



vGRID Infrastructure

Products & Services Definitions

LayerX

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Introduction

LayerX Cloud Limited, through platform brand 'vGRID', delivers on-demand hosted services over the Internet providing technology solutions that were once only available to large corporates. These enterprise technologies are now available to smaller organisations as a result of economies of scale and buying power. Coupling these technologies with software interface 'smarts' make the programs and technology easier to use – we call this the vGRID Service Provider Stack.

The purpose of this document is to define each of the products and services available through the vGRID infrastructure services platform. These definitions represent the current go-to-market thinking and use-case understanding. All vGRID services are delivered via the vGRID Service Provider Stack – a software platform designed from the ground up to deliver cloud services in real-time.

What is vGRID?

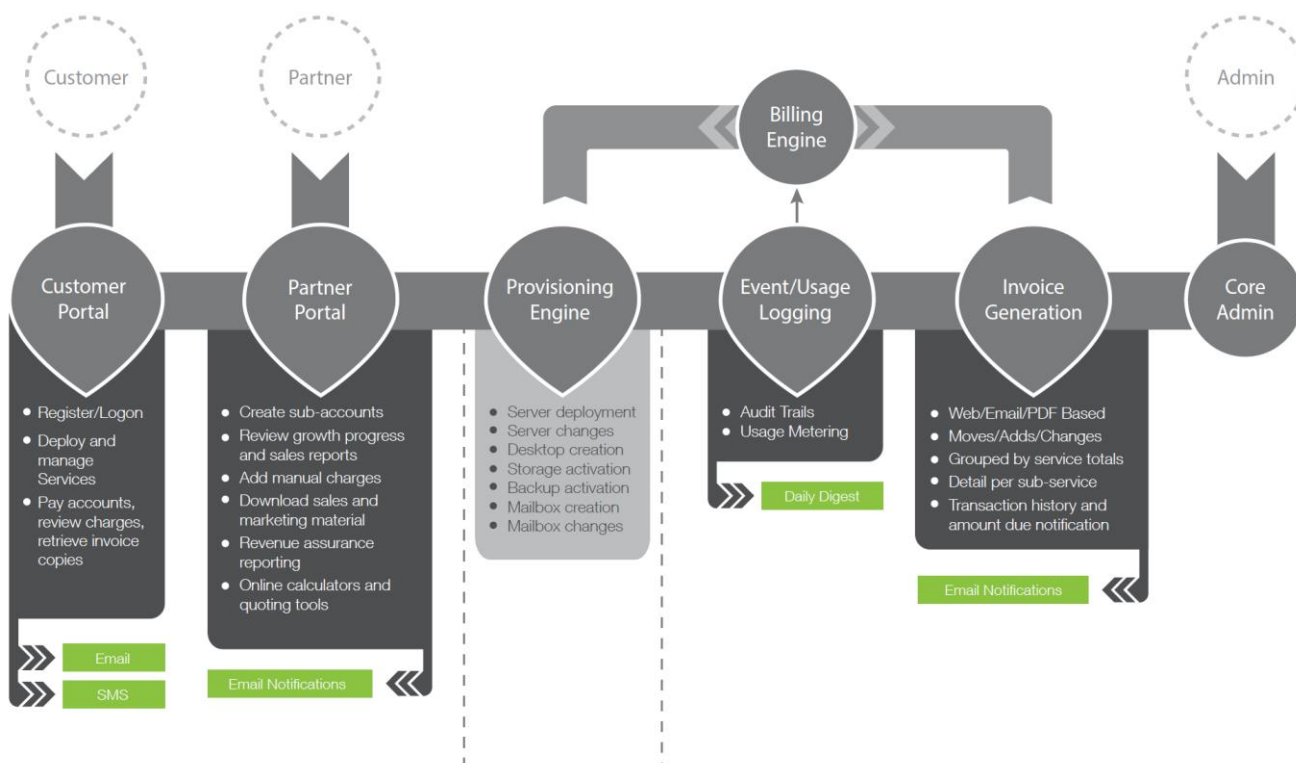
Cloud computing has become an important tool for IT managers in controlling the cost and complexity of business-critical applications and data. Cloud computing is compelling to enterprises because it allows them to consolidate resources, provision services more quickly, and even rationalise costs more effectively with new business models.

As virtualisation is now a critical component to an overall IT strategy, it is important to choose the right vendor. vGRID uses VMware for server infrastructure because it is the leading business virtualisation infrastructure provider, Veeam as the industry leader in virtualisation backup services, and HPE 3PAR StoreServ as the world leader in high performance SAN technology, offering the most trusted and reliable platform for building our cloud platforms.

vGRID delivers industry-leading performance, increased flexibility, and benefits from high availability self-service enterprise infrastructure and platforms.

vGRID Service Provider Stack (SPS)

The software platform responsible for making the hard stuff easy, for empowering end-users to manage their own information technology needs, is known as the vGRID Service Provider Stack. Developed from the ground up to enable elastic cloud services consumption, the platform delivers automation for the provisioning, management and billing of cloud based services. Accommodating scale without the burden, cost and delays attributed to a provisioning process involving human touch-points.

