



Supermicro FatTwin™ and SuperStorage Systems Power BlackMesh Managed Services



Hardware Portfolio

- 500+ Servers. All Supermicro
- Supermicro FatTwin™
- Supermicro SuperStorage
- 1.5 PB Capacity
- Three Tier 4 Data Centers

Software Portfolio

- Ceph
- OpenStack
- RHEL
- Red Hat OpenShift
- Ansible

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Jason Ford, CTO of BlackMesh.

BlackMesh Overview

Fully-managed service provider BlackMesh delivers dedicated and cloud-based hosting solutions to businesses of all sizes. Whether it is government agencies, non-profit organizations, DevOps communities, healthcare entities, or large enterprise corporations, BlackMesh’s managed services provide the tools to operate sites and meet compliance standards.

Headquartered in Ashburn, Virginia, BlackMesh operates three highly-secure datacenter locations (Reston, VA, Las Vegas, and Toronto, ON) and serves clients throughout North America. Working with Supermicro – a leader in high-performance, high-efficiency server technologies – BlackMesh provides optimal web hosting solutions to a variety of public and private sector agencies and organizations, backed up by unlimited support and the highest degree of security.

Challenges

BlackMesh was founded with a vision of providing best customer service in the managed service industry. In order to deliver its growing base of end users the best customer experience, BlackMesh understands the need to utilize the most flexible building block solutions infrastructure vendors have to offer. Upon its founding in 2003, BlackMesh evaluated a series of infrastructure vendors and found that Supermicro offered unmatched

values and a comprehensive product portfolio, meeting all of their requirements – particularly in regards to very competitive Total Cost of Ownership (TCO) and short product fulfillment lead times. Since choosing Supermicro, BlackMesh has explored and evaluated other options – as any competitive business would do, since hardware and technology change over time. However, BlackMesh found Supermicro offers the most advantageous hardware solutions, and has been a loyal customer since the beginning.

Tasked to deliver innovative solutions, BlackMesh system administrators are experienced at scaling infrastructure to a multi-tier high availability architecture. Combining cutting-edge and high-performance technologies from Supermicro, BlackMesh provides customers the securely managed infrastructure they need to lower costs, accelerate growth, increase agility, and improve productivity.

Supermicro Solutions

By leveraging open source PaaS technologies, BlackMesh maintains unique and competitive qualities. BlackMesh is a long-time advocate and user of open source technology, and though most Cloud Service Providers (CSPs) build their foundations with closed source – or proprietary – software, universal access to software is more reliable, stable (particularly for business or government environments), flexible, and cost efficient.

These open source standards blend well with the physical hardware Supermicro designs and deploys; the overall development and solution lifecycles tie into open source projects (like Red Hat software) naturally.

Working with Supermicro has helped BlackMesh remain affordable, flexible, and dependable; crucial aspects to delivering hosting services to a variety of agencies and being competitive. “By leveraging Supermicro hardware, BlackMesh is able to maintain its goal of unlimited, on-demand support while producing cost-effective savings,” said Jason Ford, CTO of BlackMesh. “The affordability of the machines means we can properly scale our own onsite support without having to contract such services – passing the savings down to our customers.”

BlackMesh operates a 100% Supermicro server farm with a deployment of over 500 physical servers and storage systems across three different data centers. Each FatTwin™ SYS-F617R2-R72+ multi-node server system as shown in Figure 1 consists of eight independent Intel® Xeon® processor E5-2600 nodes in a 4U form-factor with redundant high-efficient Titanium level (96%+) digital power supplies. The SuperStorage SSG-6027R-

E1R12N systems as illustrated in Figure 2 are deployed as BlackMesh’s capacity optimized storage nodes. Each 2U server has dual Intel Xeon processors E5-2600 with 12x 3.5” drives and a hardware RAID controller.

With Supermicro’s high density and high performance FatTwin™ servers and SuperStorage systems, BlackMesh is operating its data centers with highest efficiency and reliability.

Results with Supermicro

BlackMesh has built its software stacks extensively on open source frameworks, using Supermicro technologies to achieve greater flexibility and options at the hardware level. The company hosts and manages its enterprise customers in compliant and highly-secure datacenters housing these flexible Supermicro servers, meeting the most demanding requirements of a CSP. BlackMesh’s Tier 4 datacenters deliver physical security, network connectivity, state-of-the-art cooling, and a robust power architecture featuring N+1 or better redundancy. These datacenters offer maximum availability, performance, and protection for all hosting operations.

These elements of durability and reliability are a testament to the

overarching capabilities of Supermicro’s server and storage systems, which are tested extensively for industry-leading open source solutions, including RHEL, OpenStack, Ansible, Nexenta, Ceph, Lustre and OpenShift. Supermicro also offers total system solutions that are certified by independent software vendors (ISVs) including Red Hat, VMware, and Nexenta.

Reliability and uptime are crucial for a managed service provider such as BlackMesh. With Supermicro, the failure rate has been extremely low, and the servers which house all BlackMesh solutions experience continuous uptime.

For the past 13 years, BlackMesh has grown at an exponential rate. BlackMesh is gaining more clients, achieving new compliance standards, and breaking into new markets – the most significant being the federal government (comprised of agencies that require the highest degree of network security and reliability), with the help of Supermicro.

In light of the rapid growth rate and requirements of its customer base, BlackMesh is continuing to work with Supermicro because it can best accommodate BlackMesh’s needs, while BlackMesh continues to best meet the needs of its clients.



Figure 1 - Supermicro FatTwin™ SYS-F617R2-R72+



Figure 2 - Supermicro SuperStorage SSG-6027R-E1R12N

For more information please contact your Supermicro Sales Representative or visit:

www.supermicro.com/products