

PCExtreme achieves business agility with Apache CloudStack

“I carried CloudStack and a competing product’s documentation with me during a three-hour train ride. By the time my journey was over, a decision was already made. It took us two hours to implement the CloudStack solution and four months to roll out our cloud services to the market.”

-Wido den Hollander
Chief Technology Officer, PCExtreme

PCExtreme is one of the leading Internet Service Providers in Netherlands. The company offers a wide range of ready-to-use services including web hosting, colocation, dedicated servers, domain names and managed services. As a pioneer in the affordable hosting market, PCExtreme operates with a level of scale and efficiency that allows them to combine reliability with competitive prices. What started out as a hobby for Wido den Hollander, CTO of PCExtreme, quickly grew to become one of the leading hosting services providers in the Netherlands, serving over 40,000 customers and hosting 100,000 websites in two datacenters. PCExtreme has deployed 120 racks of Supermicro server in those two datacenters.

Key Solution Benefits

- Turnkey cloud solution
- Open, flexible and customizable
- Customer choice and flexibility
- Graphical User Interface
- Ease of implementation

The challenge: Increase business agility to enhance competitiveness

To sustain rapid growth and maintain leadership in the affordable hosting market, PCExtreme had to constantly innovate and expand their services to meet new demands. Key challenges included responding to the desire of customers to control their infrastructure without always having to use managed services, as well as achieving the flexibility to scale PCExtreme services up and down based on customers’ needs. Given rising energy prices in Europe, power consumption was another primary concern.

Adapting to these requirements called for a cloud solution that could easily integrate with PCExtreme’s existing environment, allow them to manage their infrastructure more efficiently and reduce energy costs—all while providing customers the control and flexibility that they demanded.

The solution: Apache CloudStack

PCextreme looked at a variety of different cloud orchestration platforms for the foundation of their public clouds, and ultimately selected Apache CloudStack. The platform's product maturity, ease of implementation, open APIs and ability to seamlessly integrate with existing systems served as key factors in the decision. Wido den Hollander, CTO of PCextreme, recalls, "I carried CloudStack and a competing product's documentation with me during a three hour train ride. By the time my journey was over, a decision was made."

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The openness of the CloudStack solution made it very easy for PCextreme to enhance the platform with features, such as integrating a new storage solution (The Ceph object store) with CloudStack, that were important for their business. Hollander, in addition of being the CTO of PCextreme, is an active CloudStack and libvirt developer and participant in the Ceph community. He is now an active committer to the Apache CloudStack project, and was invited to join the Podling Project Management Committee (PPMC), the technical leadership arm of Apache CloudStack. "It is very easy for small companies to contribute to the Apache Foundation, be heard and make a difference," remarks Hollander. Given PCextreme's interest in large-scale storage, Hollander took on the Ceph integration in CloudStack and is the sole contributor to this project.

PCextreme Cloud based on CloudStack is currently in beta phase and being used in production by 200 customers. It consists of 192 cores and 1.5TB of RAM using the KVM hypervisor. The image catalogue known as secondary storage is a single 2u machine with 20TB of disks. The primary storage used for the running instances is made of a 4u BSD node running the zfs file system. For additional cheaper storage, a Ceph deployment is used. The company's current Ceph deployment totals 250 TB.

In an attempt to augment CloudStack platform with new features and improvements, Hollandar actively participates in storage refactoring to enable support for all the great features of Ceph such as snapshotting and cloning. He also looks forward to see support for long lasting instances and a better user interface.

The benefit: Flexibility, savings and growth

CloudStack gave PCextreme a turnkey solution to offer cloud services to their customers with self-service provisioning and management customized to each unique environment. CloudStack's ability to integrate with existing systems enabled PCextreme to roll out their services to the market in less than four months. The open platform also made it possible for PCextreme to build all the tools around CloudStack in-house, giving them much-needed flexibility and customization.

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CloudStack allows PCextreme the flexibility to scale resources up and down based on need, enabling the company to achieve a new level of efficiency and drive down overall cost. The ability to get more computing power out of the same datacenter saves energy and further reduces cost.

The CloudStack APIs gives PCextreme customers flexibility to have their services spread over multiple companies and networks without being locked into a single vendor's solution. Hollander believes this is going to be a big game changer for many companies who are looking at expansion while minimizing risk. Customers also benefit from a toolkit that allows them to manage both traditional and cloud workloads ensuring flexibility and ease of migration.

The open source nature of Apache CloudStack also means that a company like PCextreme can invest development time to enhance the platform with the features that it needs. Hollander sets a great example by investing his time to contribute to the success of the CloudStack project while enabling much-needed services for his customers.

Today the PCextreme cloud is powering a wide range of high-performance workloads across the globe. PCextreme sees the cloud as a catalyst for growth, and plans to not only continue to sell innovative cloud services publically, but also to leverage CloudStack to augment their traditional business offerings and their internal infrastructure.

To learn more about CloudStack, please visit www.cloudstack.org.