the Availability Digest

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@availabilitydig – Our May Twitter Feed of Outages

May 2017

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

Via Digest: "Accounting for Non-Accountants" is dedicated to programmers clueless about financial systems they code

As Chairman of The Sombers Group, a custom software house that built large, real-time, mission-critical systems, Dr. Bill Highleyman and his team were asked at times to develop bespoke financial accounting applications. Trouble was that the programmers who implemented and maintained such applications often lacked any understanding of accounting principles. To address programmers' dilemma, Dr. Bill, now the Managing Editor of The Availability Digest, wrote "Accounting for Non-Accountants."

https://t.co/FEPdE94eje

136 complaints arise from ATO's string of HPE hardware outages

The Australian Taxation Office (ATO) has received a total of 136 complaints since it first experienced an outage affecting its website, tax agent, and business portals on December 12, 2016. According to the ATO, 13 of the 136 complaints received were lodged by tax practitioners, with the majority of the remaining cases lodged by individuals.

https://t.co/k0r9U0ByTo

Outages In NYC, SF Come Amid Worries About Failing Infrastructure

Major power outages caused chaos on mass transit systems in both New York and San Francisco on 21 April, with parts of both cities' systems suffering ongoing outages or delays into the pre-weekend afternoon commute. The outages occurred on the heels of an Infrastructure Report Card that gave poor grades to both mass transit and power systems across the country.

https://t.co/6eAwZfGl65

Massive power outage hits San Francisco, shuts down businesses, BART station, traffic lights

A huge blackout probably caused by a fire at a PG&E substation swept through San Francisco on 21 April, bringing everyday life to a virtual standstill as homes and businesses and courtrooms went dark, traffic lights stopped working, BART and Muni service slowed, and all the cable cars shut down. The power failure, which at its height affected 88,000 customers, struck just after 9 a.m. and extended through the Tenderloin and Chinatown, up Nob Hill, and into the Marina and the Presidio.

https://t.co/xxOElocnuB

Over 1,000 Intercontinental hotels hit by a data breach

The Intercontinental Hotels Group (IHG) thought only a handful of Holiday Inns were affected by a data breach that happened last year, but it turned out to be a much bigger deal. In a statement posted on its website, IHG has admitted that it found signs of malware designed to access credit card data used at front desks in a lot more locations. A Krebs on Security reader did some digging and found 1,175 impacted properties. That's a sizeable chunk of the 5,000 hotels IHG has worldwide. According to the hotel chain's investigation, the malware was active from September 29 to December 29, 2016.

https://t.co/XU3BO4PU7f

How our 911 emergency call system can fail us

The babysitter of six-month-old Brandon Alex was frantically trying to reach 911. But that night in March, more than 400 calls flooded the 911 center in Dallas. Two attempts went by without connecting with an operator. Once the babysitter got through to an operator, she was on hold for 31 minutes. After Bridget Alex rushed home, she drove her son to the emergency room. Less than two hours after the first call to 911, Brandon was dead. It wasn't the first such fatality.

https://t.co/99d5ObZ1j3

High Number of AWS Misconfigurations Leaves Huge Security Holes

The last day of February 2017 saw a big part of the Internet break, when Amazon Web Services Inc. (AWS) experienced a massive outage. The outage was deemed to be the result of a misconfiguration, and it gave AWS a big black eye. But misconfigurations aren't limited to AWS -- not by a long shot.

https://t.co/KCyXH2p41e

Blackout Tracker Shows the 3,879 Times We Wished We Had More Microgrids

Rogue lawn mowers. Toppling Cranes. Frogs and snakes. You never know what will cause power outages and get people thinking about microgrids. Eaton’s new Blackout Tracker Annual Report shows 3,879 instances in 2016 when having more microgrids would have been nice. That’s the number of times the power went out for more than 48 minutes, affecting 18 million people in the United States.