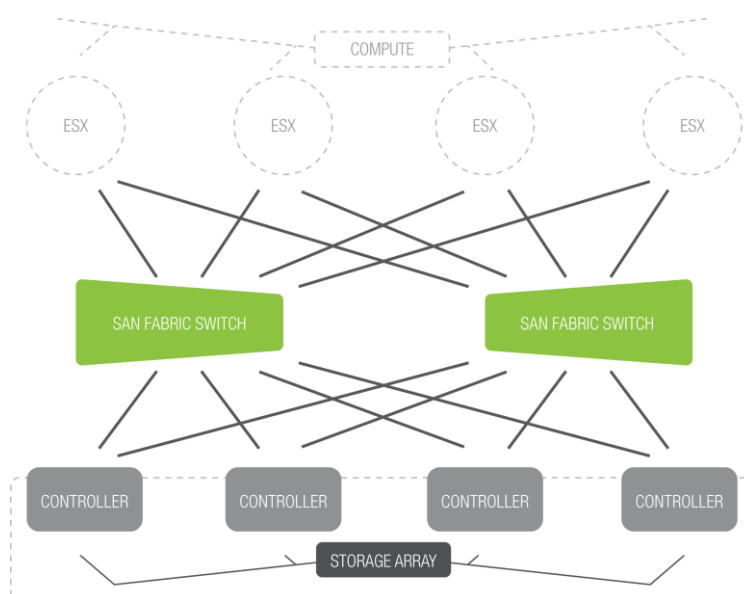


Virtual Machines – vGRID Enterprise

A virtual machine (VM) is a mixture of compute and storage resources consumable in the same way a physical machine would be, but with a significant number of additional benefits. The use-cases for a VM are widespread, anything from a web-application through to enterprise software solutions, delivered across a VPN or a direct LAN extension. To differentiate vGRID from other providers we focus on two very prominent benefits – all VMs on the vGRID platform enjoy industry leading resilience and flagship performance.

Resilience

Operating a VM on the vGRID platform means the server resources are delivered from an inherently resilient cluster of compute nodes, all with multi-path attachment to highly resilient storage area networks (SAN). The following diagram shows the structure of a typical vGRID compute cluster.



Every compute node connects to multiple controllers and every controller connects to every other controller as well as the storage environment (mesh architecture). If the compute node that a VM is running on has any sort of failure or fault, the VM will immediately reboot on an alternate compute node and continue, minimising the impact of any unforeseen hardware or system failure.

Performance

With HPE 3PAR StoreServ at the core of every vGRID cluster, boasting the latest in disk technologies and performance management, customer applications can rely on and expect a consistent level of performance. With tiered storage and live migration technologies in the stack, customers can also move workloads into higher performing or lower cost modes as and when required.

The performance of any application requires a balance of resource capability, CPU / RAM / Disk, able to deliver what the application needs, when it needs it. Improper balance can cause unforeseen bottlenecks, for example too much RAM and not enough CPU can create a situation where the server becomes 'CPU Bound' because too much CPU resource is being tied up dealing with RAM allocation, addressing and coping with all the pages of data stored in memory. On the flip-side, too many CPU's and not enough RAM can result in a combination of excessive CPU load not related to the application itself and increased disk IO caused by the constant need to swap pages of data out of RAM and on to the disk storage to free up RAM for active threads.

Whilst there is no avoiding the need to plan and tune the resources assigned to a server, the vGRID platform ensures that all resource elements are high performing and able to cope with even the heaviest workloads. Taking this one step further, the vGRID platforms offer multiple tiers of storage based on performance requirements, aligning storage costs with storage performance.

- All VM infrastructure is delivered via VMware vCloud v5.x and v6.x and is vCloud certified
- All backups are performed using Veeam Backup and Restore Availability Suite v8.

Launch Date: Available Now.

Backup Plans – vGRID Enterprise

	Basic	Premium	Premium Plus	Enterprise	Enterprise Plus
Daily On Site	14 Days	14 Days	14 Days	14 Days	14 Days
Hourly On Site*	-	-	-	2 Days	2 Days
Weekly Off Site		12 Weeks	12 Weeks	12 Weeks	12 Weeks
Monthly Off Site	-	-	12 Months	-	12 Months

On Site Data

All references to “On Site” relate to the storage of backup data in the same datacenter location as the production Virtual Machine (VM). This backup data is stored on separate physical media from production storage and can be used to restore an entire VM or files within a VM at the local site. Because this data is stored at the same location as the production data however, the risk of data loss is the same as the production data in the event of a catastrophic event at the location itself, such as a building fire or natural disaster.

Off Site Data

All references to “Off Site” relate to the storage of backup data in a remote site connected to the primary site by high speed fiber optic networking. This ensures the data is geographically dispersed and not at risk of loss that could be caused by a catastrophic event at the production site. The restoration of this remote site data is dependent upon the availability of resource capacity at the remote site at the time of the event. To guarantee availability of resources at the remote site a “DR Reservation” package would need to be included in the solution.

Notes

* Hourly backups are performed between the hours of 7am and 9pm, Monday to Friday.

** Costs are per GB of disk presented to the VM, per calendar month.

Launch Date: Available Now.



File Backup – vGRID Protect

vGRID Protect file level backups run in almost real-time behind the scenes ensuring users can conduct their daily business with the confidence of a very granular incremental backup solution.

Leveraging the well-known and very elegant software solution from CrashPlan, the vGRID Protect file level backup solution provides end-users with full control over backup policies and recovery processes. It also provides for multiple location backups (local USB hard drive, cloud target or another computer) and has mobile device clients for remote access to backup repositories.

By running silently in the background, vGRID Protect continuously protects data created and stored on employee laptops and desktops without disruption. vGRID Protect automatically backs up data to the destinations of your choice, with no user intervention required. Users can quickly and easily restore data on their own, to any device.

Enterprise-Grade Security

All files are encrypted on the device and remain encrypted in-transit and at rest. Support for two-factor authentication, directory services and single sign-on facilitates secure user management.

