Owens Corning invented glass fiber technology over 50 years ago, including the cotton-candy-color PINK brand of insulation. Today, the Fortune 500 company is a leading global producer of quality building materials and services. With meticulous attention to superior IT performance, Owens Corning trusts Hitachi Virtual Storage Platform (VSP) to deliver blazing flash-accelerated speed and legendary reliability. VSP maximizes value for the company across a 100% virtualized SAP landscape.

**About Owens Corning**

From roofing shingles and home insulation to noise-reduction batting and high-performance wind turbine blades, fiberglass from Owens Corning has changed the way people live, work and play. Fiberglass is a lightweight, strong and robust material whose unique properties offer distinct advantages in versatility and freedom of design.

Owens Corning celebrates 75 years of innovation for living. Committed to producing sustainable solutions for its customers and the global community, Owens Corning has led most of the advancements in fiberglass technology. Earning a storied place in history, Owens Corning fiberglass has been used for World War II military applications and Apollo space suit materials. It has created distinctive roofing on Hajj Terminal at Saudi Arabia’s King Abdulaziz International Airport.

Continuing its tradition of transforming status quo, Owens Corning recently completed the largest public-private solar generation project for the state of New York. The solar installation is estimated to supply 3.3 million kilowatt-hours of electricity annually. This renewable resource is the equivalent of eliminating carbon dioxide emissions from 487 passenger vehicles each year. Owens Corning has been named to the Dow Jones Sustainability World Index for its demonstration of commitment to social responsibility and environmental stewardship.

**Owens Corning**

**INDUSTRY**
Manufacturing

**SOLUTION**
Enterprise Platform, Virtualization

**HARDWARE**
Hitachi Virtual Storage Platform (2)

**SOFTWARE**
Hitachi Tuning Manager, Hitachi Shadow-Image Heterogeneous Replication, Hitachi Dynamic Tiering

**SERVICES**
Hitachi Virtual Storage Platform Implementation Services, Remote Copy Planning and Design Service, SAN Implementation Services and Data Migration Services provided by Hitachi Global Solution Services

**Benefits at a Glance**
- 75% reduction in refresh time.
- Failover in hours rather than days.
- Six-figure savings.
Owens Corning is headquartered in Toledo, Ohio, with facilities in North and South America, Europe, and Asia Pacific. The company employs 15,000 professionals in 27 countries to invent, build and sell its ingenious line of residential and commercial products.

**Challenge 1: Transform the Customer Experience**

The employees at Owens Corning are genuinely excited about the sweeping changes happening behind the scenes to renovate customer service. The Customer Experience Transformation, or CET, is about changing and improving how to provide customers with what they want, when they want it, on time. Critical to supporting the company’s 24/7 operations is a highly responsive, consistent, accurate and adaptable IT environment.

Already embracing a high concentration of SAP environments, Owens Corning upgraded to SAP 6.0, and added the following modules: SAP Enterprise Central Component, SAP Customer Relationship Management, SAP Transportation Management, SAP Global Available-to-Promise, and SAP Process Integration. With such a vast SAP landscape to run mission-critical business transactions and operations, Owens Corning sought to ensure responsive and reliable performance across client-facing server and storage systems.

“Half of our orders are still taken by phone. The SAP CRM app allows a sales agent to bring up all the customer information, ordering patterns and delivery patterns instantly, instead of asking so many questions. This information access means a high-touch level of service and faster, more efficient ordering process. Each of these new SAP modules offers us a way to improve how we deliver services, how we sell, how we schedule trucks, or forecast product,” says Tim Waldock, the leader of Global Applications Infrastructure at Owens Corning. “These modules are very complex, very client intensive. Our imperative was finding the fastest, most reliable technologies to move massive amounts of data instantly to the computer screen.”

**Challenge 2: Revolutionize Performance With Flash**

Performance is king on the sales floor, the shipping dock and in the data centers. Minutes or seconds can make the difference in satisfying customer expectations or cutting costs. “In IT, we monitor every piece of performance every day, graphing response times for disk I/O, server I/O, client response time, transactions. If something moves by a couple of seconds, I get a phone call,” explains Waldock.

