Multi-site OpenStack Cloud Orchestration
Reduce latency and improve application performance with agile OpenStack clouds at the network edge

Case Study
Customer Profile

Based in Asia, the customer is the international operating division of a premier telecommunications service provider. Covering more than 3,000 cities and 150 countries, the service provider’s network supports a portfolio of integrated global communications solutions which include Ethernet, IP, fiber and satellite transmission solutions, international voice and VoIP services, managed network & security services and expanding “as-a-service” solutions including OTT video and Unified Communications.

Business Strategy

The service provider is leveraging its global network to add new value-added cloud services. The first phase of the new service strategy is to build next generation data centers at strategic locations on its worldwide network. Two centers are currently in progress, with planned expansion to other locations. The cloud services provided in these centers are designed to enable:

- Self-service provisioning to accelerate service deployment, reduce manual intervention and eliminate errors and rework.
- Seamless integration with and easy consumption of existing service provider integrated communications solutions.
- Delivery of additional value-added services (e.g., security services, video services, application suites, etc.) that can be easily added on-demand.
- Integrated connectivity to public clouds and legacy infrastructure to create enhanced, enterprise-level services.
- The creation of a jumping-off point for the delivery of sophisticated customer-centric services at the network edge (e.g., virtual CPE, NFV, IoT enablement, etc.).
Customer Requirements

- The user interaction must be streamlined to a single user interface (portal).
- Services must be “packaged” to enable easy description, consumption and deployment.
- Services must be seamlessly deployed across multiple sites while maintaining a secure, customer-centric view across all sites.
- Services must be dynamic while maintaining full life-cycle management (e.g., create/destroy services multiple times during a given period).
- Services must be elastic, with the ability to scale up/down based on a variety of business and operational factors (e.g., time of day, seasonal, flash crowd, etc.).
- Connectivity to existing service provider integrated communications services must be fully automated.
- The solution must be open by design, enabling service management through external sources (e.g., OSS/BSS) and participation in extended cross-provider, cross-location solutions.
The Solution

CPLANE teamed with Canonical to deliver the essential platform elements of the service provider’s new cloud services.

1. OpenStack on Ubuntu, the industry’s highest performance cloud solution, now represents 55% of all OpenStack cloud deployments.

2. CPLANE’s Dynamic Virtual Networks delivers unmatched performance and scalability for OpenStack clouds:
   - Full integration with Ubuntu OpenStack for automated cloud services provisioning.
   - Scale from single small cloud pod to multi-pod/multi-site with hundreds of compute nodes and thousands of VMs.
   - Integrated connectivity to external networks through Overlay Gateway Router (VNF or whitebox switch).
   - Multi-site Manager for distributed OpenStack Cloud orchestration
     - Large scale cloud service centers
     - Network Function Virtualization infrastructure (NFVi)
     - Function-specific micro-sites (e.g., cell towers).
   - Customer-centric service topology and security management.

3. Canonical’s JuJu Charms extends the Canonical/CPLANE OpenStack solution by providing an automated mechanism to deploy base OpenStack cloud services, and enables a full ecosystem of value-added services for enterprise and edge applications, NFV and Internet of Things (IoT) enablement.
Benefits

The integrated CPLANE and Canonical solution:

- Delivers high-performance, elastic infrastructure that maximizes asset utilization
- Eliminates manual, error prone service processing and dramatically shortens the service delivery life cycle
- Removes the complexity of multiple systems and OpenStack APIs
- Streamlines service integration and enables leverage of existing services
- Provides an open platform for cross-carrier, cross-location, and new edge services

Deployment Model

The service provider’s customers request services through the self-service portal. Service orchestration is provided through a variety of OSS/BSS systems, including the JuJu Charms Store, which provides a catalog of available services. The service requests are then passed to CPLANE’s Multi-Site Manager through consolidated APIs, which in turn orchestrates the creation of OpenStack compute, storage and networking infrastructure services, including integrated connectivity.
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 endpoints, 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