requirement in cloud datacenter
draft-li-nvo3-clouddatacenter-requirement-00

Abstract

This document describes some specific features in CDC, especially in the public cloud.

Status of This Memo

This Internet-Draft is submitted in full conformance with the provisions of BCP 78 and BCP 79.

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This Internet-Draft will expire on January 13, 2014.

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1. Introduction

CDC (Cloud Data Center) network has the fastest innovation of the network standards and the most proposed technology. Especially in the public clouds. From our prespective, there are several network capacity can be sold by public clouds' operator: IP address, VLAN, bandwidth, loadbalance, firewall and some other network resouces. The target of NAAS(network as a service) is to provide end to end virual network with above capacity for tenants in datacenter. However, many taditional tochonlogy become the bottleneck of public cloud service, such as the number of VLAN. It becomes unable to meet the constantly updated needs of providing users with the hosted networks for the data segregation.

In this draft, we forcus on proposing network requirement of NAAS.

2. Problem statement

NAAS is supposed to provide a virtual CDC network for a tenant. we propose four specific network features of NAAS as follows

a. The isolation of different tenants

Different tenants are isolated by vpn, No matter layer 2 or layer 3, no matter by vlan tag or mpls tag or some others. Meanwhile, the network service devices, such as loadbalance and firewall, also need to be isolated.tenants have a logical isolated network, which can be implement any IP and VLAN by themselves (different tenants should reused IP/VLAN).

b. tenant’s logical network in GUI

tenant’s logical network GUI should be simple and intuitive. For example it only display a L2 switch, a L3 gateway, a broader router, a loadbalance, a firewall and some other security devices. All the link is logical. VMs or servers connect to these logical network devices.

c. bandwidth guarantee

Each logical network should allocate the specific end to end bandwidth, including server uplink switch port rate, switch to gateway link rate, gateway to LB/FW link rate and broader router link rate.

all the logical bandwidth allocation should map in physical network devices.

d. self network management

Each tenant manage and config their own logical network. While operator is responsible for the physical one.

3. Solution

to be continued.

4. Acknowledgements

5. References

Authors’ Addresses

Chen Li
China Mobile
Unit2, Dacheng Plaza, No.28 Xuanwumenxi Ave, Xuanwu District
Beijing 100053
P.R. China

Email: lichenyj@chinamobile.com

Rong Gu
China Mobile
Unit2, Dacheng Plaza, No.28 Xuanwumenxi Ave, Xuanwu District
Beijing 100053
P.R. China

Email: arielgurong@gmail.com