Dimension Data CloudControl

Dimension Data CloudControl™ is a complete set of technologies deployed to deliver the Dimension Data Infrastructure-as-a-Service (IaaS) offering. It comprises a robust set of elements including:

- Enterprise-grade hypervisor software
- Application software that manages service orchestration with the hypervisor and server layers to allow account provisioning, cloud server and network deployment, and vendor reporting and end-to-end billing.
- Next-generation load-balancing and application-delivery solution
- Platform monitoring
- Enterprise-grade appliance for flow monitoring and Denial of Service (DOS) and Distributed Denial of Service (DDoS) protection
- Enterprise-grade appliance for Intrusion Detection and Prevention

General Architecture

The Dimension Data CloudControl proprietary software architecture includes four primary tiers:

- **UI Tier**: Provides an easy-to-use web interface. This allows customers to control their IaaS account while enabling vendors to create and manage the customer IaaS accounts.

- **API Tier**: Provides programmatic support for the UI Tier, and for direct function calls by customers and vendors.

- **Integration Tier**: Houses the underlying intelligence, and interfaces with the infrastructure to instantiate changes.

- **Cloud Usage Tier**: Identifies changes in the account environment that impact usage elements such as CPU or RAM hours, etc.

Best-of-breed technologies

Process Automation

Easy-to-use UI and API

Multi-Tenancy Support
CloudControl Features and Benefits

Service Delivery Layer

Web Console: Dimension Data offers an intuitive, web-based user interface that allows full control and administration of cloud-based servers and storage, including the ability to:

- Launch and control cloud servers
- Change cloud server memory, CPU, and storage usage
- Clone or import customer images
- Build new network domains and cloud networks
- Assign and remove network access translation (NAT) addresses
- Build new firewall rules
- Add/remove users from account
- Monitor and auto-scaling
- Access self-service direct console

RESTful API: To provide maximum flexibility and interoperability between cloud and data center-based applications, Dimension Data CloudControl offers three APIs. These APIs enable developers to automate the provisioning and management of cloud resources quickly and efficiently using scripts. The APIs include:

- **Cloud Open API**: Allows IaaS accounts to programmatically control and report on their assets
- **Cloud Files API**: Controls cloud files accounts
- **Vendor API**: Allows private IaaS customers to provision and manage their accounts

Service Administration

- **Metering and Billing**: Dimension Data CloudControl tracks customer usage for back-end billing and/or chargeback and showback. CPU, RAM, storage, and software resources can be viewed in aggregate by customer and analyzed by vendor-defined pricing plans.

- **Reporting**: CloudControl provides detailed reporting and an audit trail. Administrators can view a daily summary as well as detailed usage reporting for every asset in the customer account. Reports log all user actions taken through the admin UI/API, providing administrators with a complete audit trail for changes made to the environment.

- **User Permissions**: Each account has a Primary Administrator who controls the account, and can grant or deny full access and control the role of sub-administrators.

Resource Management

- **Servers, CPU, RAM**: You can provision virtual machines and right size RAM (1-128 GB and up-to 256 GB for certain locations) and CPU (1-16CPUs and up-to 32CPUs for certain locations).

- **Storage**: Minimize storage cost by matching disk performance to applications requirements. Selectable disk speeds include standard, high performance and economy.

- **Networking**: With CloudControl, you can deploy network domains as well as layer 2 VLANs across data centers in different geographies.

- **Firewalls**: Use CloudControl’s firewall functionality to block inbound and outbound traffic to your cloud network, whether the traffic comes from, or is destined for, the public internet or other cloud networks. The firewall can be managed by establishing access control list (ACL) rules for your cloud network.

- **VPN**: Establish a secure client-to-site (C2S) VPN connection that allows secure access and administration of deployed cloud servers via Secure Shell (SSH) or Windows Remote Desktop Protocol (RDP).

- **Load Balancing**: CloudControl can be used to create server farms with associated Virtual IP (VIP) addresses that distribute workloads to a group of servers. The load-balancing feature is built in to the Dimension Data platform and carries no additional cost.

- **NAT**: CloudControl makes it easy to map public IP addresses to private IP addresses associated with a cloud server using NAT. This makes cloud servers on the Dimension Data Cloud visible and accessible over the public internet.

- **Multicast**: Many clustered services require multicast at layer 2 to work properly. However, the multicast groups created for these services themselves require management. The Dimension Data Cloud can be enabled to manage multicast groups on a per-network basis.