Nuviso-use cases write-up – Data Center, Public Cloud

DC Hybrid services automation:

Nuviso Symphony Suite enables automation of hybrid use cases involving Service Provider core and Data Center networks. Increasingly, Service Providers are deploying centralised and/or edge Data Centers from where they can sell slices to small and medium enterprises that cannot maintain their dedicated data-centers. Such scenarios make a lot of sense for the SME customers in terms of availing pay-as-you-grow type of Data Center Services, in terms of either rack space, raw computing slices, or more advanced services such as virtual slice of a firewall or a load-balancer service.

Automating and orchestrating such use cases involve multiple touch points, such as:

a) Provisioning the customer premises router (CPE) for reachability information about new services availed by the small enterprises
b) Provisioning the SP's Provider Edge router for enabling new data flows from customer premises
c) Provisioning virtual slice in the edge data-center, in terms of compute slide provisioning, or tenant flows provisioning in a shared VNF service, like firewall-as-a-service
d) Tying it all end2end by provisioning paths in the SP core network to connect the campus with the data-center

Use cases as above will need the orchestration system to have ability to provision MPLS paths in the SP core, route insertions at CPE, slice creations in data-center, as well as VNF policy provisioning in terms of firewall or load balancer rules. Nuviso's Symphony Suite has the unique ability to orchestrate these varied type of workflows across different network functions, to stitch end2end services spanning across multiple domains

Multivendor VNF orchestration:

Nuviso Symphony suites enables orchestrating multiple vendor VNFs through a unified policy API derived from standards based yang models. Service Providers often build Private Clouds from where virtual slices can be sold to enterprise customers. In such endeavour, SPs are required to support BYOL license models, wherein enterprises having pre-existing network function licenses (such as a firewall license) can reuse those licenses in the virtual private slice from the SP's data-center. SP orchestration system will support the ability to instantiate any vendor firewall VNF based on the choice of enterprise. Hence SPs orchestration system will also need to have the ability to work with different vendor firewall systems and export policy provisioning portals back to the enterprise using neutral APIs. Having to deal with multiple vendor systems will unduly complicate the SPs VPC orchestration layer. Nuviso's Interlude greatly simplifies such orchestration systems by abstracting multi-vendor differences, as well as offer the ability to seamlessly migrate policies from one vendor to another vendor with zero manual intervention

Public Cloud VPC orchestration:

Public cloud vendors provide VPC instances to customers from different geographies and zones. A typical large enterprise with multi geography presence often ends up subscribing to VPCs from different zones at each geography for

a) latency reasons
b) regulatory compliance reasons that demand user/application data being located within restricted zones

The enterprise that gets these multi geography subscription is expected to create VPNs between different VPC instances to keep their zones interlinked. Often, it turns out to be a complex exercise to enforce enterprise wide policies between their campus and the public VPC instances. Sometimes, traffic destined to the internet and originating from the enterprise need to be brought into one VPC instance to undergo common exit-policy treatment. At times, enterprise needs to subscribe to transit VPCs to facilitate such common/uniform exit points.

Automating/orchestrating such use-cases involve extensive tenant level overlay provisioning for inter-VPC VPN meshes, and public cloud provisioning to create vRouter instances that originate or terminate the VPN connections. This calls for extensive multi-vendor VPN automation, as well as public cloud API awareness. Nuviso Symphony Suite has the ability to orchestrate such complex end2end large enterprise VPC use-cases.

For More Information

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