Digiedge
Cloud server and HE rack build out

Overview

Digiedge is looking to create a presence on the internet with 3+ servers and related IT infrastructure, and are putting this in a 12U (¼ rack) with a power limit of 2A @ 110V in a Hurricane Electric colocation facility in Fremont, CA.

Lopoco is offering to supply a 1U, ultra-efficient server to provide those resources using a private cloud deployment. This first server as initially configured in the accompanying quote, plus the firewall appliance, will consume less than 1A @ 110V at maximum power consumption. At idle, the server will consume approximately 30 watts and approximately 90 watts* (or about 0.82 amps) max.

Lopoco LPM-8200-6H Server running Proxmox VE

See the attached quote for a Lopoco LPM-8200 class server outfitted for running a private cloud cluster environment, utilizing the Proxmox VE cloud software suite. This software suite allows users to completely control, monitor and configure their cloud deployment utilizing a secure web interface from anywhere on the internet. Users can see what virtual machines and containers are provisioned, how they are configured, which ones are currently running or not running, connect to the virtual console for each machine, and create new VMs, containers or templates. Templates are read-only virtual machines that can be cloned with a click of the mouse, configured and booted in seconds, allowing users to create and destroy VMs quickly and easily as needed to perform their development work.

This extremely efficient, excellent performing server features a 2.0-2.6 GHz Intel D-1540 CPU with 16 logical cores, 32GB of ECC DDR4 memory which can be quickly upgraded to 64GB with the addition of two memory modules, or upgraded to 128GB if so desired. It is understood that, due to the remarkable power efficiency of Lopoco servers, they cannot be user-upgraded without voiding the warranty.

The memory configured at 32GB of ECC DDR4 RAM should be enough to run 6-12 virtual machines simultaneously, each utilizing approximately 1-4 GB of memory. The cloud software does a certain amount of memory thin provisioning for virtual machines, allowing a VM to boot with a minimal amount of physical memory allocated to it, perhaps 512MB, but believe that it has 4GB available. Physical memory will be allocated to the VM on an as-needed basis. The minimum amd maximum for each VM can be individually configured.

The disk subsystem can utilize up to six disks, and is currently quoted for 3 x 500GB SSDs which will be utilized in a Raid-5 configuration providing some redundancy and a useable storage of approximately 1TB, minus a small amount of overhead space needed for the OS and metadata. 3 hot-swap disk slots remain, and can be configured with up to 2TB disks in the future, which would allow

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for approximately 4TB of additional Raid-5 disk storage should the need arise. Should the need for disk storage become greater than that, a storage server can be purchased and the cloud software configured to make that network storage available for VMs; or other cloud or bare-metal servers with their own storage added as needed.

The cloud software operates as a cluster, hence as additional servers are needed, they can be added to the cluster, allowing maintenance and configuration of the entire cluster from one interface. VMs can be migrated between servers in the cluster and even configured to operate in a high-availability scenario.

The Proxmox VE cloud software license requires a monthly service contract, which provides for support and upgrades. The prices are quite reasonable. For this single server cluster, the monthly fee would be approximately $21.00/month, or about $250/year. A paid license is not required for continued operation of the software.

Firewall/Router

A modest Juniper firewall/router appliance is quoted. Both functions are essential for having machines on the internet, and this appliance is one of the most cost effective available, and requies no expensive yearly software contract.

Other Services

Lopoco can offer other services such as: system monitoring; alerts (email, text-message) for system or service outage; system usage statistics gathering and display; regular or spot maintenance and configuration. We also have offsite DR (disaster recovery) backup service. Please inquire if interested.

Description	Price/mo	Yearly
DR Offsite Backup Service	$160	$1,728
Offsite disaster recovery backup service for entire machine or select data sources		
One time setup fee - $250		
Remote Monitoring and Alerting	$132	$1,426
Service outage and availability monitoring with outage alerts via email and SMS messaging		
One time setup fee - $250		

* Each server undergoes power consumption testing at the time of manufacture, and is packaged with a system sheet specifying the detailed, guaranteed, power consumption both at idle and TDP (maximum).