

the Availability Digest™

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--- achieving 100% uptime

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The digest of current 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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Chaos Engineering

Large enterprises have started to take a unique approach to ensuring that their data centers remain operational. They are purposely injecting failures into their systems to determine weaknesses and to harden them. These efforts are known as 'chaos engineering.'

Netflix has created Chaos Monkey to do just this. In effect, Chaos Monkey runs rampant in its data centers, causing various systems to fail. Read about Chaos Monkey in our article "Saving Data Centers by Creating Chaos."

This article and our other stories in this issue are examples of what we write for the Digest and for others. If you have an article, a case study, or a white paper that you would like written, we encourage you to contact us. We also provide consulting services and seminars on high-and continuous availability.

Dr. Bill Highleyman, Managing Editor

Never Again

FedEx Exposes Details on Thousands

Personal information for thousands of FedEx customers worldwide has been exposed via an Amazon Web Services (AWS) cloud storage server that was left open to public access without a password. The server contained more than 119,000 scanned documents including passports and drivers' licenses.

Victims included citizens of Australia, Chile, China, EU countries, Japan, Kuwait, Malaysia, Mexico, Saudi Arabia, and others

The server was run by Bongo International, a company purchased by FedEx in 2014. FedEx closed the company in April 2018, but the bucket remained exposed. The bucket was available for public access for years.

[--more--](#)

Best Practices

Cloud-to-Cloud Backup

There is an increasing trend for companies to run their applications in the cloud. Whether a public cloud or a private cloud, cloud computing has the advantage of eliminating the need for dedicated servers for application processing. Furthermore, the cloud provides the scalability necessary to support an application. If the application load should suddenly increase, the cloud can provide additional processing resources. When the increased load diminishes, the cloud can recover those resources and use them for other purposes.

However, though clouds have proven to be highly available, they do occasionally fail. All application data stored in the cloud can potentially be lost. It is therefore important to back up that data so that it can be recovered in the event of a cloud failure. Though cloud data can be backed up by on-site backup hardware, it makes more sense to back up the data in another cloud. Cloud-to-cloud backup is the practice of copying data that is stored on one cloud to another cloud.

[--more--](#)

Saving Data Centers by Creating Chaos

Mission-critical application outages have been plaguing companies since the dawn of the Internet. So much of our economy is driven by online ecommerce that any system outage often exacts a major cost to the company suffering the outage. Even moving critical applications to the cloud does not solve the problem. Clouds fail also.

When an outage occurs, customers can't buy products or services from the affected company. Until recently, the response to a system outage has been reactive. Call in as many people as necessary to find and fix the problem.

However, large enterprises now have started to break systems on purpose to smoke out weaknesses in their systems. The intent is to determine the impact of a particular outage and how to harden the systems before failures catch them unprepared. This is called 'chaos engineering.'

Netflix and Amazon have been pursuing chaos engineering for almost a decade. Several years ago, Netflix introduced Chaos Monkey to test and enhance the resilience of compute instances by injecting failures into processes.

[--more--](#)

Availability Topics

The Future is Decentralized Data Storage

Data is becoming the world's most valuable resource. The question of where and how to store it has grown increasingly important.

Decentralized data storage is a model of networked online storage in which data is stored on multiple computers. Decentralized storage does not directly employ dedicated servers for the actual storage of data, thereby eliminating the need for a significant hardware investment. Rather, each node contributes storage that may be in excess of what it actually is using. A node in the decentralized storage network can both consume and contribute data storage to the cloud.

Decentralized storage offers a more secure, efficient, and scalable solution to a data-hungry world. There is no single point of failure that can take the storage system down. Decentralized storage has the potential to provide the immense scalability required to meet the needs of the billions of devices that will be connected to the Internet.

[--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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