The Push to Hyper-Distributed Clouds

Cloud centers, network function virtualization (NFV) and edge computing are driving new requirements for highly-distributed cloud orchestration solutions that can scale from a single cloud pod to thousands of end points. OpenStack® is the new standard for private and hybrid clouds, but by itself it doesn’t meet the needs of enterprises and service providers that are building global cloud services.

CPLANE NETWORKS Multi-Site Manager

CPLANE’s Multi-Site Manager (MSM) is a software-only solution that provides aggregate, simplified application programming interfaces (API) for access, query, provisioning and modification of multiple OpenStack domains. These domains (or pods) can be located in the same data center or distributed across multiple geographic locations, including highly-distributed models such as Central Office Re-Architected as a Data Center (CORD) and cell towers to reduce latency and improve application performance.

MSM leverages the functionality of CPLANE’s SDN Service Orchestration Platform to provide new distributed OpenStack management and control capabilities:

- Micro-pod management
- Capacity management
- Resource affinity and geo-segmentation
- Policy-based provisioning
- Dynamic resource creation
Multi-Site Manager Features

MSM delivers a rich set of features that provide automation and management of distributed OpenStack infrastructure-as-a-service (IaaS). These features provide a full suite of customer-centric cloud services that support the full life cycle for a customer – from new customer onboarding, to new service enablement, to customer termination. And since no human intervention is required, new services can be dynamically created as often as needed, and on any schedule.

- New customer creation propagated to multiple OpenStack instances
- Customer credentials managed across separate OpenStack sites
- Auto-discovery and syncing of OpenStack site object caches
- Creation of virtual machines and virtual machine objects
- Automatic creation of OpenStack virtual network objects to support new virtual machine requests
  - Virtual Overlay Network (VXLAN)
  - Backbone/WAN
  - Floating IP for internet access with bandwidth quotas
- Automatic creation of dedicated customer Overlay Gateway Router (OGR) for connectivity to public clouds
- Query operations for OpenStack components
  - Virtual machine flavor definitions per site
  - Virtual machine image definitions per site
- Query operations for customer’s OpenStack inventory
  - Virtual machines
  - OGR / route definitions
  - Network /subnet definitions
  - External / public network connections
  - State and status of virtual machines
Deployment Model

Multi-Site Manager seamlessly integrates with existing northbound service management systems and portals via open ReST APIs. MSM aggregates the service requests for compute, networking and storage and then orchestrates the creation of virtualized infrastructure across multiple OpenStack instances. Integrated connectivity is provided via CPLANE’s Overlay Gateway Router as a virtualized network function (VNF). MSM can deploy OpenStack services across a wide variety of end points including large cloud centers, Central Office Re-Architected as a Data Center (CORD), and cell towers.
Single Integrated Solution

CPLANE’s Multi-Site Manager is a fully-integrated solution that provides complete multi-site cloud orchestration from a single platform. When combined with CPLANE’s Dynamic Virtual Networks – Data Center (DVNd) solution MSM provides complete software-defined networking for seamless integration within and across cloud pods, data centers and geographically distributed cloud sites.

MSM leverages the performance and reliability of standard OpenStack distributions from Red Hat (OpenStack Platform 8 certified) and Canonical. MSM utilizes Canonical’s JuJu Charms to provide easy point and click deployment.

About CPLANE.ai

CPLANE.ai orchestrates and manages highly-distributed clouds for Edge Computing, IoT, Industrial IoT, MEC, Fog, and intelligent edge applications. We eliminate the complexity associated with deploying cloud resources to millions of Edge Computing end points, allowing enterprises and service providers to focus on value-added business and IT services.

To learn more about our fully-integrated cloud orchestration and software-defined networking solutions, visit us at: www.cplaneai.com

Contact us:
info@cplaneai.com
+1 408.475.4950