Secure Mobile Access

The mobile app adheres to the same security as the desktop app while keeping employees productive and in touch with all their work, no matter where they are or which device they use.

Restore Wherever You Go

Whether you're at your desk, on your phone, at home or at the airport, vGRID Protect provides secure, self-service file restore, and access on any network or platform.

Protect Every Device

Protect all major desktop operating systems and provide file access on all major mobile platforms with a single solution.

Launch Date: Available Now.



HomeDrive
secure file sharing for business data

Secure File Sharing – HomeDrive

Secure file sharing for you, and your business! HomeDrive is an easy and secure way to collaborate on and backup critical files from any location. Alleviate the hassles and high costs of traditional document management. Below are just a few of the great features of the HomeDrive service.

Encrypted Local Drive

HomeDrive creates a secure area on your local hard drive called a Vault. All folders and files stored on a Vault are protected by 256-bit encryption. When the HomeDrive application is closed, your Vaults are invisible, making it impossible for unauthorized individuals to access your private data. Starting the HomeDrive application, and entering your personal password (only known by you) un-hides the Vaults and makes them readily available within your standard file management applications (i.e., Windows Explorer, Mac Finder).

Theft Guard Remote Wipe

In the event your computer or mobile device is stolen, HomeDrive uses a unique serial number assigned to each device to give you the ability to remotely wipe all files and folders on your cached HomeDrive Vaults. The tracking even allows you to locate the missing device on Google Maps.

Unlimited Storage

Hard drives crash and computers get stolen but that doesn't mean your data will be lost. Every time a file is changed or a new file is saved on your Vault it gets replicated up to the HomeDrive servers housed within the vGRID platforms. The unlimited storage resource is subject to our Fair Usage Policy to ensure users are afforded equal access to the service.

File Revisions

Data loss prevention is also available when your files are accidentally deleted. HomeDrive retains backups of your Vaults allowing you to retrieve past version with a simple restore function from your HomeDrive online portal.

Online Trashcan

When a file is deleted on a shared Vault, all individuals sharing the Vault have the file deleted from their local drive. In the event files are deleted when you didn't want them to be deleted, all files are preserved in your Online Trashcan.

FileLink

Instead of e-mailing large files, FileLink allows you to e-mail a short-URL. The recipient clicks the link to download the file from your Vault on HomeDrive servers. A plugin for Outlook is available to generate FileLinks on the fly while writing the e-mail. Links can carry your corporate branding.

Access Control

Exchanging files with individuals in your extended network emphasizes the need for additional security. FileLinks and FolderLinks therefore include the following options: password protected links, a limitation on the number of file downloads allowed, and expiration dates for when the links no longer function.

Delta Sync

HomeDrive employs DeltaSync technology to speed up the synchronization process by only updating the portions of the file that have changed.

File Notifications

Keep track of when others add, delete, or modify files within your shared Vault. File Notifications allow you to set e-mail alerts on specific files or entire Vaults so you can keep track of any changes to your files.

Launch Date: Available Now.



Hosted Exchange 2016 – vGRID Mail

Hosted Exchange is a compelling solution for utilising the world's leading email and collaboration platform.

Save time and money by using the vGRID Mail service for your email requirements. Maintain full control over your company email settings while gaining the advantage of hosting your email on the high performance and resilient vGRID platform. Manage your organisation efficiently via the vGRID customer portal, an easy-to-use, web-based interface.

With a Full Exchange account everything is stored centrally on the vGRID platform, so you always see the latest version of your email, tasks, calendar and contacts. Mobile access is enabled on all vGRID Mail accounts; giving you the freedom to sync your mail, contacts and calendar with your mobile phone or tablet.

The combination of Microsoft Exchange Server 2016 with Outlook 2016 allows you to take advantage of all of the features available in an enterprise-grade email system.

The enterprise level plan provides for unlimited Litigation-Hold retention and email archiving as well as boasting 50GB of storage for the mailbox itself.

Mail is recoverable within Outlook for 14-days from the date of deletion. You can simply right-click the deleted items folder and select 'recover deleted items' which will trigger the process of reviewing the deleted items folder on the server (even if you empty the trash). For mailboxes with Litigation-Hold enabled, an export of the offline retention store is available upon request from the support desk.

For full mailbox recovery from system backups, mailboxes are backed up daily on 14-day rotation cycles (the oldest copy of your mailbox will be 14 days). You can request a full mailbox restore via the service desk.

With the vGRID Mail backup solution it is possible to restore a single email message or a full mailbox, the granularity makes this feature very powerful.

Launch Date: Available Now.



Infrastructure Backup – vGRID Cloud Connect

Get your backups off site without the cost and complexity of managing an offsite infrastructure. Veeam Cloud Connect provides a fully integrated, fast and secure way to backup and restore from the cloud.

