Hybrid Cloud Cloud Bursting

Scale your IT infrastructure, on the cloud, with an almost unlimited storage and computing capacity

Introduction

With the rapid expansion of cloud computing, public and private cloud models have brought about a revolution in the way organizations operate. The public and private cloud have also merged and evolved into their own customized model known as the Hybrid Cloud.

The Hybrid Cloud offers the benefits of both public and private cloud models by enabling the organization to decide which data or applications to place on which section of the cloud. A hybrid solution provides the agility, elasticity, and cost-effectiveness of the public cloud, without compromising data security as offered by the private cloud.

Background

Hybrid Cloud solutions provide the flexibility to migrate and test data and applications on the public cloud while keeping important data in a private and secure environment. Organizations can define, as per their needs, which applications to deploy in the public cloud and those they wish to manage in the private cloud.

Alibaba Cloud offers a customized hybrid model known as Cloud Bursting. This comprehensive cloud bursting solution ensures workloads can seamlessly move over to public cloud from private cloud/on-premise infrastructure, so that organizations are well prepared to respond with agility to unexpected and sudden spikes in demand. It also allows for the organization to bring the workloads back to the private cloud/on-premise infrastructure when the workload decreases/ as per business needs. The organization only needs to pay for extra computing resources they use on a Pay-As-You-Go basis.
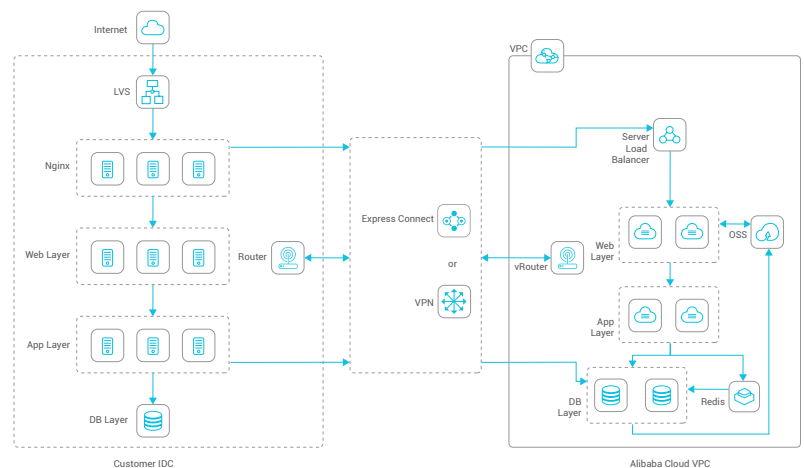
Highlights

- Business continuity
- Flexible architecture
- Tiered load balancers

Benefits

✓ Almost unlimited computing and storage capacity

✓ Auto Scaling as per requirements

✓ Extension of on-premise environment

Recommended Solution Architecture

For this architecture, Express Connect or a Virtual Private Network (VPN) provides connection between the customer environment and the Alibaba Cloud Virtual Private Cloud (VPC). The complexity of cloud bursting lies in selecting and setting up tiered load balancers between the on-premise and cloud environments.

When the load for the on-premise infrastructure is low, using an Nginx or HAProxy, a single node load balancer is sufficient to handle load-balancing needs. However, as the load increases beyond the level of handling for a single Nginx node, a load balancer is used to support clustering such as an LVS or F5 reverse-proxy node to direct the traffic to Server Load Balancer.

Once the tiered load balancer is fully set up, an organization can treat Alibaba Cloud resources as an extension of its on-premise environment with almost unlimited and on-demand computing and storage capacity.