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White Paper

The Fastest Cloud in Europe

Supermicro and cdmon Join Together to Disrupt Europe's Cloud Market

cdmon Description

Founded in 2002, cdmon is one of today's most exciting European IT success stories. Focused on leading the cloud hosting market, cdmon recently began its NVMe Cloud Project, to build the fastest cloud in Europe, with the collaboration of long-time supplier Supermicro. Cleverly focused on mid-sized companies, the "sweet spot" in a \$200+ billion market growing at nearly 20 percent per year, cdmon's partnership with Supermicro threatens to disrupt Europe's Cloud incumbents and creates a stunning success for these close technology partners.

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cdmon Business Opportunity

History

Beginning as an Internet Services Provider (ISP) specializing in hosting, domain registration and DNS services for users and professionals, cdmon recently completed a multi-year business transformation. They had just completed their second data center in Barcelona to support this expansion, and were aggressively seeking more data center space to expand further. To continue their rapid growth company management began to pursue business in other countries; however, with the market for hosting services in Europe fragmented and highly competitive, cdmon needed a way to differentiate itself from the numerous European hosting companies competing aggressively for customers and markets.

Supermicro Ultra All-Flash SuperServers for Databases

- Highest performance per U (density optimized)
- Workload flexibility
- Scalability
- Hot-swap accessibility
- Low latency
- Lower total cost of ownership
- Ease of qualification

The NVMe Cloud Project

Seeking a revolutionary focus, cdmon had a crucial insight- invest heavily in the latest technologies to create a disruptive change in the marketplace and quickly establish a distinctive competitive advantage. The goal then became to create the fastest possible cloud computing implementation using the most leading-edge innovations including power- and performance-optimized server solutions supporting the latest x86 processors, all-flash NVMe storage, and Intel® Optane™ DC Solid State Drives (SSDs) all implemented over a 400Gbps fiber network with CEPH Bluestore object oriented backend software. A technology partnership, to create the fastest cloud in Europe, would provide cdmon with a future-proof cloud computing platform for European business expansion. This strategy could unlock heretofore unimaginable business applications like AI, Machine Learning, Big Data, IoT, and 5G for its customers.

The Supermicro Relationship

The Cloud Project was very risky and cdmon could not afford to make any mistakes. They had to be absolutely convinced that their technology suppliers could deliver with quality and time to market (TTM). cdmon turned to their long-time partner Supermicro to collaborate with the huge new cloud business opportunity. The companies had worked together for over 10 years, becoming close and trusting friends. Based on this solid relationship and past successes cdmon knew Supermicro could support and deliver to the specific needs of their Cloud Project.

“With this project we will open the doors to the future, fulfilling the most demanding customer expectations.”

The Supermicro Solution

Ultra

Supermicro stepped up to cdmon's challenge with a suite of the latest server and storage technologies: the Ultra SuperServer® product family with NVMe solid-state drives (SSDs), non-volatile low latency memory, and new generation x86 processors. Supermicro had designed the Ultra platform to offer the highest performance, flexibility, scalability and serviceability in demanding cloud and hosting environments powering mission-critical Enterprise workloads. With Ultra, Supermicro could deliver a solution optimized for the exact needs of cdmon's NVMe Cloud Project.

“When we did the first performance tests, we foreclosed the excitement of watching tens of millions of IOPS per second as we thought how we would win the hearts of our customers who would be extraordinarily surprised with the Loading speed of its webs and with the possibilities that would be presented to them in order to develop new and hitherto unimaginable applications and services, like AI, ML, Big Data, IoT, ...”



Figure 1. Supermicro Ultra SuperServers (available in 1U and 2U form factors)

Available in 1U and 2U form factors, Ultra SuperServers support up to: 3TB DDR4 2666MHz in 24 DIMMs; SATA3 with optional SAS3 and NVMe support for increased storage bandwidth; a variety of Ultra Riser options for networking, including built-in 1G, 10GBase-T, 10G SFP+, and 25G Ethernet options; and support for add-on SAS 3 HW/SW RAID controllers and additional PCI-E 3.0 slots. The range is the perfect fit for diverse workloads and applications and can be easily reconfigured for multiple Enterprise and Data Center applications in Virtualization, Big Data, Analytics and Cloud Computing.

- Supports Dual Intel® Xeon® Scalable processors up to 205W
- Up to 3TB DDR4 2666MHz in 24 DIMM slots
- 100/40/25/10G Ethernet
- NVMe/SAS3/SATA3 Drive Bays
- Up to 8/4 PCI-E 3.0 Expansion Slots
- Redundant Titanium Level (96%+) Power Supplies

“Supermicro has been our supplier for more than 10 years. We have a close relationship with them, and they have always been able to respond to our needs. Supermicro servers are designed to get the most out of the new Intel processors and DiscosSSD NVMe and Optane.”