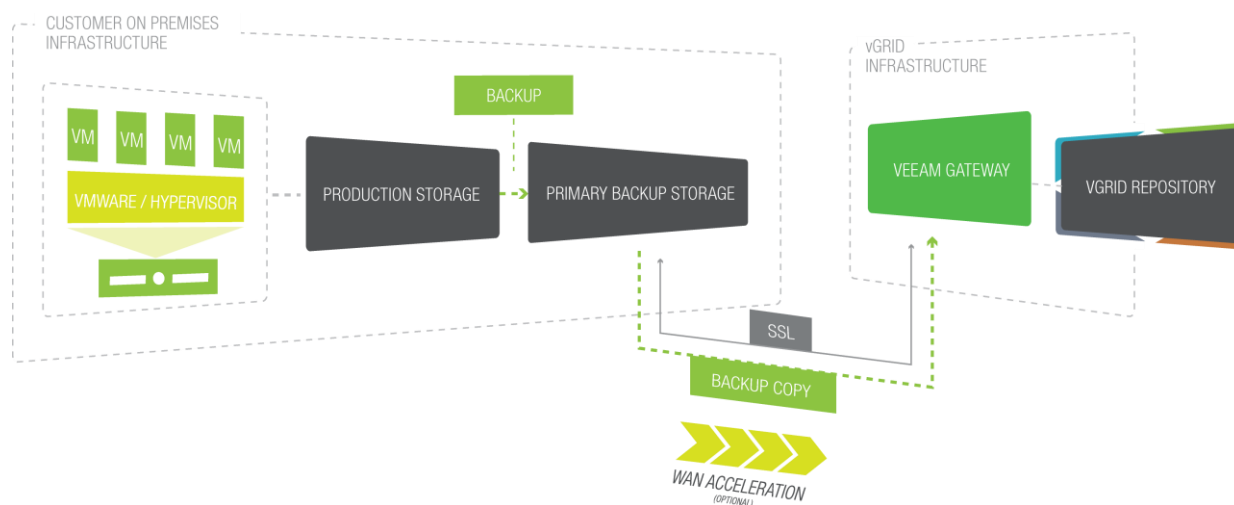
Simply point your backups to the vGRID Infrastructure Backup repository – offsite backup has never been so easy!

The added benefit of targeting the vGRID Infrastructure Backup repositories is that these backups can be ‘powered on’ as operational machines on the vGRID platform in the event of any failure of the on-premise production solution (capacity reservation required).

A Veeam Cloud Connect license is required per VM being backed up. A Veeam Backup and Replication VM instance license is required per VM being restored from the backup within the vGRID infrastructure - reported only for the month(s) active.

The process of testing the replicated data, for BCP integrity compliance, takes only a few minutes because the VM’s can be mounted into the vGRID compute clusters directly from the vGRID Cloud Connect backup store. This tier of disk is very slow compared with production workload tiers but should be fine for most integrity check functions.

The process of going into production from the replicated data is also very smooth as the VM’s can be mounted into the vGRID compute clusters within a few minutes and powered on, then whilst running the underlying disks can be live-migrated to the production storage tiers negating the need for a full ingest of the data prior to powering on the VM.



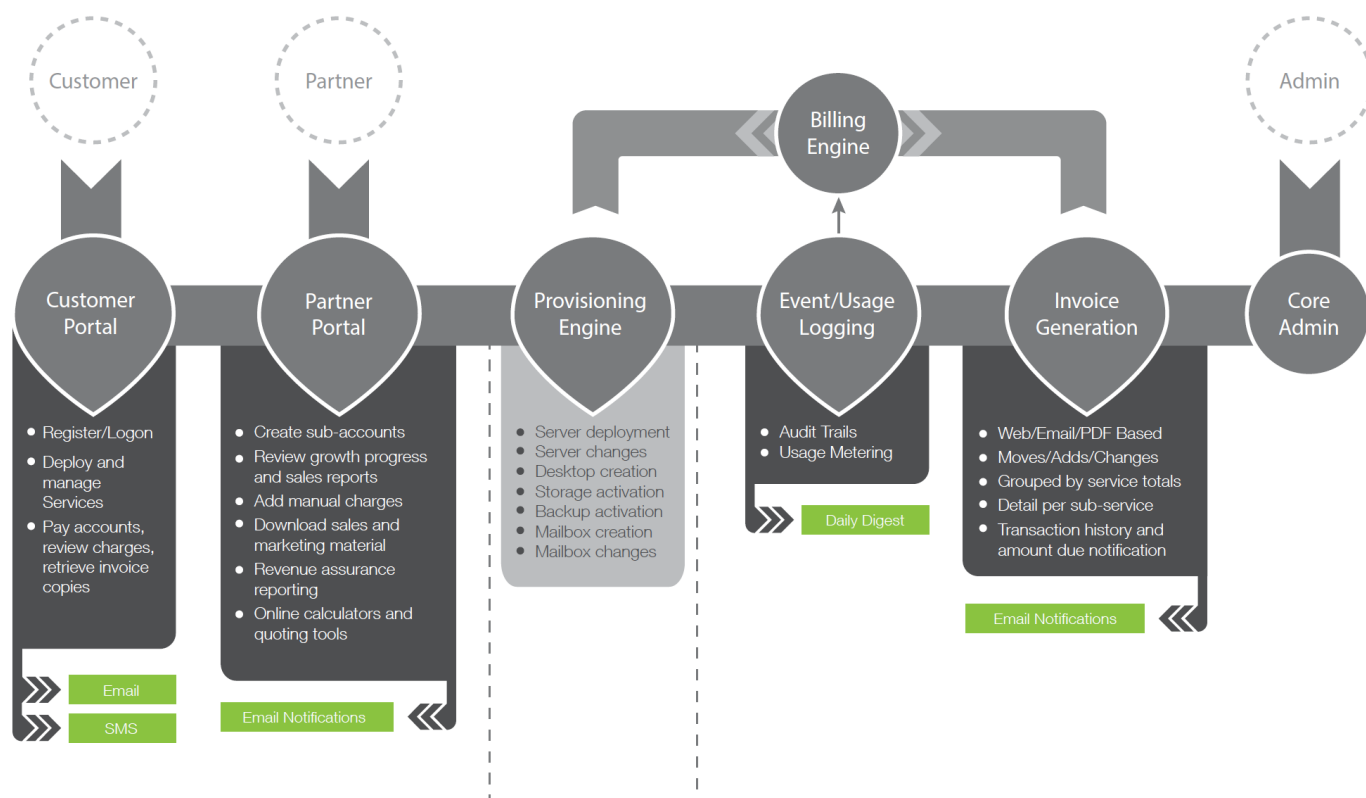
Key Benefits:

