

Enomaly aspires to be the Apache of cloud computing, providing virtual private clouds (VPCs) to enterprises by integrating enterprise IT and commercial cloud infrastructure. A VPC is quarantined infrastructure using a single management and governance layer. 'Cloudbursting' for additional ad hoc capacity is a long-term goal.

The 451 Take

Enomaly has been throwing spaghetti at the wall to see what sticks – its website is the evidence. Founder Reuven Cohen is a tireless (and vendor-agnostic) advocate for cloud in the blogosphere and the CloudCamp event series – and is perhaps better known for this work than Enomaly by many. However, with the release of version 2.0 of its product (bankrolled by Intel), a rebranding and refocus around a core product set, Enomaly is looking to raise some capital that will enable it to flip its model from a consulting operation to a product and services shop. The announcement that Enomaly will be a partner for VMware's vCloud initiative can only presage VMware support in its products.

Strategy

Founded in 2004 with an open source content management system, Enomaly was quick to see the opportunity provided by virtualization and was an early user of Xen, which it used to scale its products out by replicating them in virtual machines (VMs). Enomaly found this kind of 'classic' virtualization a hard sell back then (grid, autonomies and on-demand being trends du jour). Its **Sourceforge** venture was not a success; however, its Xen experience was a door opener to **Amazon** EC2 – Enomaly was invited on to the private beta. It achieved some notoriety running new workloads on EC2 and an emulated version of Windows.

Amazon's EC2 was built on **AMD** processors, so it was only a matter of time before **Intel** wanted to get a game going here. Its challenge to Enomaly in early 2007 was to come up with a platform enabling users to manage their own servers like they would manage individual processors – a private EC2. The vision was to enable users to do 'more with more' as a counterpoint to the incumbent operating principle of doing 'more with less.' So Enomalism 2.0 was created, with Intel money.

Enomalism is an open source virtual infrastructure tool for creating and managing private cloud capacity, at scale but with granular management capabilities. Enomaly claims Enomalism can harness multiple clouds (including Amazon, **Rackspace** and GoGrid) to create VPCs.

The Enomaly portfolio has included the Enomalism Elastic Computing Platform; the RackMount Appliance, for managing virtualized servers used in Web hosting, ftp, desktops, firewall, directories, backup systems, switches and routers; Amazon Elastic Migration kit, a migration toolkit for management and migration of virtual images to remote EC2; an accounting system that tracks and manages virtual resource usage; and the Enomalism Cluster Suite, a cluster management product that integrates scheduling, managing,

monitoring, load balancing and reporting of cluster and grid workloads. The Enomalism Control Center allows the migration to and from various virtual environments including Xen, KVM and OpenVZ with **VMware** and then Hyper-V support to follow, on Unix, Windows and Linux servers.

Version 1 of Enomalism was an advanced Xen management environment for its time, but it's no longer ahead of the game. Version 2 is very different. With 2.0, Enomaly is refocusing efforts around its core platform and losing 'Enomalism,' which is being rebranded Enomaly Elastic Computing (EEC).

Products are being brought inside what Enomaly describes as an appliance repository in 2.0 and will be sold as add-ons such as the VMware, Amazon Web services, VDC, P2C and ElasticDrive, monitoring and VDI modules. Enomaly has been working on a cloud abstraction layer called 'cloud raid' as part of its existing ElasticDrive platform with a view to connecting multiple remote cloud storage services (S3, **Nirvanix**, CloudFS). Elastic Valet is a provisioning and orchestration mechanism. The Cluster Suite will be repositioned as an internal platform component, possibly as 'cloudburst.'

Business model

The bootstrapped, 15-employee Enomaly is one of the few cloud startups (and one of the oldest) not to have taken on VC funding yet, though this will change over the next few months. It's being bombarded with offers, it claims. Right now, it's running on consulting revenue of a couple of million dollars a year. It'll take on capital to flip its model to a product company. Enomaly claims to have some 14,000 unique users of its software on its email list (they download patches). It can sell add-ons and support a la the **Red Hat** model. Enomaly claims most Fortune 500 companies are customers – **John Hancock**, **Best Buy**, **Business Objects** and **Alliance Films** are reference customers.

It has about 1,000 users in an EEC 2.0 early adopter/beta community including **BT**, **Microsoft**, **Oracle**, **Verisign**, **GE** and the **US Department of Energy**. Key 2.0 beta projects include an Intel media delivery environment called fastbeat; **Orange/France Telecom**/Intel's hybrid pCDN; and Rackspace's cloud utility. It offers dual licenses (open source, AGPL) and enterprise, annual support costs from \$500 to \$2,500 depending on service level, and add-ons that are charged per year.

Hosting companies, ISVs and enterprises are supposedly equally interested in how EEC can be used to create (shared) cloud capacity and move VMs around as the building blocks of a multitenant architecture to host internal or external clients. These are the early adopters Enomaly is working with now, but its target for more meaningful revenue opportunity going forward is the telcos.

Competition

Enomaly claims to have sufficient differentiation from incumbents VMware and **Citrix**, as well as startups **3tera** and **Elastra**, to provide it with a clear opportunity. While each offers dynamic provisioning, Enomaly believes 3tera is short on load balancing compared with EEC, Elastra lacks utility/chargeback mechanisms, Citrix and Elastra have little network automation or a VM repository, 3tera and Elastra lack a community, and none offer virtual private cloud, P2C and V2C cloud migration or multi-cloud support.

Enomaly plays further down the stack than the likes of Amazon Web Services shops **RightScale** or **Scalr**, and Elastra, QLayers or **DynamicOps**. **Zimory** is a European startup with an interesting private/public model.

SWOT analysis

Strengths

The key selling point here is users' ability to realize the benefits of using an EC2 mechanism within their own datacenter as part of a virtual private cloud.

Weaknesses

One of the barriers to adoption is the lack of turnkey cloud systems available – Enomaly is addressing this head-on. But it's small and has yet to transition from a consulting shop.

Opportunities

There's a huge land grab for regional clouds under way (public and private models). Every conversation we have with users or vendors turns to clouds. It's happening.

Threats

There's still a huge disconnect between the vision of cloud and the reality. Users can scale only within geographically discreet clouds; most services are in the US and there's no federation between clouds (to create skies of clouds?) to speak of.