

What's Happening

General Information

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Is Your Data Center Earthquake Safe?

WorkSafe Offers Seismic Protection



Have you ever wondered what would happen to your data center if your area was struck by an earthquake? According to the U.S. Geological Survey, 26 of the largest earthquakes on record with Richter Scales measuring 7.3 to 9.2 occurred in the United States between 1811 and 2002. There were 625 earthquakes in the United States during the last week of July. Most are less than 3.5 on the Richter Scale and go undetected by humans, but anything 6.0 and above causes damage. Is your data center safe?

WorkSafe Technologies (www.worksafetech.com) is a leading authority in seismic protection. According to Don Hubbard, company president, WorkSafe Technologies' ISO-Base seismic isolation technology is the most effective way to protect mission-critical and expensive electronic equipment in the event of an earthquake.

■ The Technology & How It Works

"We use a patented 'geometry-specific' isolation bearing to decouple the equipment (or any structure) from damaging ground motions. The bearing is 100% gravity restoring, which means that after the shaking stops, it will smoothly return to its original location. The bearing also works as a white-noise filter, virtually eliminating the transfer of seismic vibrations into sensitive components. If all other peripheral systems (such as power) stay up and running, the isolated equipment can and will continue to operate and process data right on through a major earthquake," says Hubbard.

According to Vaughan Mason, a master distributor at WorkSafe, The Boeing Company (www.boeing.com) was one of the first three large companies in the Pacific Northwest to standardize the ISO-Base Seismic Platform as its best practices for seismic mitigation. "Boeing committed to a sizable three-year budget to, essentially, retrofit their two largest data centers," says Mason. "The project was about one year old when the Seattle Nisqually earthquake hit. At that time, approximately 400 server cabinets had been placed on ISO-Base Platforms and were located at the Bellevue Computer Services Center and the Kent Space Center."

"The platforms performed exactly as designed, and no servers were damaged, and no servers on the platforms experienced any downtime," continues Mason. "In contrast, one of Boeing's smaller data centers, at Boeing field, had several server cabinets not on ISO-Base Platforms topple over and were damaged."

■ Target Audience: Who & Where?

Susana Acosta, marketing director at WorkSafe, says the ISO-Base Platforms are currently used in data centers and computer rooms to secure mainframes, LAN racks, electronics enclosures, and other critical equipment. They are also used in clean rooms and laboratories for protecting sensitive tools and instrumentation and in manufacturing plants to protect heavy machinery, as well

as in hot and cold rooms and all types of industrial supply locations.

These platforms can be easily installed even when equipment is live and operational—no drilling or anchoring is required, notes Acosta. They have been extensively tested and exceed UBC/IBC Seismic Zone 4 code requirements (Bellcore NEBS). They are also used in many different seismic-prone countries around the world.

For example, according to WorkSafe, Japan now has 1,000 users and more than 25,000 platforms installed. “We can say that ISO-Base has quickly become the defacto standard in Japan for seismic protection of IT racks and cabinets,” adds Hubbard. “ISO-Base has protected the IT racks in all cases, even where some of our users were right above the epicenter, such as the Sanyo Electronics factory during the Niigata M7 quake in October of 2004.”

■ Looking Back & Moving Forward

The creative vision of Don Hubbard combined with the entrepreneurial expertise of CEO Gil Moreno made it possible to found WorkSafe and to engineer its first seismic fastening products almost two decades ago. “We came up with ISO-Base Platforms while doing old-school seismic bracing,” says Hubbard. “We realized the need to reduce the stress on the equipment instead of adding stress to it with traditional bracing and bolting methods. Well into our second decade, we are constantly striving to increase our expertise by developing products to protect our clients’ businesses. The ultimate goal is to keep mission-critical equipment running as smoothly as possible and to ensure a rapid and easy operational recovery in the event of a seismic disturbance.”

According to Acosta, last August WorkSafe was selected by Cray and the U.S. Department of Energy Office of Science to provide its patented ISO-Base seismic isolation technology to protect the world’s fastest supercomputer from seismic shock and vibration. In addition, last month, the University of Alaska Fairbanks base-isolated its first server cabinets in its central data center, home to the Arctic Region Supercomputing Center. The data center in Fairbanks is the University’s central IT hub for communication and data storage, housing around 100 server cabinets, many of which are supercomputers.

“Our innovations in seismic mitigation have been well received, not only in domestic seismic regions but also in seismic hot spots around the world,” says Acosta. “We have an established presence throughout the United States and Canada, as well as Japan, New Zealand, Taiwan, Turkey, and Mexico, with plans to expand into Western Europe, Central and South America, and Southeast Asia in the near future.”

WorkSafe’s ISO-Base Platform has been approved by the State of Washington and given the title of “sole source provider.” In addition, the company received the Award of Excellence from the 2004 National Earthquake Conference in the Mitigation category. WorkSafe Technologies products are also the only products to pass the stringent Canadian Government Standards Testing at the University of British Columbia, and the Japan Quality Assurance Organization has certified the ISO-Base Seismic Isolation Platforms for seismic requirements, which means they passed Japan’s rigorous quality and seismic performance testing. ■

by Julie Sartain