- Complete visibility and control - Access and recover data in hosted backup repositories directly from the backup console; track cloud repository consumption and receive reminders and alerts for storage usage
- A modern backup architecture – Leverage the latest in backup technology from Veeam, including backup copy jobs with built-in WAN acceleration, incremental-forever backups, GFS (grandfather-father-son) retention policies and more
- End-to-end encryption – Rest easy by encrypting all data at source (before it leaves your network perimeter), data in flight and data at rest, without negatively impacting the data reduction ratios of built-in compression and WAN acceleration.

Launch Date: Available Now.

vGRID Service Provider Stack

The software platform responsible for making the hard stuff easy, for empowering end-users to manage their own information technology needs, is known as the vGRID Service Provider Stack. Developed from the ground up to enable elastic cloud services consumption, the platform delivers automation for the provisioning, management and billing of cloud based services. Accommodating scale without the burden, cost and delays attributed to a provisioning process involving human touch-points.



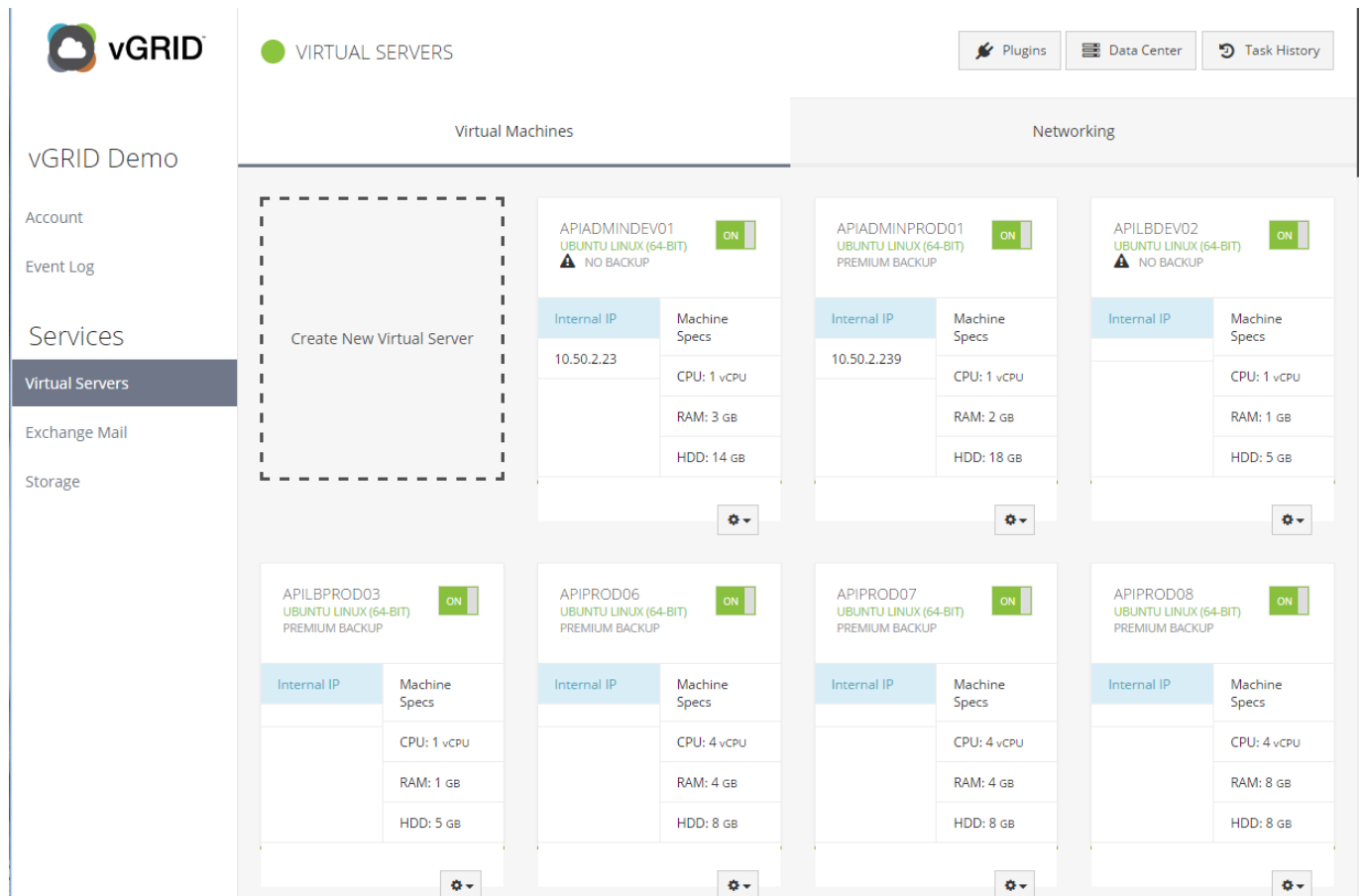
The decoupling of each subsystem that drives the vGRID environment not only ensures no single subsystem can adversely impact the rest of the stack, but also allows for constant evolution and upgrade of the tools and technologies employed without major disruption to the myriad of user interfaces. This decoupled approach also allowed the development to take a ‘tool for the job’ approach to design and build, allowing technologies to be used where they best fit rather than attempting to achieve all functions within a single technology or framework.

