ZTE hybrid cloud solution, meeting various service demands of 5G

With the acceleration of the 5G era, rich and diverse Internet services have emerged. More and more, enterprises use different cloud service models to solve the problem of rapid service deployment according to the business type.

Public cloud is a technology leveraging external Internet resources to gain IT resources and IT services, and deploy information applications. Large and medium-sized enterprises can obtain efficient computing power and low-cost operation and maintenance (O&M) services on the public cloud, so as to deploy services easily and quickly. However, these enterprises face problems such as large volumes, complex organization, and service data security, which raises concerns for them when it comes to using public clouds.

Private cloud integrates and streamlines resources based on internal resource pools on the basis of enterprise IT virtualization to meet specific IT requirements. Private clouds have the advantages of wide coverage, complete infrastructure, and reliable and secure data, which can meet the needs of enterprises' comprehensive service deployment. However, many enterprises are discouraged by the high construction costs and O&M of private clouds.

Hybrid Cloud is a combination of private cloud and public cloud. It can take advantages of both and take into account the IT construction ideas developed by traditional IT

technology architecture. It combines the security and controllability of private cloud, and the economics, efficiency and scalability of public clouds.

Fully considering the advantages and disadvantages of private and public clouds in a multi-cloud coexistence environment, ZTE proposes a hybrid cloud solution that will help operators achieve optimal distributed deployment by deploying private cloud at edge and using public cloud for the core data center to meet the demands of future 5G multi-service development. This is also the main development trend of cloud computing in recent years. The solution utilizes the reliability of private cloud to store important data in the local data center, and can also use the flexible and expandable computing resources of public cloud to complete the work more efficiently and quickly. The 5G-oriented hybrid cloud platform solution is also the best way of absorbing advantages of different sides.

ZTE proposes these hybrid cloud solution features:

More convergent: The hybrid cloud solution is able to integrate with interfaces of many mainstream public cloud providers (Alibaba Cloud, Tencent Cloud, etc.), and encapsulate them as a unified interface for the infrastructure layer to implement unified allocation, utilization and monitoring on compute, network and storage resources in the hybrid cloud, to achieve unified management of private and public clouds. Services can lease resources flexibly from the public cloud if resources of private cloud are not sufficient, in which case the solution masks the differences of private and public clouds in terms of MANO and APP, and provides consistent services. It is an end-to-end one-stop solution.

More compatible: The cloud platform carries out unified management of multiple physical machine / virtual machine / container pools, multi-vendor heterogeneous

resource pools and various acceleration hardware resources, to achieve optimal deployment and dynamic adjustment of resources. In case of peak service load, it allocates services to the public cloud and private cloud according to resource load to achieve smooth inter-cloud service migration and flexible service handover.

Easy to maintain: The distributed architecture based on "Center + Edge + Access" data centers (DC) achieves hyper-convergent deployment and unmanned O&M at the edge, carries out AI-based prediction and big data analysis at the core, provides visual network topology, intelligent patrol, alarm self-healing and health analysis, achieving unified O&M, backup and upgrading of the core DC.

More secure: The private cloud is established by the operator exclusively, to execute the most efficient control of data security and service quality. Based on the distributed storage system, public cloud data can be recovered to the private cloud through cross-cloud disaster recovery and backup, achieving carrier-grade reliability.

More economical: This solution protects original investments on private cloud, and makes full use of private and public cloud resources. According to its service features, the operator can deploy applications to adaptive resources, such as deploying control plane VNFs to the core public cloud, and deploying forwarding plane VNFs to the private-cloud edge to reduce investment cost. In addition, in case of peak traffic and disaster recovery, operators can flexibly lease public cloud for dynamic resource scheduling. After the event, resources are returned quickly, improving resource utilization rate.
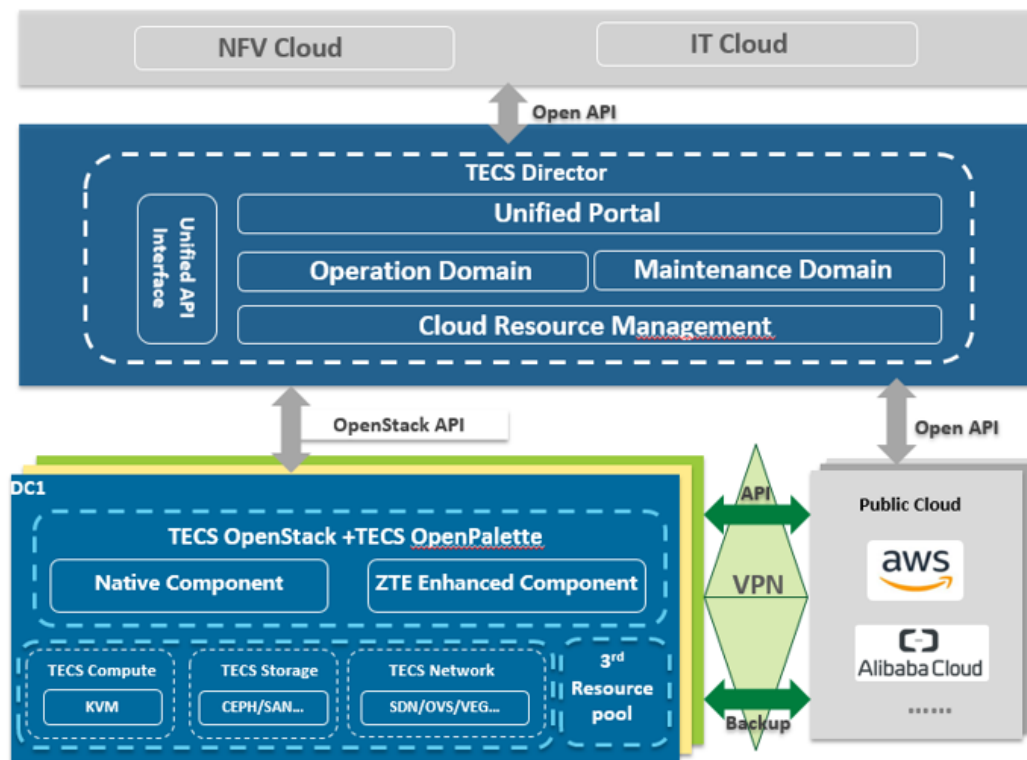
ZTE's hybrid cloud solution has fully taken operators' service demands and investment costs into account, and has introduced a container to assist in cloud-native evolution. Unified management of hybrid cloud resources achieves smooth upgrading of the 5G network. It provides cross-cloud services to enable rapid deployment of 5G services. This solution technically shields the underlying physical details and realization details, reducing operators' trial and error costs, and achieving flexible service deployment and rapid onboarding based on the hybrid cloud. Thus, the customization capability of private cloud, and sharing and ecological capabilities of public cloud, are converged organically, guaranteeing operators' services moving on private cloud and public cloud freely, and these services will be well protected, applied and shared.