CASE STUDY  
Megapod® | CoreSite | Santa Clara, California

About CoreSite

CoreSite Realty Corporation is the data center service provider chosen by more than 750 of the world’s leading carriers and mobile operators, content and cloud providers, media and entertainment companies, and global enterprises to run their performance-sensitive applications and to connect and do business. CoreSite propels customer growth and long-term competitive advantage through the CoreSite Mesh by connecting the Internet, private networking, mobility, and cloud communities within and across 14 high-performance data center campuses in nine markets in North America.

With direct access to more than 275 carriers and ISPs, over 180 leading cloud and IT service providers, intersite connectivity, and the nation’s first Open Cloud Exchange that provides access to thousands of lit buildings and multiple key cloud on-ramps, CoreSite provides easy, efficient and valuable gateways to global business opportunities. More information is posted at www.CoreSite.com.

About Megapod®

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Mitsubishi Electric Power Products took the next logical step with Megapod: a system design that integrates the 9900B with batteries, bypasses, and critical load cabinets in one economical layout. It minimizes the entire system’s footprint and eliminates costly conduit and cable runs. In doing so, Megapod® dramatically shortens order-to-turnover time, and reduces total cost of ownership by as much as $275,000 in the first five years.

About the 9900B Series UPS

Until now, UPS topology selection for mission-critical applications has been a tradeoff between availability and efficiency. Online double-conversion technology was ideal for super-reliable protection, but not as efficient as riskier offline standby designs.

Now Mitsubishi eliminates the element of compromise with the 9900B Series, a true online UPS system that operates at high efficiencies, with superior reliability and performance, no matter what the load.

About the UPS Division of Mitsubishi Electric Power Products, Inc. (MEPPI)

Since 1964, Mitsubishi Electric has manufactured precision-engineered, high-quality uninterruptible power supplies to protect its customers’ mission-critical equipment during times of power instability. Mitsubishi Electric leads the industry in designing and manufacturing reliable, environmentally friendly UPS systems to extend uptime, prevent data loss, and protect against power surges. The MEPPI UPS Division offers systems in both single- and multi-module configurations, and a broad range of kVA capacities.

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Megapod® Integrated UPS System
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Mitsubishi Electric Power Products, Inc.
Uninterruptible Power Supplies (UPS) Division

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SA-ENL0007R1 (6/14/14)
A true online double-conversion 4x500 or 4x750 kVA UPS system ordered and installed in just 90 days?

Billie Haggard had an aggressive set of targets as construction began on a 102,000-square-foot co-location facility in Santa Clara, California. For mission-critical UPS systems, the senior vice president of data centers for CoreSite Realty Corporation was aiming to beat the maintenance and operating costs he’d seen with systems in place at older CoreSite locations. And he needed the new center to be customer-ready fast. At the time, his primary UPS vendor typically spent six to eight weeks processing an order, and up to eight weeks more on installation. But CoreSite needed the entire data center to be up and running 90 days after the first customer signed on.

That’s not all. The new system would have to achieve a PUE of <1.35 under any load condition, and allow customers to toggle easily between N+1 and 2N.

But would this radical idea do the job? In Haggard’s words, “it did. The significant savings made it an easy sell internally to my organization, and it’s the most efficient double-conversion online UPS system we’ve found in the market. This system is our new standard.”

Mr. Haggard shared those specs with his UPS-industry contacts. Only Mitsubishi proposed an answer.

Mr. Haggard’s aggressive vision was a double-conversion solution with a 4x500 or 4x750 kVA system. Mitsubishi’s MegaPod UPS is designed to be completely flexible and efficient, meeting CoreSite’s requirements.

The new system design was called the Megapod®. By eliminating space inefficiencies between components, the cost for conduit, cables, and labor could be drastically reduced. Cables would be pre-cut and logged before shipment, and Mitsubishi technicians would quickly finish the job onsite. The normally weeks-long installation process would become a few days of plug-and-play.

In fact, Mitsubishi met every one of CoreSite’s goals:

- Customer readiness within 90 days of time of order
- Onsite installation complete in just two days
- Easy N+1-to-2N adaptability
- <1.35 PUE
- Savings: 10-15% in CAPEX costs
- System UPS power usage savings of $179,728 per 1.5 MW of UPS
- Cooling, generator and footprint savings

CoreSite’s first Megapod® system was installed in 2011. Now CoreSite has more than 35 systems in place across the U.S.A. and technical improvements continue. The original 3x500 kVA capacity is now expandable to a 4x500 kVA, and bus bars are replacing even some of the minimal cables featured in the original design. According to Haggard, “My peace of mind with UPS systems is at a new high. We plan to deploy approximately 15MW of this type of UPS power in 2013.”

With the highly efficient 9900B 500 kVA UPS for a foundation, Mitsubishi re-thought conventional system design from the ground up. Two opportunities showed promise:

- Simplifying the installation process with a compact, back-to-back “pod” layout that would eliminate conduit and long cable runs.
- Selecting innovative but proven components — such as batteries — that would better complement the customer’s requirements, the 9900B, and the new layout.

Industry Context

With the public cloud services market forecast to grow 18.5 percent in 2013 — potentially reaching $131 billion worldwide — data center providers are racing to keep pace with demand. Companies driven by the need for faster, more efficient ways to build data centers continue to ratchet up their expectations. Not long ago a two-year construction schedule was acceptable, but today 16 weeks from contract to “go live” is the norm.

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