

# CSSI Delivered **100% Uptime** During Category 5 Hurricane Irma

Case Study

2017



As if speaking directly to a future audience, the chemist Louis Pasteur said, “Fortune favors the prepared mind.”

To this end, Computer Software & Solutions International, LLC (CSSI) put in place a disaster-recovery technology infrastructure capable of handling data backup and security for up to 100 clients during major weather events and natural disasters. The south Florida-based company hadn’t previously dealt with a storm close to the magnitude of Hurricane Irma, and the company had been much smaller, with fewer clients, when Hurricane Wilma blew in, almost a decade ago.

So, when Irma first threatened, and then hit a wide swath of Florida, CSSI had its first real-life test of disaster readiness. With CSSI’s implementation of their planned disaster- recovery strategy—a plan tested on a quarterly basis—the safety and security of their primary Level 5 production data center was thrust into the spotlight. The outcome: CSSI’s highly trained staff and infrastructure delivered 100 percent uptime during Irma. During the storm, CSSI lost power and went to generators for two days—but not one client claimed to have lost connection.

How did CSSI do it? This is a brief look at how they successfully prepared for severe weather, and accordingly, were able to deliver zero down time, no loss of INTERNET connectivity, and most importantly, real-time and secure hosting and storage of 5 TB of data for their clients.

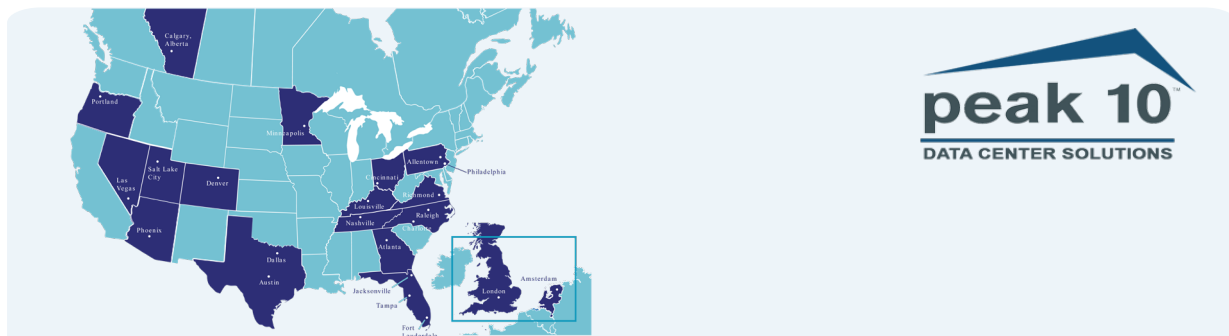
The key word for keeping data safe and current in disaster situations is redundancy. Using one of several kinds of redundancies, the CSSI data center in Miami (Equinix) worked to ensure that if hit by a hurricane, client would be protected and sufficiently backed up. Clients stayed up and running throughout the event. Here’s how! CSSI has several disaster-recovery center redundancy is established by having several disaster recovery centers operating simultaneously and updating data every two hours, in near real time, so one data center can pick up where another one left off. The company is thus able to guarantee its clients a loss of no more than two to four hours of work. So, in the worst-case scenario, clients would only have to recover a few hours, rather than a few weeks of lost data.



EQUINIX

But this didn't happen with Irma.

CSSI has two primary data-center facilities in Florida, backed by several other remote locations including Las Vegas, Nevada, and Calgary, Canada. The facilities are housed in Level 4 and Level 5 bunkers and are able to handle the most severe weather conditions and natural disasters: the Equinix Primary Level 5 Production Data Center is in Miami (formerly Verizon Terremark) and Peak 10+ ViaWest Backup Disaster Recovery Data Center is based in Ft. Lauderdale.



**Peak10 + ViaWest comprises 40 highly redundant data centers with 2.7 million square feet of data-center space, 13 cloud nodes, and more than 10,000 cross connects. These capabilities, coupled with more than 1,000 dedicated employees, underlie their steadfast reliability.**

These data centers are fuel sufficient, power sufficient, and carry enough power to run on generators for more than two weeks. The security they employ includes equipment, techniques, and procedures to control, monitor, and record access to the facility, such as biometric scanning, 24/7 internal and external video surveillance, and individual data cages to protect client assets.

The day Hurricane Irma came in, these data centers were in constant communication with CSSI's main network access point, or NAP, which gave them status updates every two hours. Within 8 to 12 hours of the hurricane making land, the NAPs lost power, but within seconds they had switched over to generator mode.

The purpose of data centers across the country is to have locations far enough away from the two Florida NAPs so that if something was happening on the east coast, it would be highly unlikely that similar conditions would be prevailing in other locations.

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“With this level of redundancy, if one data center goes down—or even if both Florida NAPs were to go down—CSSI would automatically activate another data center in a remote location. All centers would be humming at the same time, with data being updated and moved between them every two hours.”



Michael Barrera,  
Director of Information Technology, CSSI

This updating required human input—pointing to another aspect of CSSI’s preparedness strategy. Even though CSSI transferred the data automatically, it required a manual turn up. With monitoring tools and live techs to monitor the data, there is a double layer of security—like having a locked door, but with a policeman in front of it. During and after Hurricane Irma, the company had IT staff—human beings—outside of Florida, monitoring the network around the clock until the system was fully operational again. These external technicians are online all the time, and stay in constant communication with the IT staff at CSSI’s disaster-recovery centers.

As mentioned above, CSSI’s ongoing processes of protecting our clients’ data include constant testing of the environments to ensure the restored environments have no problems. The company performs trial runs on a quarterly basis, a kind of fire drill to simulate an impending hurricane. During these drills, CSSI tests their system to ensure they have all the latest data, verify it, and then shut it down and continue to replicate the data. This backup-and-restore measure ensures the system doesn’t contain bad or outdated data. Along with the constant testing of the disaster-recovery site, CSSI also performs due diligence by running security tests against hacking, even during a crisis. They test security continuously to ensure clients’ information is well protected. Then, through monitoring monthly reports, CSSI can gain an understanding of what actually happened, and immediately take steps to correct any vulnerabilities. Then they test it again.



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“Our IT department has put in a great deal of work over the years to ensure our system is ready to handle natural disasters. Although many were without power in Florida, we were happy that everything went smoothly and our clients did not suffer any downtime during Hurricane Irma,” said Michael Barrera, Director of IT, CSSI. So, what was the impact of Hurricane Irma on CSSI clients? They were not even slightly affected by the weather we experienced in Florida—nor were they aware that CSSI’s emergency plans had kicked in. So much of crisis management is about averting it in the first place, and the fact that no client of ours lost even a byte speaks to our preparedness for the worst. And luck favors the prepared.

## About



Computer Software & Solutions International

Computer Software & Solutions International, LLC (CSSI) is a leading U.S.-based systems-integration and software-development company for modern future-ready businesses. Founded in 1991, CSSI has been delivering innovative custom and packaged solutions designed for unique business requirements throughout the United States.

The Company specializes in multi-channel solutions that optimize sales and service processes for cost and quality. Most notable for the creation of VUE Software over 2 decades ago and recently acquired by Vertafore. Headquartered in Boca Raton, Florida, CSSI has a strong North American presence and also operates offices internationally, including a wholly owned Technology Center in Hyderabad, India.

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