UNITRENDS

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Unitrends Backup Appliances Set Performance Records with MBX

Tiered Flash Storage and MBX-Engineered Enhancements Drive 12-SKU Recovery-Series Savings

I n early 2015, business recovery solutions provider Unitrends unveiled dramatic performance and scalability improvements in its Recovery-Series family of purpose-built backup appliances. The company's third-generation hardware delivered advances including 300% faster backups, 125% faster restores, 1 TB to 97 TB of raw storage capacity, and category-first use of tiered flash storage to crank up performance. The upgrade prompted one analyst to declare that Unitrends exemplified "intelligent design" in backup appliances.

The behind-the-scenes engineering partner in that design was MBX Systems, the custom server appliance builder that also manufactures, brands, ships and supports Unitrends' current 12-SKU Recovery-Series platform. MBX orchestrated a complete platform modernization that helped Unitrends achieve its new performance benchmarks, maintain affordability, and reap other benefits ranging from component consolidation to improved hardware reliability.

"This was a major refresh of our core hardware-based product line, and we needed a strong third-party engineering team that could help us execute our product roadmap," said George Eisenhower, Director, Manufacturing Operations, at Unitrends. "We had been working with MBX on smaller projects since 2011, and we knew they had the design expertise, quality controls and support processes to handle a product launch of this scale."

Backup in a 'Flash'

Unitrends introduced its first integrated hardware/software backup appliance in 2004 and has been a leader in the market ever since. The company's plug-and-play Recovery-Series backup appliances simplifies data protection for environments ranging from remote offices to SMBs, as well as enterprise data centers.

In developing its third-generation appliance platform, which can be used to back up both virtual and physical servers, Unitrends' #1 goal was to apply newer technologies to enable customers to shorten backup windows, speed data recovery, and protect more data on a daily basis. Tops on the company's technology wish list was the use of flash storage to accelerate read-intensive metadata-related tasks like deduplication and search and recovery requests. The MBX-engineered platform fills the bill with:

> **Tiered flash storage combining solid-state drives (SSDs) with hard disk drives,** *enabling the SSDs to function as a second-layer read cache. The most active metadata is stored on and read from the Recovery-Series SSDs to avoid overloading the HDDs with transactional tasks that will slow performance, then automatically removed from the SSD cache when it is no longer needed.*

> **LSI's MegaRAID CacheCade software controlling the data movement** *between each appliance's spinning disks and SSDs, allowing users to take advantage of flash speeds without the costs or capacity limitations of all-SSD systems.*

> **More powerful CPUs, enterprise-class memory and hardware RAID** *also contributing to the performance gains, along with enhancements to Unitrends' software such as global adaptive byte-level deduplication that speeds backups while also optimizing storage capacity and WAN data transfer.*

"Data volumes have continued to explode since our last hardware release, and that means that backup appliances must not only ingest more data but also respond to recovery requests from an increasingly larger data pool. We needed to boost our hardware performance to keep pace," Eisenhower said. "MBX's from-the-ground-up rebuild enabled us to set new industry standards with 300% faster backup processing, 125% faster data recovery, 200% faster local archiving, and a 300% RPO improvement that multiplies the amount of data that can be protected every day."

Company
Unitrends

Business
Data protection and disaster recovery

MBX Benefits

> Next-generation appliance engineering

> Major hardware performance gains

> Innovative use of flash storage

> Component consolidation over 12 SKUs

> Custom faceplate design

> Custom end user configuration

> Budget-conscious platform development

> Near-100% defect-free assembly

> International logistics & support

Beyond Performance Backup in a 'Flash'

In addition to addressing the need for speed, MBX provided a full range of value-added services that ensured a smooth rollout of Unitrends' new hardware platform. On the engineering and manufacturing fronts, those services included:

> *Component consolidation* – MBX engineers designed the Recovery-Series platform to minimize the number of components that needed to be sourced and stocked. Only four motherboards and seven chassis are required to build all 12 SKUs, which range from an entry-level 1TB desktop storage box to a 4U, 36-drive system. The design also eliminates separate RAID controllers, instead utilizing controllers built into the motherboards.

> *Reduced configuration complexity* – SKUs that support eSATA connectivity now come standard with four ports rather than offering one-, two- and four-port options, simplifying builds and inventory management.

> *Improved appliance reliability* – MBX's ISO-certified quality control procedures and use of enterprise-grade components provide out-of-the-box failure rates near-zero while also reducing incidents in the field and associated support needs. MBX is also helping Unitrends ensure reliability by utilizing hard drives from three different vendors and tracking their performance over time to identify any problem patterns.

> *Custom configuration for end customers with special requirements* – When customers have special configuration needs, MBX pulls the finished base system from stock either in the U.S. or overseas, adds required components such as archiving controllers, advanced network controllers and fiber channel host bus adapters, and does a final quality control check before shipping. This service has enabled Unitrends to support disparate customer connectivity and integration scenarios without having to build and manage extra SKUs.

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-George Eisenhower, Director, Manufacturing Operations, at Unitrends

Branding & More

Other go-the-extra-mile MBX services ranged from branding to logistics and support. New faceplates designed by MBX's graphics team, for example, upgraded Unitrends' brand image with a premium look matching the best-in-class positioning of Unitrends' newest appliances. Extra support documentation developed by MBX technicians at Unitrends' request provides a port map and other hardware-related explanatory information for Unitrends support personnel as well as end customers. Conformity assessments, CE marks and documentation required for appliance sales to the European market are handled by MBX's global logistics team.

MBX also stocks finished systems and replacement parts at both U.S. and international warehouses, ships units directly to Unitrends customers anywhere in the world, manages Unitrends' global evaluation program, provides RMA services with next-day cross-shipping for customers enrolled in the appropriate Unitrends support program, and more.

All of these services contributed to a successful launch of Unitrends' new and improved Recovery-Series appliance family, along with compelling features such as add-on cloud storage options for disaster recovery or long-term retention, and recovery assurance with 100% automated DR failover, failback and testing for vSphere and Hyper-V environments.

"Our physical appliances represent a substantial portion of our business, so we had to be sure we got everything right in this hardware upgrade. MBX was instrumental in making that happen," Eisenhower said. "From collaborating with our in-house platform engineers on designing all 12 SKUs to prototyping, manufacturing and support, they helped us deliver a product line that is helping Unitrends gain true competitive advantage, increase market share, and sustain the growth that has quadrupled our workforce in the last few years."

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