Cloud Factory

Lenovo

Cloud Factory flexes its muscles with a next-generation hyperconverged data center

Overview

Cloud Factory, which specializes in cloud solutions, is expanding its high-performance compute hosting portfolio with a hyperconverged infrastructure that combines Lenovo servers, Intel® processing power and Microsoft Windows Server 2016 with Microsoft Storage Spaces Direct (S2D). The hyperconverged solution dramatically improves performance.

Headquartered in Esbjerg, Denmark, Cloud Factory delivers cloud solutions to small and medium-sized businesses across a range of industries. Cloud Factory offers solutions based on Microsoft cloud platforms.

At a time when people are increasingly migrating their data and applications to the cloud, there is a real need for a scalable, high-performance infrastructure that is also easy to administer. This can be a challenge for cloud providers, hardware suppliers, developers and IT administrators, as IT budgets aren't necessarily growing at the same rate. A hyperconverged infrastructure, where everything is housed in the same box and managed through software, could be the way forward. Lenovo has provided the muscle for a solution that has shown there may be big gains to be made.

Lenovo and Intel as engines

Per Ljungstrøm, Senior Account Executive for Lenovo, explains: "With Lenovo, Intel and Microsoft at the table, we were a strong team, and we established a hyperconverged solution for Cloud Factory. For the solution, we have supplied a Lenovo x3650 M5 server and a Lenovo RackSwitch G8332 40Gb Ethernet switch, both of which have a unique reputation for delivering rock-solid availability and for running uninterrupted, even under very high capacity requirements."

"Siloes are now completely broken down, giving us the ability to focus purely on performance."

—**Flemming Riis,**
Systems Technician,
Cloud Factory

intel XEON inside

The Lenovo x3650 M5 is a flexible 2U rack server that offers best-in-class levels of security and operation. The Lenovo RackSwitch G8332 40Gb data center Ethernet switch is a heavyweight of the network class, delivering extremely high speeds for this very purpose. The high performance of Microsoft Storage Spaces Direct (S2D) is enabled by Microsoft's use of SMB 3.0 protocol, which uses RDMA. This places heavy demands on the underlying Ethernet platform, which has to support and prioritize the RDMA's function.

Silos now completely torn down

In recent years, the demands of storage space and performance have risen dramatically. Bringing together servers and storage can overcome some of the issues that have brought capacity expansion to a halt. Server virtualization has helped this development along the way, but a storage infrastructure is still typically needed alongside it. Hyperconverged solutions pave the way for simpler infrastructure – and for a simpler life for system administrators.

Flemming Riis, Chief Technology Officer at Cloud Factory, says: "The silos have now been well and truly torn down, and that has given us the chance to build a new solution that focuses on performance. We can now guarantee a very stable high speed for all our customers, and for that reason they can now start migrating heavier applications to the cloud, such as large databases. The solution has exceeded our expectations, despite the fact that it takes up much less space and also uses less energy for power, ventilation and cooling."

From 25,000 to 600,000 IOPS

Fleming Riis can back up his comments on improved performance by recounting that Cloud Factory went from a speed of 25,000 IOPS with traditional storage systems to a speed of no less than 600,000 IOPS with the new, eight-node Lenovo solution with Microsoft S2D. It is the cloud provider's first storage solution with Microsoft Windows Server 2016 Datacenter Edition and Microsoft S2D. Cloud Factory also uses Microsoft's new Nano server, which is optimized for private cloud and data center use.

Fleming Riis comments: "The solution's simple construction means that you can simply insert new servers into the cluster. As a whole, it makes it much easier to use, without the separation of servers and storage."

Next-generation data center

Jacob V. Schmidt, Chief Executive Officer of Cloud Factory, is satisfied that the business has now taken a decisive step towards the next generation of data centers. From a business perspective, he sees great potential in the ability to offer his partners increased performance and greater capacity.

He says: "We can now 'cloudify' it all. We can now send even very heavy applications to the cloud with complete confidence, as we can offer a huge jump in performance. And when it comes to capacity, yes, in principle it can be scaled up endlessly – and, it should be noted, with basic servers as well as with the old, well-known server structure.

Solution components

Hardware

Lenovo System x3650 M5 with Intel® Xeon® E5 family of processors

Lenovo RackSwitch G8332 40Gb switch

Software

Microsoft Windows Server 2016 Datacenter Edition

Microsoft Storage Spaces Direct

"The solution's simple construction means that you can simply insert new servers into the cluster."

—**Flemming Riis,**
Systems Technician,
Cloud Factory

"It has traditionally been hard to manage the separation of servers and storage, which resulted in bottlenecks. The new hyperconverged solution, which is based on Lenovo, Intel and Microsoft components, will certainly bring new customers to Cloud Factory."

The cloud provider has not yet made its final calculations, but they expect the repayment period to be less than 18 months. In addition, the footprint of the entire solution – the number of server cabinets and power, cooling and ventilation outlets – has been dramatically reduced, which also supports Cloud Factory's policy of constantly developing intelligent solutions.

Leading by example

For Cloud Factory, it's crucial for clients to be able to move into the cloud quickly and rapid deployment is their alpha and omega. That is exactly what their new, hyperconverged solution can deliver in abundance. End users do not notice their migration to cloud, only the 10 times increase in performance.

Jakob V. Schmidt concludes: "We are thrilled with the outlook of our new strategy, and we are also thrilled with the way this collaboration worked out. Our colleagues from Microsoft, Intel and Lenovo were on board with the idea from day one, and they have all put in an extraordinary performance to help us reach our goal, with a solution that is outperforming our expectations."

For more information

To learn more about Lenovo Data Center Systems solutions, contact your Lenovo Sales Representative or Lenovo Business Partner, or visit: www.lenovo.com/data-center

For more information about Cloud Factory, visit: www.cloudfactory.dk or connect with @cloudfactorydk

"Today, we can 'cloudify' everything. We can now migrate even the largest applications to the cloud with complete peace of mind."

—**Jacob V. Schmidt,**
Director,
Cloud Factory

CS00005-00