Owens Corning has 2 main data centers in Ohio. The 1st is at headquarters in Toledo responsible for production SAP environments, and the 2nd is located 160 miles (257.5 km) away in Granville to handle development and disaster recovery. Together, they manage 550TB of data, along with 480 servers and 180 SAP instances. The IT department strives to virtualize wherever possible, and the SAP landscape is entirely virtualized via IBM® AIX® and UNIX systems. At the heart of the storage environment for the last 3 years is Hitachi Universal Storage Platform V.

“We’ve been very happy with our Hitachi storage, with excellent performance and reliability, and no downtime. With the corporate CET initiative, our edict is to accelerate the IT environment to do better, go faster. Now we needed to see if there was storage technology capable of improving the performance we already had. We still wanted an integrated solution based on cost and performance, but were interested in finding flash storage worthy of our data demands. The right flash drives could grant us instant access to data,” he furthers.
Innovation is the engine of change, and information is its fuel. Innovate intelligently to lead your market, grow your company, and change the world. Manage your information with Hitachi Data Systems.

Some of the explicit requirements of new storage were 100% uptime and extensive automation tools. Owens Corning thoroughly evaluated several storage contenders offering flash and other performance enhancements. Nothing came close to Hitachi Virtual Storage Platform with flash acceleration.

The Solution: Top-of-the-Line Hitachi Storage

“Hitachi VSP offered us a highly scalable virtualized platform with the 100% uptime guarantee and a superior level of automation with integrated tools. This solution would allow us to capitalize on our SAP investments, and it showed tremendous increases in performance, by 100% in some cases. The Hitachi Flash Acceleration was so fast and displayed off-the-chart performance for these enterprise workloads: It’s a new realm of performance. Hitachi technology actually saturates the flash before it moves to lower tiers, which is different from what other vendors brought to us,” Waldock continues.

“The other factor that quickly separated Hitachi from its competitors is the way it approaches the sale,” adds Dean Barley, service delivery manager and project manager at Owens Corning. “Hitachi listened to what we wanted, and then designed a whole solution to meet that. The entire Hitachi team exuded such continuity, from pre-sales and technical engineers to leasing and post-sales implementation. Everyone was expertly focused, resourceful and ensured that we got what was proposed in the most optimal way. That’s pretty rare in the industry.”

Owens Corning selected Hitachi Virtual Storage Platform as the foundation of its strategic performance improvements. Virtual Storage Platform addresses all the “must haves” for rapidly deploying and effectively growing and evolving SAP environments and other enterprise applications. Typical SAP deployment challenges are mitigated with unique Hitachi 3-D scaling architecture, to scale up, out and deep. Plus, unified management tools elevate value across all storage assets. With extraordinary performance, scalability and cost-efficiency attributes, VSP is equipped to meet and exceed the strenuous workloads and service levels necessary for Owens Corning’s CET program.

Hitachi Accelerated Flash storage exploits these capabilities even more. It is the 1st custom-designed, enterprise-class solid-state storage option for enterprise jobs. The flash module provides 8 times greater density than any available MLC solid-state disk. VSP can house up to four 2U flash enclosures, each with up to 12 flash modules, for more than 1PB of flash per system. Unique to Hitachi flash is a multicore flash memory controller that was built for 4x sustained performance and extended endurance.

The Toledo and Granville data centers each house a Virtual Storage Platform, similarly configured with over 300TB usable storage capacity, RAID 6 + 2, and 3 tiers. Tier 1 is based on 1.6TB flash module drives, Tier 2 on 2.5” 300GB 15K SAS, and Tier 3 on 2.5” 900GB 10K SAS. The Toledo SAP production storage is replicated in Granville and the QA environment is a complete mirror of production. Each data center also installed new Fibre Channel switching infrastructure with Brocade DCX 8510 Backbones with Gen 5 Fibre Channel, ideal for exploiting high-density server virtualization and flash storage.