The vGRID Service Provider Stack is also endlessly scalable. Billing functions operate on a queue system ensuring no single account processing event can disrupt the remaining accounts. Every subsystem within the stack can also be hosted on separate servers and even separate locations, allowing for both scale and resilience.

Customer Portal

When an end-user signs up to the vGRID service, they do so via the customer portal. The registration process is safe-guarded by enforcing the entry of a verification code that is sent to the mobile number provided during sign-up. This prevents anonymous usage of the portal and provides a traceable contact in the event of fraudulent or malicious activity. The activation of the account also requires verification of email address, ensuring the email account is real and accessible by the end-user – as this is where the majority of communications are sent.

Within the customer portal users are able to configure their account, add users and control access to account functions. If a user has access to manage a vGRID service such as VMs, the view below would be accessible and allow for the deployment, power management, resource allocation and remote console access to VMs on the account.



The screenshot displays the vGRID Virtual Servers management interface. On the left, there is a navigation menu with options: vGRID Demo, Account, Event Log, Services (with 'Virtual Servers' selected), Exchange Mail, and Storage. The main content area is titled 'VIRTUAL SERVERS' and is divided into two sections: 'Virtual Machines' and 'Networking'. The 'Virtual Machines' section contains a grid of virtual machine cards. Each card displays the VM name, status (ON), and a 'NO BACKUP' warning. Below the name, there is a table for 'Machine Specs' including Internal IP, CPU, RAM, and HDD. A 'Create New Virtual Server' button is highlighted in a dashed box. The 'Networking' section is currently empty. At the top right, there are buttons for 'Plugins', 'Data Center', and 'Task History'.

Virtual Machine Name	Status	Internal IP	CPU	RAM	HDD
APIADMINDEV01	ON	10.50.2.23	1 vCPU	3 GB	14 GB
APIADMINPROD01	ON	10.50.2.239	1 vCPU	2 GB	18 GB
APILBDEV02	ON		1 vCPU	1 GB	5 GB
APILBPROD03	ON		1 vCPU	1 GB	5 GB
APIPROD06	ON		4 vCPU	4 GB	8 GB
APIPROD07	ON		4 vCPU	4 GB	8 GB
APIPROD08	ON		4 vCPU	8 GB	8 GB

STEP 1
Enter Machine Details

Choose Location
Hamilton

Machine Name
New Machine

Password

Confirm Password

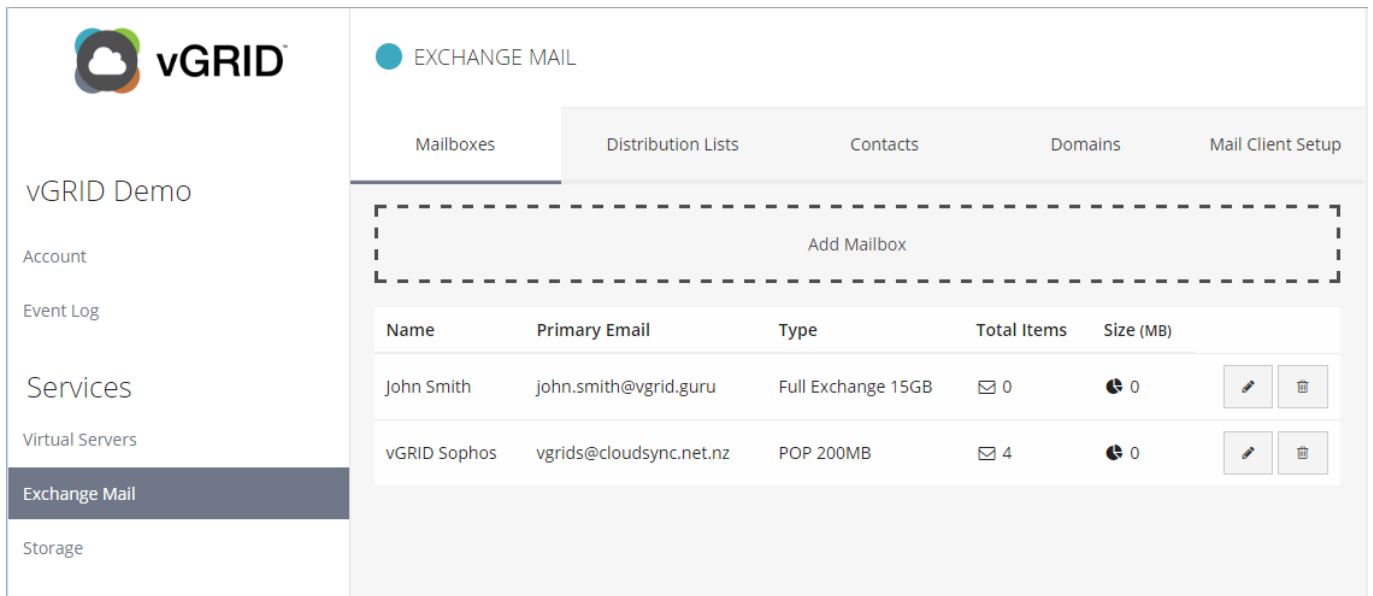
Cancel, I've changed my mind Next Step

Select A Backup Solution

☆	No Backup	Don't want a backup solution. No worries.	Free!	<input checked="" type="checkbox"/>
★	Basic	Daily backup onsite in the same location as the server, on 14 day rotation.	\$0.50 Per GB	Select
★	Premium	Basic backup (daily onsite) plus weekly offsite backups, on 12 week rotation.	\$1.00 Per GB	Select

