Scale Computing Delivers 'Data Center in a Box' on MBX-Built Appliances

Leading Hyperconvergence Vendor Standardizes on MBX to Achieve Extensive Customization, Hardware Consistency & Smooth Deployments

The Challenge

When Scale Computing was developing its HC3 platform, the goal was to integrate servers, storage and virtualization in a solution that could be delivered in an appliance form factor for easy use by midmarket companies. To that end, the company needed a hardware partner capable of building quality systems pre-loaded with Scale software, pre-testing them to ensure problem-free setup, and providing ancillary services for handling all hardware needs.

Based on Scale's priorities for a hardware partner experienced with storage technology, they determined that MBX was most aligned with what they sought: a customer-first company culture, a highly responsive account team, extensive customization options, and a variety of intangibles, like the MBX Hatch program management toolset collecting quality data to alleviate administrative work.

MBX has been instrumental in helping Scale deliver a turnkey hardware/software package that not only is easy to install and works on day one but also runs smoothly for the life of the system.

Why MBX

- Hardware quality and reliability
- Engineering assistance for new platforms
- Component consistency from node to node
- Tier One chassis and component partners
- Software imaging and testing services
- Custom branding and packaging services
- Extensive report customization
- Logistics and inventory management
- Creative, preventative problem solving

Background

When Scale Computing was developing its HC3 platform, the goal was to integrate servers, storage and virtualization in a solution that could be delivered in an appliance form factor for easy use by midmarket companies. To that end, the company needed a hardware partner capable of building quality systems pre-loaded with Scale software, pre-testing them to ensure problem-free setup, and providing ancillary services for handling all hardware needs.

Today, custom server appliance manufacturer MBX Systems is Scale's exclusive hardware builder and a vital partner in driving the company's growth. From providing engineering support for each new HC3 iteration to supplying custom branding and packaging, drop-shipping finished systems to end customers, furnishing extensive custom reporting, and employing rigorous quality controls that produce reliability in the field, MBX has helped put Scale's HC3 on the map as what one reviewer called "a new must-have for very lean IT departments."

Scale's HC3 platform merges servers, storage and virtualization in 1U appliances that are loaded with the customer's business applications and deployed in clusters that are as easy to manage as a single server. This "hyperconvergence" strategy eliminates the need to purchase, install and manage virtualization software, dedicated servers and SAN or NAS storage as separate components; hire virtualization or storage experts; and purchase costly virtualization licenses. These factors dramatically reduce IT cost and complexity for small and mid-sized organizations.

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The Process: Raising the Bar with MBX

The partnership with MBX began in 2012 after Scale's original hardware builder failed to deliver the required level of service. Issues ranged from lengthy customization cycles to hard drive failures caused by poorly secured backplanes, missing accessories in shipping boxes, and firmware incompatibilities that caused deployment complications.

"Our platform is installed in minimum three-node clusters that allow compute and I/O load to be intelligently balanced among all nodes and network interfaces in the cluster. Each node in a given cluster needs to have the same firmware, but our previous integrator frequently used different versions so installers had to spend time doing firmware upgrades," said Scale CTO Jason Collier. "We promise an iPhone-like experience enabling customers to begin deploying their first VM on our HC3 infrastructure within an hour, so those delays were not acceptable."

Transitioning to MBX not only resolved problems encountered with the first builder but also yielded engineering, customization and support services benefits that have helped Scale consistently deliver a quality product.

Tier One Components + Customization

Initially MBX manufactured 10 SKUs for the company, handling functions from the integration of commodity chassis to software imaging and related testing to ensure that Scale's operating system will properly initialize in the field. By mid-2014, that number had climbed to 19 – including multiple models in Scale's newer HC2000 and HC4000 product lines for which the MBX engineering team provided critical input on hardware design.

Every Scale SKU utilizes base hardware from leading vendors such as Dell, Supermicro and Seagate, selected in collaboration with MBX engineers to meet the specific needs of each platform. **MBX personnel then work closely with Scale to optimize the performance of each SKU, including maintaining the delicate balance between IOPS, RAM and CPU,** and to ensure trouble-free operation at end customer sites.

To prevent shipping vibrations from dislodging the hard drives in Scale's HC3 units, for example, MBX recommended installing an inexpensive rubber spacer between the backplane and the hard drive. "This one-cent spacer has made the difference between reliability and unreliability in the chassis," said Craig Theriac, Scale's Director of Product Management. "That means the world to our customers and, of course, our reputation."

Other Scale customizations provided by MBX include:

> **Custom testing** to check hard drive installation and operation, joining comprehensive manual and automated quality controls that detect assembly, configuration and cable routing errors as well as defective parts in the base systems.

> **Custom faceplates** enabling rebranding of base Dell and Supermicro servers to help build Scale's brand identity.

> **Custom briefcase-style shipping boxes** with a handle on top, a silkscreened Scale logo and special stickering with custom-designed labels.

> **Custom reports** – complementing the robust information already available in MBX's Hatch toolset – that support Scale-specific data needs related to weekly shipments, faulty components, return merchandise authorizations (RMAs) and replacement parts.
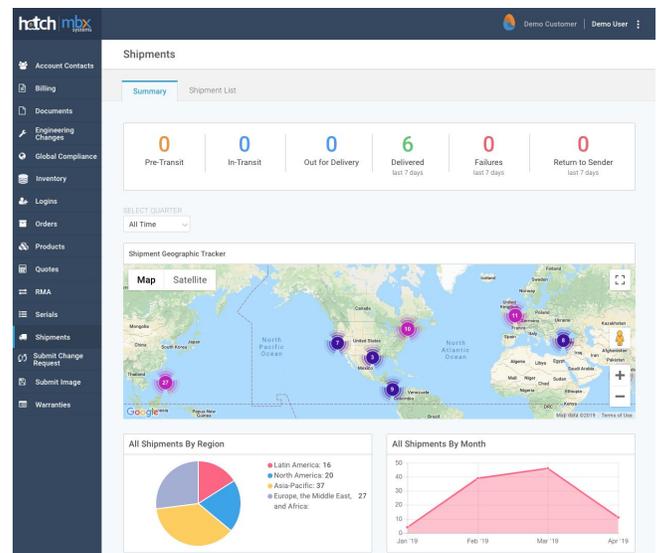
"Previously, every customization we asked for required bringing in a third party and going through so many iterations that the projects dragged on and on," Theriac noted. "MBX handles these assignments in-house so they get done quickly and precisely to our specifications."

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The Results: Post-Manufacturing Services

MBX's turnkey hardware program also relieves Scale of post-manufacturing responsibilities from inventory management to packing, shipping and returns management.

Finished Scale appliances are housed in MBX warehouses in the U.S. and overseas and shipped to end customers on demand as orders are received. Installation accessories such as screwdrivers, extra rack nuts and quick start guides are sourced and stocked by MBX and included with each Scale shipment to expedite HC3 deployments at customer sites.

MBX also maintains an inventory of replacement parts, ships them to customers as soon as an RMA is issued, send failed hard drives back to the vendor, tests and refurbishes faulty systems, and supports Scale's rapid response customer service in various other ways.

"MBX's attention to detail is exemplary, from engineering and manufacturing to reporting and logistics. They are committed to ensuring that every node they ship is going to perform out of the box and to helping us get everything right in terms of product fulfillment," Collier said. "Reliability is the #1 criterion for the SMBs who are our target customers, and MBX is instrumental in helping us deliver a turnkey hardware/software package that not only is easy to install and works on day one but also runs smoothly for the life of the system."

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