Hitachi Data Systems Global Solution Services provided comprehensive implementation services for software and SAN, as well as remote copy planning and design, and migration services. “We moved 480 systems. It definitely would not have been successful or possible without the dedication and skill of the Hitachi team. They were actively involved in every migration. I can’t say enough about the Hitachi staff,” says Barley.

Benefits

Excellent Results With Hitachi Automation and Speed

Hitachi software is engineered to promote strategic and comprehensive control and intelligence over data and IT assets. Virtual Storage Platform is more than its tools, but according to Waldock and Barley, the tools are impressive. “Wherever possible, we want to use tools. In a very short amount of time, we’ve come to rely on the automation...”

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Virtual Storage Platform

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and flexibility and speed of Hitachi tools, especially Hitachi Dynamic Tiering, Hitachi Tuning Manager and Hitachi ShadowImage Heterogeneous Replication,” Waldock says.

Hitachi Dynamic Tiering software eliminates the complexities of managing the data lifecycle with automated storage tiering. By automating data placement for higher performance and lower costs, Owens Corning IT is able to optimize and manage tiers as a single entity of storage.

“We do nightly updates, and we’re able to move high-volume data to flash or other tiers of storage and save milliseconds on I/O times. Each night, Dynamic Tiering automatically calculates what data is most frequently accessed, by page, and adjusts storage for optimal performance. With the massive amount of transactions we do, it adds up to significant savings in response time,” Waldock expands.

Hitachi Tuning Manager software maps, monitors and scrutinizes storage resources from application to device for end-to-end visibility. Tuning Manager provides in-depth performance statistics for VSP as well as any storage network resources on the application data path. Tuning Manager helps to promptly alleviate performance issues and improve utilization. “Tuning Manager gives us more administrative value-add. We use Tuning Manager for automated reports so we can gather response time info much faster than previously,” says Barley.

ShadowImage Heterogeneous Replication software is integral to the automation success of Owens Corning storage. ShadowImage delivers high-speed and nondisruptive replication, with full-volume RAID-protected local mirroring and point-in-time recovery. ShadowImage is host-independent and maintains availability of host applications, allowing concurrent backup operations while production applications are online.

“We’ve been working under such an accelerated time frame with the CET project, and we’re under some pressure to refresh databases at much faster rates than ever before. ShadowImage is another tool helping us accomplish this [refresh] with automation. ShadowImage allows us to perform daily backup and database refreshes, while keeping online copies of our most critical systems in case we need to fail over. It’s important to the testing for SAP functionality and it’s another proof point of Hitachi availability,” Barley further details.

**Fast, Consistent, Reliable Innovation**

Since deploying Virtual Storage Platform at Owens Corning, performance metrics continue to soar. “We’re regularly doing refreshes on SAP. Over a period of a few weeks,” Barley mentions, “we’re taking 30 refreshes. Previously, each refresh on average took about 4 days. We were able to do all of these [refreshes] in a day: That’s a 75% reduction. Failover is in hours instead of days. That’s huge. We can respond to performance changes much faster, deliver services faster and provide more value.”

Hitachi reliability remains at center stage with highest levels of availability for mission-critical environments. “The SAN is the largest asset we have. Every piece of data, from customer orders to patents, sits in that SAN, so downtime is not something we can afford. With our previous Hitachi platform and now with the VSP, Hitachi reliability has kept us up and running with zero downtime. I don’t always know we’ve even had a swap of a drive until the report comes out, because Hitachi is always a couple of steps ahead of any problem,” Waldock acknowledges. “It’s all about consistency, speed and reliability. Hitachi VSP delivers consistent I/O, instant access and it’s simply so fast, so dependable.”

Hitachi management tools are also getting some of the credit for productivity improvements and peace of mind. “We’ve been able to make the most of our automation, to move data between tiers, to make better decisions. Instead of manual monitoring or buying additional software, we’re automating and we’re writing scripts, and saving 6 figures in processes. The Hitachi tools allow us to be more productive, to do everything faster, and to be freed up to work on other priorities,” Waldock continues.

“Hitachi delivered on our vision. We’re up and running 24/7 globally and this Hitachi solution helps me sleep well at night. Now that is all working so well for meeting our goals, we want more!”