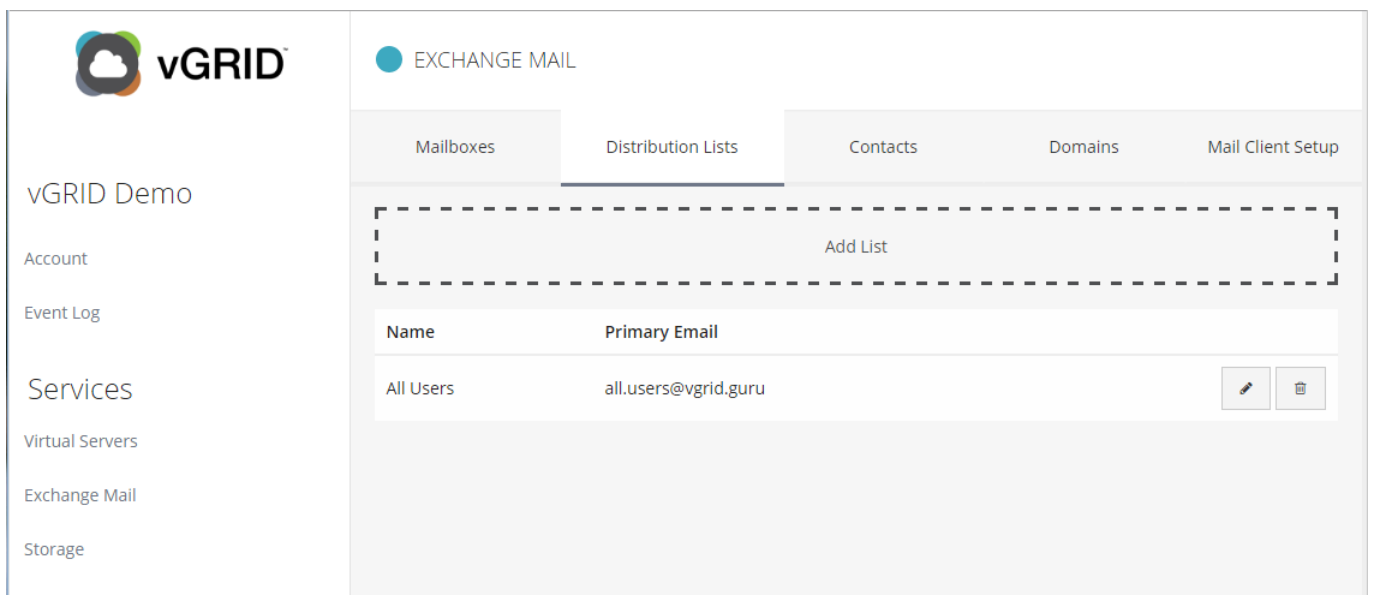
Cancel Confirm

vGRID Mail (Hosted Exchange) is another fully-automated service allowing channel partners or end-users to directly manage the mailboxes, aliases, distribution groups and mail flow security for an organisation.



The screenshot shows the vGRID Mail management interface. On the left is a navigation sidebar with the vGRID logo and menu items: vGRID Demo, Account, Event Log, Services, Virtual Servers, Exchange Mail (highlighted), and Storage. The main content area is titled 'EXCHANGE MAIL' and has a sub-header with tabs: Mailboxes (selected), Distribution Lists, Contacts, Domains, and Mail Client Setup. Below the tabs is a dashed box containing the text 'Add Mailbox'. Underneath is a table listing existing mailboxes:

Name	Primary Email	Type	Total Items	Size (MB)	
John Smith	john.smith@vgrid.guru	Full Exchange 15GB	0	0	[Edit] [Delete]
vGRID Sophos	vgrids@cloudsync.net.nz	POP 200MB	4	0	[Edit] [Delete]



The screenshot shows the vGRID Mail management interface with the 'Distribution Lists' tab selected. The sidebar is identical to the previous screenshot. The main content area is titled 'EXCHANGE MAIL' and has sub-header tabs: Mailboxes, Distribution Lists (selected), Contacts, Domains, and Mail Client Setup. Below the tabs is a dashed box containing the text 'Add List'. Underneath is a table listing existing distribution lists:

Name	Primary Email	
All Users	all.users@vgrid.guru	[Edit] [Delete]

Partner Portal

**For Partners/Resellers Only*

The partner portal is a filtered view of the core admin system, providing channel partners with the same account visibility and sales insights that the vGRID support staff see. This common interface approach streamlines the support process by removing the ‘our system is different’ hurdle.

Financial functions such as adding a credit or disabling an account are restricted to the core admin user roles, however the partner portal still provides a comprehensive toolkit for channel partners to effectively create and manage vGRID customer accounts.

vGRID Partner Portal
New Zealand

[Accounts](#) ▾ [Services](#) ▾ [Reports](#) ▾ [Operations](#) ▾ [Marketing](#) [Quotes](#) ▾ [Settings](#) ▾ [User](#) ▾

VGRID DEMO
Account Tools ▾

SUB ACCOUNT OF THECLOUD LIMITED

Details CRM Discounts Invoices & Payments Micro-Transactions Users Projects Products & Services ▾ Event Log

ACCOUNT

Account ID	6575F51C-A0EB-470D-8282-D38004A26133
Account Manager	Bruce Trevarthen
Partner/Reseller:	theCloud Limited
Address	Anywhere You Are New Zealand 3216
Account Created	16-Feb-15 04:35 PM
Account Notes	
SLA Comments	

BILLING DETAILS (INHERITED FROM RESELLER)

Billing Type	Never Bill
Current Balance	-\$168.26
Monthly Charges	\$0.00
Tax Code	GST (15%) (15.00%)
Auto Bill	✘
Balance last updated	16-Feb-15 04:35 PM
Charges last updated	02-Aug-16 12:00 AM

CONTACTS (INHERITED FROM RESELLER)

	Name	Phone	Email	Alternate Email
Technical	Bryce Farmilo	021567520	bryce@thecloud.net.nz	
Accounts	Doesjka Trevarthen		accounts@thecloud.net.nz	

Automated Billing Engine

**For Partners/Resellers Only*

The vGRID Service Provider Stack incorporates a fully automated billing engine to ensure activation of services or modification of assigned resources results in billable transactions.