Ultra supports the latest Intel® Xeon® Scalable processors which deliver incredible benefits over previous generations. Brand new advancements in Intel Xeon architecture include Intel UltraPath Interconnect (UPI) and Cross Bar technologies which provide direct communication between two CPUs in a dual socket server to catapult performance and dramatically reduce latency. Supermicro also offered the industry's most comprehensive support for NVMe NAND Flash SSDs and Intel® Optane™ Technology for unprecedented application responsiveness and agility. To help manage the large number of servers needed by cdmon, Supermicro also offered an open system management solution including Redfish APIs and Supermicro Rack Scale Design (SRSD). Advanced Global Services were also available to support cdmon's growing data center footprint.

“Our customers are very demanding. They want their cloud services to be easy and fast. We have purchased thousands of server nodes from Supermicro over many years and know that they deliver the best server/storage products in the industry.”

FOR MORE INFORMATION

- [Supermicro® SuperServer® 1028U-TN10RT+ Datasheet](#)
- [Supermicro® SuperServer® 2028U-TN24R4T+ Datasheet](#)
- [Intel® Xeon® Processor E5-2600 v4 Product Family](#)
- [Intel® NVMe SSDs](#)

Resource Saving Architecture

Supermicro had even more surprises in its technology portfolio for cdmon. With its unique Resource-Saving Architecture, Supermicro could introduce an overall architecture to optimize data center power, cooling, shared resources, and refresh cycles. This innovative approach focuses on reusing system enclosures, enabling modular refresh of subsystems and using optimized extended life subsystems including networking, storage, cooling fans and power supplies.

By disaggregating CPU and memory, each resource can be refreshed independently, allowing data centers to both reduce refresh cycle costs and optimize the adoption of new and improved technologies. With its Resource-Saving Architecture, Supermicro was able to offer cdmon a solution that offered both high performance and superior power efficiency.

Results

With Supermicro as a technology partner cdmon is poised to challenge the existing cloud marketplace with higher speed service, higher quality, with more options for development and therefore greater ease to succeed with their customers' projects. With the Supermicro Ultra-based technologies, cdmon felt confident and enthusiastic that its customers will receive the very best.

Three main principles were achieved for the Cloud Project. The first was faster speeds - cdmon increased the speed of their infrastructure by a factor of 200. The second was a reduction in error rate, achieved with the mature and reliable Supermicro Ultra platform. Third, with more CPU/RAM and disk capacity available cdmon could provide greater scalability and flexibility to its customers. With a successful cloud implementation cdmon could open the door for its European customers to a new world of cloud-based services so that they could cost-effectively and rapidly develop new opportunities in Machine Learning, Big Data, IoT, Social Media, 5G, and more....

Conclusion

Based on their successful 10-year relationship, and on the advantages of the Ultra SuperServer® system supporting the latest Intel® Xeon® Scalable processors, Intel® Optane™ DC Solid State Drives (SSDs), and All-Flash NVMe packaged into a Resource-Saving Architecture, Supermicro and cdmon partnered together on cdmon's new Cloud Project. With Ultra, Supermicro was able to fit exactly cdmon's requirements to build an incredible network offering that was up to 10 times faster than before. With Supermicro technology, cdmon is confident they will offer the marketplace the Fastest Cloud in Europe.

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- Global Cloud Services Market
<https://www.alliedmarketresearch.com/cloud-services-market>
- Skylake
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- Skylake Early Ship
https://www.supermicro.com/newsroom/pressreleases/2017/press170523_Skylake_Early_Ship.cfm
- The global cloud services market share was valued at \$209.9 billion in 2014, and is expected to reach \$555 billion by 2020, growing at a CAGR of 17.6% during the forecast period 2014-2020.
<https://www.alliedmarketresearch.com/cloud-services-market>
- The European Cloud Computing industry is expected to generate total revenues of \$18.9bn in 2016.
<https://www.researchandmarkets.com/reports/4103747/cloud-computing-market-in-europe>

About Super Micro Computer, Inc.

Supermicro® (NASDAQ: SMCI), the leading innovator in high-performance, high-efficiency server technology is a premier provider of advanced server Building Block Solutions® for Data Center, Cloud Computing, Enterprise IT, Hadoop/Big Data, HPC and Embedded Systems worldwide. Supermicro is committed to protecting the environment through its “We Keep IT Green™” initiative and provides customers with the most energy-efficient, environmentally-friendly solutions available on the market.

Learn more on www.supermicro.com

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