https://t.co/UzBnrNnaG2

ATO website takes extended Easter break in another online failure

The Australian Taxation Office has been forced to apologise again for its troubled online service, with the website down following four days of maintenance. The ATO website suffered a massive outage in December last year and again in February. After the December system failure, the ATO scrambled to recover the equivalent of 20 million four-drawer filing cabinets of data. The new system maintenance was planned to give the ATO technical staff time to upgrade the system from the problematic storage area network, provided by Hewlett Packard Enterprises, that caused the recent failures.

https://t.co/OOCf55ndMb

5 lessons from Amazon's S3 cloud blunder – and how to prepare for the next one

According to Internet monitoring platform Catchpoint, Amazon Web Service's Simple Storage Service (S3) experienced in late February a three hour and 39-minute disruption that had cascading effects across other Amazon cloud services and many internet sites that rely on the popular cloud platform. That experience should be a wakeup call to make sure your cloud-based applications are ready for the next time the cloud hiccups. Here are five tips for preparing yourself for a cloud outage:

https://t.co/x9xD7K2iJo

Delta's latest mess highlights an industry weakness

The latest imbroglio at Delta Air Lines (DAL), which canceled more than 3,500 flights in April, exposes a chink in the airline industry's operations: its vulnerability to broad disruptions, whether due to severe weather or computer crashes. Critics are wondering why the industry -- the problem ranges beyond Delta -- isn't better equipped to handle adversity, especially since it's now flying high financially. Certainly, the industry in general has received plenty of criticism that its complex systems, bolted together over the decades, require major upgrades.

https://t.co/3oiNrbpwLw

When Software Flaws Kill Your Profits, Modernize Your IT Systems

Last August, technical issues at Delta Airlines forced it to cancel over 2,300 flights. The delays were so expensive the carrier downgraded its profit guidance for the third quarter – an over $100m revenue hit. Cause? Several hundred servers had not been able to connect to Delta's backup system during an outage, a failure of business continuity after a primary system outage. A month later, thousands of British Airways passengers across the US suffered hours of delays, some lasting overnight. Delta and BA's woes were far from unique. All major airlines have experienced expensive and widely publicized IT glitches in recent years. Structural flaws in the source code of computer systems are the most frequent culprits of operational incidents. Welcome to the era of 9-digit defects. When losses from IT malfunctions hit 5 or 6 digits (a mere $100,000 or so), IT managers are at risk; when it hits 7 or 8 digits, IT and line-of-business executives take the heat. When losses hit 9 digits, as they did at Delta, the C-suite take the calls.

https://t.co/apDVbJQMm6

How the airline industry can smooth IT turbulence through machine learning

Glitches within airline IT systems regularly cause problems, ranging from short delays to worldwide outages that knock thousands of flights off schedule. Could machine learning (ML) and other artificial intelligence (AI) tools change that? It's still in the early days, but some airline industry analysts and IT providers are hopeful that they can. Mark Jaggers, a research director with Gartner, sees three areas within aviation IT that are ripe for improvement through cutting-edge data tools:

- Testing techniques, including simulations
- Automatic and proactive alerts around critical infrastructure and processes
- Automated workload and resiliency programs

https://t.co/qac83sRrkI

Move over cloud, the future of online file storage could be fog

Cloud computing has already changed the way we work and store our files, and use of the technology is only expected to grow as our thirst for data outstrips the availability and capability of physical resources. Yet the technology is not without its caveats, namely that you're entrusting your files into a system over which you have little control: If something goes wrong, your files could be lost or fall into the wrong hands. Computer scientists in Italy are now working on a new concept that could reduce the risks involved with storing your files on the cloud with a new system that disperses them across multiple remote locations – and they're calling it fog.

https://t.co/o3Qb2jgYTJ

How Fog Computing Will Shape the Future of IoT Applications And Cybersecurity

Fog computing is an extension of cloud computing to adjust to the emerging Internet of things. The IoT is connected to a vast array of devices, including mobile phones, wearables, smart TVs, smart homes, smart cars and even smart cities. Public cloud computing provides the computing space to process this volume of data through remote-located servers. But uploading this amount of data to remote servers for analysis and delivering the results back to the original location takes time, which can slow down processes that demand rapid responses. Additionally, when Internet connectivity is unreliable, relying on remote servers becomes problematic. Fog computing uses distributed computer resources located closer to local devices to handle processes that demand rapid processing, with other, less time-sensitive processes delegated to more remote cloud servers.

