

ESCAPE

ALL LIMITATIONS

UNITRENDS BACKUP & RECOVERY SOLUTIONS
AND DISASTER RECOVERY BEST PRACTICES:

EARTHQUAKE/TSUNAMI PREPAREDNESS

The ability of your business to respond to a disaster depends on how well your IT organization can address specific situations. While you can only plan for so much in the way of detail, you can understand and anticipate both the likelihood and ramifications of certain types of disasters, and use this knowledge to plan your response and thus expedite the disaster recovery process.

In this case, let's take a look at the threat of an earthquake triggering a tsunami....



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ASSESSING THE RISK

To quote FEMA, “One of the most frightening and destructive phenomena of nature is a severe earthquake and its terrible aftereffects. An earthquake is the sudden, rapid shaking of the earth, caused by the breaking and shifting of subterranean rock as it releases strain that has accumulated over a long time. For hundreds of millions of years, the forces of plate tectonics have shaped the earth, as the huge plates that form the earth’s surface slowly move over, under and past each other. Sometimes, the movement is gradual. At other times, the plates are locked together, unable to release accumulated energy. When the accumulated energy grows strong enough, the plates break free. If the earthquake occurs in a populated area, it may cause many deaths and injuries and extensive property damage. While earthquakes are sometimes believed to be a West Coast occurrence, there are actually 45 states and territories throughout the United States that are at moderate to high risk for earthquakes including the New Madrid fault line in Central U.S.”

Sometimes triggered by earthquakes, “Tsunamis (pronounced soo-ná-mees), also known as seismic sea waves (mistakenly called “tidal waves”), are a series of enormous waves created by an underwater disturbance.” FEMA further describes the behavior of a tsunami by noting that it “...can move hundreds of miles per hour in the open ocean and smash into land with waves as high as 100 feet or more. From the area where the tsunami originates, waves travel outward in all directions. Once the wave approaches the shore, it builds in height. The topography of the coastline and the ocean floor will influence the size of the wave. There may be more than one wave and the succeeding one may be larger than the one before. That is why a small tsunami at one beach can be a giant wave a few miles away. All tsunamis are potentially dangerous, even though they may not damage every coastline they strike. A tsunami can strike anywhere along most of the U.S. coastline. The most destructive tsunamis have occurred along the coasts of California, Oregon, Washington, Alaska and Hawaii.”

The following image captures an aerial view of the devastation in Sendai, Japan, following the 8.9 magnitude earthquake and subsequent tsunami of March 11, 2011.



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According to FEMA, “Earthquake-induced movement of the ocean floor most often generates tsunamis. If a major earthquake or landslide occurs close to shore, the first wave in a series could reach the beach in a few minutes, even before a warning is issued. Areas are at greater risk if they are less than 25 feet above sea level and within a mile of the shoreline. Tsunami waves and the receding water are very destructive to structures in the run-up zone. Other hazards include flooding, contamination of drinking water, and fires from gas lines or ruptured tanks.”

Earthquake/Tsunami Ramification	Unitrends Solution
Evacuation and Loss of Access	If you use on-premise rotational archiving (typically D2D2x with disk or tape), you need a plan in which your computer stays up when you can't get to it physically. If your area is evacuated but the earthquake/tsunami (or hurricane, or tornado, or some other event) doesn't hit, you can rely on this primary backup solution with peace-of-mind, as long as your team ensures rotation of the media.
Recovery Complications	With Unitrends, hardware independent failover virtualization provides a first step toward immediate restoration from critical systems failure, spinning up your recovery systems in less than five minutes. Our Simply Scalable™ technology lets you blend your virtual, physical, and cloud-based environments into one easily managed recovery suite that increases business continuity while reducing repair time for IT staff. Dissimilar and heterogenous bare metal solutions by Unitrends allow you to easily manage your recovery strategy for all your diverse technology needs. With Unitrends, you only need one solution to guard your critical information against disaster.
Destruction of Local Backups	Either of two Unitrends replication solutions can alleviate the pain of backups destroyed by fire. D2D2C (Disk-to-Disk-to-Cloud) offers a quick method for both data storage and recovery, while D2D2D (where the disk can be eSATA connected or even SAN or NAS connected via iSCSI or CIFS/NFS protocols) provides the means for an alternative to cloud-based recovery.
The Need for Speed	The downside of off-site recovery is the anticipated time-to-recover. To ease the pain, Unitrends can provide hot/cold or, even faster, hot/hot replication for Windows. A hot/cold scenario begins with data replication from an off-premise device to off-premise standby device, and then replicates to the recovery target. Recovery can also occur from the off-premise device to the off-premise standby device, which then ships next-day to the recovery site. In a hot/hot scenario, recovery from the remote site occurs directly to the recovery site. When a VMware or Windows system fails, your Unitrends appliance becomes the virtual host of the failed system. For VMware, the system recovers to a new virtual machine and your Unitrends appliance becomes the provisioned virtual storage provider. In the case of a Windows failure, the recovered Windows system runs directly on the Unitrends appliance. Recovery typically happens in less than five minutes.