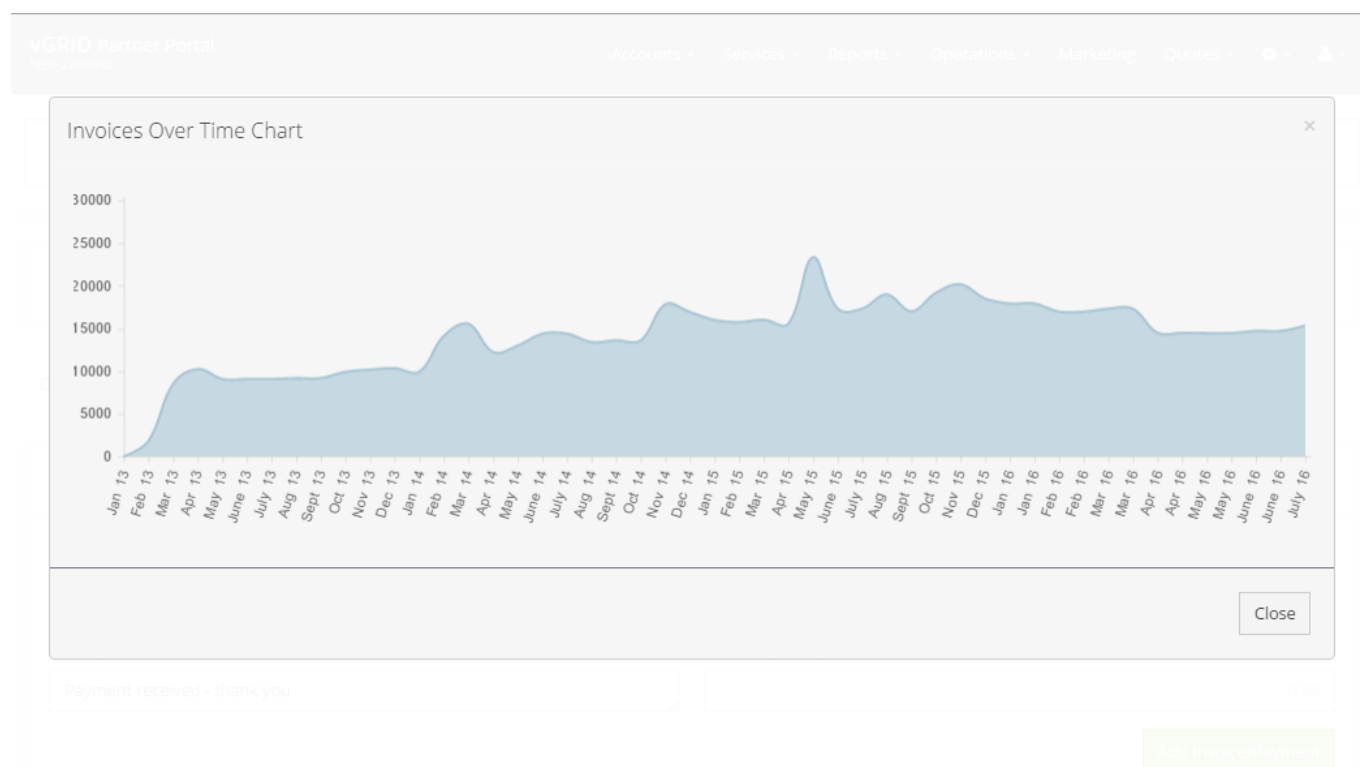
The billing engine collects resource change data hourly and rolls-up billable event transactions overnight (daily). When a new resource is deployed the billing engine will calculate a part-month charge for the balance of the current billing cycle. At the end of the billing cycle (calendar month) all changes for the period are represented on the invoice as moves/adds/changes.

Monthly automated invoice creation occurs on the 1st day of each calendar month. Any service that is active at the start of the period (12am on the 1st of the month) is billed for the full calendar month in advance.

As an example of this:

A customer deploys a \$100 service on the 15th of the month and the month (November) has 30 days, the system generates a part-month transaction for \$50 being the pro-rated amount for the balance of the billing period. At the end of the month the system creates the invoice for this customer, the invoice contains the \$50 part-month charge and a \$100 full month charge for December (the month in advance).

All billing information for an account is kept in original format (non-aggregated data) and therefore can be retrieved from the customer invoice page as per the screen shot below. This historical data is also useful for displaying growth trends such as the monthly spend for each customer over time.



Contact Us Today

To learn more about any of our products please visit www.vgrid.nz, contact us on 0800 425 383 or email sales@vgrid.nz.

If you are interested in applying for the partner program, please contact our Channel Distribution Partner 'exeed Limited' via phone on 09 3028253 or email the exeed vGRID partner team at vgrid@exeed.co.nz