https://t.co/WEs0cGWe4u

Michigan County's Ransomware Recovery Plan Minimizes Impact of Network Attacks

Livingston County, Michigan (U.S. state), receives several thousand malware attacks per day; but its recovery plan and backup allow it to continue operating without any significant impact. At the beginning of 2016, the county began working with Unitrends, a technology solution provider for backup and disaster recovery solutions. Unitrends delivered a hardened system for storing backups within all components of the environment — backup hardware, software, replication and cloud storage —– covered under a single support call to Unitrends.

https://t.co/PXXY4HgFkS

Oklahoma utility uses drones for quicker detection of power outages

As Oklahoma enters the spring severe storm season, electric provider OG&E is gearing up to reduce the length of power outages using drones. Utility providers across the nation are using drones to assess damage to the power grid following extreme weather events. The drones can be used for visual inspections in rural areas where power companies like OG&E used to spend countless hours driving roads.

https://t.co/qOkh8PFUBs

Cyber attack would leave East Coast dazed, Energy Dept. says

A cyber attack on the East Coast's energy system would result in widespread public confusion as everything from electricity to gasoline supplies would be cut off for as much as several weeks, the U.S. Energy Department said recently. The agency released a report outlining the results of a major cyber-attack simulation called "Liberty Eclipse," conducted in December

https://t.co/0SudJorfAL

Data Center Cooling Outage Disrupts Azure Cloud in Japan

A long list of Microsoft Azure cloud services malfunctioned for hours in late April for a subset of customers using services hosted in a Microsoft data center in Japan due to a cooling system outage that was caused by a failed RUPS (rotary uninterruptible power supply).

https://t.co/UqG5mc4ejh

Data trashed? When RPO 0 isn't enough

World Backup Day came and went – did you notice? It seems the only thing we've learned is that everyone wants Recovery Point Objectives (RPOs) of 0. Unfortunately, aggressive RPO targets are hard. They affect the design of real world environments, and are sometimes not possible.

https://t.co/cNl51AbkkO

Regulator tells Singapore Exchange to improve outage recovery process

The Singapore Exchange has been told by the country's financial regulator to improve its recovery processes following an investigation into an outage last year that shut down trading for an entire day. SGX suffered the disruption last July, when a malfunction caused by duplicated trade confirmation messages halted trading in blue chip stocks for several hours.

https://t.co/FX0tD3VB94

It was a tough week for Delta airlines and their customers

After years of profitability and reliable service, Delta Air Lines struggled mightily last week with two basic functions of its business -- flying airplanes and accommodating passengers. Severe weather that pounded Atlanta in the middle of spring break caused a five-day meltdown across Delta's flight network, leaving passengers fuming and its own crews waiting for instructions. The weather is, of course, out of Delta's control. But the chaos was amplified by the phenomenal complexity of running a modern-day mega-airline.

https://t.co/FvtL9iaxbP

Airline Tech Keeps Melting Down but Nobody Knows Why

In early April, a severe thunderstorm in Atlanta forced Delta to begin canceling flights out of its major hub. But that storm quickly spiraled into a five-day fiasco that resulted in 4,000 canceled flights and plenty of angry customers. The culprit? A failure of technology. So why are airlines' computer systems consistently crashing, and why couldn't Delta's keep track of its crews during a crisis?
In the case of Delta's recent incident, the issue was that its crew management system was overwhelmed – not that its computers crashed outright.

https://t.co/y52kd49hRD

How The New York Times Handled Unprecedented Election-Night Traffic Spike

When he woke up the morning of October 21, 2016, Nick Rockwell did the same thing he had done first thing every morning since The New York Times hired him as CTO. He opened The Times' app on his phone. Nothing loaded. The app was down along with BBC, CNN, Fox News, The Guardian, and a long list of other web services, taken out by the largest DDoS attack in history of the Internet. An army of infected IP cameras, DVRs, modems, and other connected devices – the Mirai botnet – had flooded servers of the DNS registrar Dyn in 17 data centers, halting a huge number of sites and mobile apps that depended on it for letting their users' computers know how to find them online.