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CASE STUDY: SHAKEN AND STIRRED

The New York Daily News headlines for Friday, March 15, 2013, forewarned, “Chilling new report predicts massive earthquake and tsunami for Pacific Northwest: It’s just a matter of time before a mega-quake hits the region between Northern California and British Columbia, where it is expected to kill more than 10,000 people and cause \$32 billion in damages.”¹

Nancy Nunes, chief financial officer for Nirvana Properties, closed her eyes for a moment and shuddered to think, recalling the devastating effects of the earthquake/tsunami combo that hit Japan in early spring of 2011. With a mission to provide earnings growth to its shareholders through investments in high quality hotels across the U.S., Nirvana has much at stake. Located in the heart of Seattle, its corporate office lay unequivocally exposed to the disaster anticipated in the New York Daily News article and, even worse, seemed ill prepared for a tragedy of such proportions. Nunes couldn’t imagine Seattle taking the catastrophic blow Japan endured two years ago, nor did she want to think of how it would affect Nirvana’s business. Even so, relying solely on a dated, on-site, tape backup solution, the company was obviously under-protected. But what’s a CFO to do? Call Unitrends of course, and Nunes was happy she did. The Unitrends team set to work assessing Nirvana’s information storage needs, determining the right fit for their budget and risk mitigation requirements:

- **Silver Lining**

The investment business has five windows servers, including domain controllers, terminal servers, and file servers, and requires data backup for 250 GB every week. Nirvana selected the Vault2Cloud multitenant cloud service for cloud-based storage that comes with guaranteed next day shipping of a fully loaded appliance in the event of loss at the company’s Seattle business office.

- **Lock and Key**

Subject to financial audit and regulation, Nirvana chose to protect its data using the Unitrends Advanced Encryption Standard (AES) 256-bit solution, InCrypt, before it is written to the company’s Unitrends appliance. This ensures that the company’s data remains protected whether at rest on their appliance, in transit to an off-site system, or stored on archive disks.

- **Everything Old is New Again**

Unitrends augmented Nirvana’s old tape-based recovery approach with RXDA for rotational archiving made easy. Installation required no screws or tools whatsoever: Unitrends simply added a hard drive into the dock, plugged it into Nirvana’s Unitrends appliance, and voila, the company had replaced their old tape-based solution with a modernized rotational archiving methodology.

¹To read more, visit: <http://www.nydailynews.com/news/national/report-chilling-forecast-northwest-quake-article-1.1289429#ixzz2O0kbeMSI>

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PREPARED: COMPLIMENTS OF UNITRENDS

With Unitrends, you can plan ahead and be ready at a moment's notice with a disaster recovery solution that stands up to the threat of an earthquake/tsunami. That solution includes these benefits:

- **Scale and Grow with your Business**
By leveraging existing investments such as tape, legacy servers, and storage, Unitrends maximizes your resource utilization while adapting to your data growth.
- **Single point of contact**
Your questions for data protection strategies are addressed by Unitrends with a US-based customer support team that boasts a 99% Net Promoter Score (NPS)-based customer satisfaction rate.
- **Complete Protection**
Physical, virtual, and cloud-enabled protection preserves the data you need to shield from loss in the event of a disaster.

It makes good business sense to prepare for the unforeseen so that, should disaster strike, you can return to normal business operations as quickly and effortlessly as possible. You can rely on Unitrends and our 20+ years of expertise in data protection to help you do just that.

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