

the Availability Digest™

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- - - achieving 100% uptime

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The digest of topics on Continuous Availability. More than Business Continuity Planning.
BCP tells you how to *recover* from the effects of downtime.
CA tells you how to *avoid* the effects of downtime.

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Are We Prepared for a Major Power Outage?

All of us experience power outages from time to time. Most of them are annoyances at worst. During a hot day, we lose our air conditioning. At night, we light candles. If we are prepared, we have an electric generator that can run the major facilities in the house. I have had a generator for years – a 5,500-watt generator on wheels that can power the furnace, water pump, microwave, computers, and several lights. All we have to do is to fire it up, lay some extension cords, and put up with the noise.

All the generator needs is gasoline, and therein lies the rub. I keep enough gasoline on hand to run the generator for two or three days. But what if we had a power outage that lasted for weeks or even months? Those gas stations that have generators may run out of gas. When our gasoline goes, so goes our electricity.

A long-lasting power outage would wreak havoc with our society. Perishable foods and medicines would spoil. Our mode of transportation might be limited to walking or bicycling. Could this really happen? There are two major threats that might take down our entire power grid for an extended period of time – hackers and solar storms. Our governments are ill-prepared to handle such a catastrophe. And so are we.

Dr. Bill Highleyman, Managing Editor

Case Studies

Hospitals Under Ransomware Attacks

Hackers have discovered hospitals to be soft targets for ransomware cyberattacks. Healthcare security is not strong, and data is absolutely essential for patient well-being. The hospitals are therefore very willing to pay modest amounts of ransom to regain access to compromised patient information.

The attacks typically are carried out via phishing techniques. An employee is sent a seemingly harmless email. However, when an attachment to the email is opened or a referenced website is visited, malware is copied into the employee's computer. From there it can travel to every computer on the network. The malware encrypts whatever data it finds and then sends to the organization a message asking for a ransom in order to be given the decryption key.

The ransomware also can be injected into a computer via a USB thumb drive or a diskette left lying around. It is likely that some employee will insert it into his computer, thus infecting the computer and all others on the same network.

[--more--](#)

Never Again

Salesforce Takes a Dive

In May, 2016, Salesforce suffered an almost six-day outage of a portion of its SaaS (software as a service) cloud. This failure probably ranks as one of the worst cloud failures ever, beating the recent cloud failures of such giants as Amazon and Microsoft.

The root cause of the outage was multifaceted. The failure of a circuit breaker in Salesforce's Washington data center was compounded by a latent, unknown bug in the storage arrays in its Chicago data center.

Salesforce's recovery was hampered by an inability to fail over from its Washington data center to its backup data center in Chicago. We have noted many times in the *Digest* that failover to another data center is an iffy process if it has not been tested thoroughly. It appears that Salesforce did not give failover testing the attention it deserved.

[--more--](#)

Best Practices

The Looming Threat of a Solar Superstorm

During Superstorm Sandy in late October, 2012, my family lost power. We were informed that it might be weeks before power was restored.

Fortunately, we had an electric generator and survived quite nicely for a couple of days. However, we began to run low on gasoline for the generator and set out with what fuel we had in the car to obtain more gasoline. To our disappointment, we found that there were no gas stations at which we could fill up. Either they had no power, or if they had a generator, they had run out of fuel.

We were lucky. Our power was restored in another day. However, neighboring areas were without power for weeks.

This experience drove home to me the consequences of a long power outage. What if we had been without power for months? Could such a calamity happen? The answer is yes, and the culprit is a solar superstorm.

It appears that solar superstorms occur about once every 150 years. The last one was 157 years ago. Be prepared!

[--more--](#)

Availability Topics

Power Outages Caused by Animals

In August of 2009, John C. Inglis, Former Deputy Director, National Security Agency, noted:

"I don't think paralysis [of the electrical grid] is more likely by cyberattack than by natural disaster. And frankly the number-one threat experienced to date by the US electrical grid is squirrels."

A disturbing number of power outages have been caused by a variety of animals gnawing through high-voltage wires or falling on transformers. It seems that most of these unfortunate critters are squirrels. However, they are joined by weasels, monkeys, and even birds.

In this article, we look at the range of critters that cause power outages.

[--more--](#)

Tweets

@availabilitydig – The Twitter Feed of Outages

A challenge every issue for the Availability Digest is to determine which of the many availability topics out there win coveted status as Digest articles. We always regret not focusing our attention on the topics we bypass.

Now with our Twitter presence, we don't have to feel guilty. This article highlights some of the @availabilitydig tweets that made headlines in recent days.

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