https://t.co/ZOSr7l0xwa

Microgrids: Energy independence (and money saved) for companies

Microgrids and their related renewable energy can help businesses shave energy costs and bolster the aging infrastructure.

https://t.co/1SlVQBGi62

How Good Archiving Prevents Dark Ages

More data has been created in the last two years than in the entirety of human history, but it could all be lost in an instant. Earlier this year, when Amazon's servers blacked out for about four hours, sites from streaming giants like Netflix and Spotify down to the average Internet Joes temporarily lost their livelihoods in the cloud. USA Today reported that "Amazon wasn't able to update its own service health dashboard for the first two hours of the outage because the dashboard itself was hosted on AWS." Modern archiving has turned out to be a natural enemy of copyright law, and an increasing reliance on electronic data storage could leave our recent history in a delicate position.

https://t.co/1omiDOa7pL

Hacker causes every Dallas tornado siren to go off at once for 95 minutes in the middle of the night

On Friday night, 7 April, 18 minutes before midnight, every single one of Dallas's 156 emergency weather sirens went off. They blared for an hour and a half, to the annoyance, terror or amusement of 1.3 million residents. By 1:20 a.m., flummoxed officials had decided the only way to stop the noise was "to unplug the radio systems and the repeaters and pretty much turn the siren system completely off."

http://bit.ly/2r24jxn

Can Solar Events Disrupt Your Water Supply?

In 1859, a solar storm known as the Carrington Event created powerful flares and induced one of the largest geomagnetic storms on Earth. Such was the intensity and brilliance of the associated white light flares, people in the northeastern U.S. could read newsprint by the lights of the aurora. In 2003, a massive solar storm caused a system failure in the Swedish electrical grid by shutting down transformers. The same event caused damage to the grid in North America, which included a capacitor trip and a transformer overheating. This event resulted in a shutdown of water and sewage pumps in New York City, and millions of gallons of sewage spewed out in New York City. In South Africa, the same event led to a breakdown in 12 transformers.

https://t.co/rrFmzadYks

British Airways website outage delays check-in for passengers

A British Airways outage subjected passengers to long delays in online check-in on 11 April, preventing access to most features on the site. The outage started around midday and lasted until 7pm. Passengers were unable to book, check-in online, and access customer accounts.

https://t.co/4Cxa38bYeC

Tales in Tech History: The Floppy Disk

Some people may remember that the floppy disk was the ubiquitous data storage and exchange media, which allowed users to easily transfer their data from one computer to another. Indeed, in the days before email attachments and USB sticks, there was simply no other way to move data around, unless of course the computer happened to be plugged into a network (but remember, most computing environments before the 1990s tended to be non-networked).

https://t.co/dRCbBy1gwn

Microsoft Word zero-day used to push dangerous Dridex malware on millions

Booby-trapped documents exploiting a critical zero-day vulnerability in Microsoft Word have been sent to millions of people around the world in a blitz aimed at installing Dridex, currently one of the most dangerous bank fraud threats on the Internet.

https://t.co/jCYMyjvmSH

How Amazon Prevents Data Center Outages Like Delta's $150M Meltdown

It's typical for hyper-scale data center operators like Amazon to build their own infrastructure technology when it isn't available on the market or when they feel they can make it cheaper on their own. One piece of technology Amazon built in-house is meant to circumvent what one of the company's top infrastructure engineers described as misplaced priorities in the way electrical switchgear vendors design their products. It is this problem that likely caused last summer's Delta data center outage that ultimately cost the airline $150 million.

https://t.co/m4MUJBBtWJ

Aging U.S. Infrastructure Hampers Private Sector

The American Society of Civil Engineers (ASCE) recently released its report card on the United States' aging infrastructure. LIke any school report card, the "D+" mark given would get any underperforming student sent to the principal's office. There is plenty of factual data to support the view that our nation's critical infrastructure is failing.

https://t.co/kyBlyi89rl