the Availability Digest

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@availabilitydig – Our May Twitter Feed of Outages

May 2016

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.

The cost of blackouts in Europe

In January 2005, a severe storm swept across Northern Europe from Ireland to Russia. More than 500,000 homes were left without power, with Denmark and Southern Sweden being particularly hard-hit. And five nuclear power plants had to be shut down due to saltwater seeping into electricity distribution plants. Assessing the social and economic impact of power outages caused by extreme weather helps decision makers and grid operators in Europe take adequate measures to ensure future power supply.

https://t.co/DUJYMGwcSR

Nines all the way as Digital Realty scores five 9s uptime - for the ninth time

It's nines all the way for Digital Realty with the data center, colocation and interconnection provider receiving 'five 9s' of uptime for its data center suites for the ninth consecutive year. The company, which operates 452 data center suites globally, says the 99.999% availability throughout 2015 translates to less than five-and-a-half cumulative minutes of downtime over the course of the year.

https://t.co/uOpaQm3K8P

Microsoft and Jabil Collaborate on Predictive Analytics Platform

In digital manufacturing, quality assurance across the assembly line is imperative. Identifying errors, slowdowns and potential failures before they occur, rather than after they happen, can help companies be more proactive and improve productivity. In light of this issue, Microsoft announced recently that Jabil, a design and manufacturing solution provider, has built its predictive analytics solution on Microsoft Azure Machine Learning. This new platform predicts errors or failures on the assembly floor before they occur, saving its customers time and money while delivering superior quality and shortened product lead times throughout the entire supply chain.

https://t.co/EgqWWVdSsY

From the April Availability Digest: "The Dawn of Fault-Tolerant Computing"

In 1980, Availability Digest Managing Editor Dr. Bill Highleyman wrote several Computerworld. articles that described the emerging technology of fault tolerance. Times have changed in 36 years, and Dr. Bill revisits the architectures being promoted way back when – HPE NonStop included.

https://t.co/JFyDtIJLTY

Weasel knocks out world's powerful accelerator

CERN's Large Hadron Collider, the world's biggest particle accelerator, lost power on Friday 29 April. Engineers who were investigating the outage made a grisly discovery -- the charred remains of a weasel. The little critter gnawed through a 66-kilovolt transformer inside an electrical facility outside the main building. Just for perspective, one kilovolt is 1,000 volts of energy. Chewing the wiring ended up frying the creature into oblivion and causing a wide power outage around CERN, the European Organization for Nuclear Research. The unexpected power loss shut down the Large Hadron Collider for at least a week.

http://cnn.it/20Cuohk

Five years ago today, Sony admitted the great PSN hack

Five years ago, PlayStation Network was hacked and the personal details of 77 million users accessed. It was the largest security breach of its kind to ever hit console gamers and an event with huge repercussions for PlayStation - both in the short term for its users, left for weeks without access to online services, and longer term as Sony sought to win back customer trust.

http://bit.ly/27SEXm1

Microsoft Pulls Plug on SQL Server 2005 Support

The month of April marked the end of SQL Server 2005's "extended support" phase, meaning Microsoft's 10-year-old database server will no longer get patch support from the company. The one exception to the end-of-support rule is buying a "custom support" contract from Microsoft. However, the contracting organization must have a migration plan in place in order to get the deal.

https://t.co/IIJm2CNwz3

123-reg struggles to restore data six days after site deletion fiasco

UK Web hosting company 123-reg is still working on recovering customers' data that was accidentally deleted six days ago following a clean-up script gaffe apparently affecting 67 of its virtual private servers (VPS). One week following the deletion, 123-reg admitted that some of their customers' data had been permanently deleted despite numerous efforts to resuscitate the servers.

http://bit.ly/1WKBIIm

Personal info of all 94.3 million Mexican voters publicly exposed on Amazon

On April 14, security researcher Chris Vickery discovered a misconfigured MongoDB that contained the full names, addresses, birth dates and voter registration numbers for every Mexican voter. The database was hosted on an Amazon cloud server with "no authentication of any sort" to protect it, and it had been publicly accessible since September 2015. It took eight days of reporting the breach to a plethora of agencies before Vickery could get anyone to listen and take it down.

https://t.co/F3zvBCUlGh

Power outages see big jump in UK

The number of power outages in the UK rose dramatically in 2015 and resulted in widespread productivity losses across industry. The latest Blackout Tracker report says there were 640 outages in 2015, a marked increase on the 537 incidents recorded in 2014. The report also found that a total of 2,564,827 people were affected by the outages, which lasted for an average of 50 minutes. The statistics highlight the problem of unreliable electricity supply at a time when the UK's ageing energy infrastructure is coming under increasing pressure.

http://bit.ly/1U8G6LZ

No space for downtime: How 24/7 IoT demand is driving Capacity Planning as a Service

In the age of connectivity, IT leaders have already been told how old business models will not thrive and that there is a need to digitalize and even predict the future. Agile, adaptable, scalable and future-proof have become the de facto terms amongst execs. One key element to generate ROI in the IoT is the ability to plan and understand the IT infrastructure's capacity and predict future capacity issues.

http://bit.ly/1RXvLEH

After Ukraine Cyberattacks, FBI And DHS Urge US Power Companies To Develop Better Safety Protocols

Although no one was hurt and the damage was relatively minor in the December 2015 cyberattack in Ukraine — the first to successfully take down a major power grid — the incident has caused significant backlash in the United States intelligence community and among lawmakers around the country. If it happened in Ukraine, it can happen in the U.S. as well.

http://bit.ly/210izCt

Google's Cloud Crash Bad News

On Monday, April 11th, at about 7 PM Pacific Time, Google's cloud service, Google Compute Engine, went completely dark. The outage lasted almost twenty minutes. The outage was worldwide and on all servers. No Google Compute Engine customer anywhere in the world was able to use the services, meaning that countless server backends were rendered utterly useless during the outage. Files were lost, settings were reset and all the other trappings of a backend outage visited all of Google Compute Engine's customers. This happened despite Google having systems in place to prevent exactly this sort of thing from happening, including numerous security protocols on the hardware and software level as well as multiple backup servers. Naturally, this put serious egg on Google's face at a time when they're struggling to gain ground on Microsoft Azure and Amazon Web Services. For an outage of this scale to occur, something major had to have happened. As it turns out, Google published a long-winded explanation.

http://bit.ly/26gJ3n7

The cloud is great, but what happens when it goes down?

Earlier this year Amazon Web Services suffered a significant outage at one of its data centers in the US, affecting major AWS customers such as Netflix, Tinder and IMDb as well as a number of AWS services such as CloudWatch and Cognito. So if you have business-critical applications running in either a public or private cloud environment, how should you prepare to weather an outage?

https://t.co/YlxfR3qvPg

Continuous Deployment with Containers

The open source release of Docker in March 2013 triggered a major shift in the way in which the software development industry has been aspiring to package and deploy modern applications. The creation of many competing, complementary and supporting container technologies has followed in the wake of Docker. This has lead to much hype and some disillusion. This article series aims to cut through some of the confusion and explains how containers are actually being used within the enterprise.

https://t.co/ivUMpAyCOz

Google cloud outage highlights more than just networking failure

Users in all regions lost connection to Google Compute Engine for 18 minutes shortly after 7 p.m. PT on Monday, April 11. The Google cloud outage was tied to a networking failure and resulted in a black eye for a vendor trying to shed an image that it can't compete for enterprise customers.

https://t.co/CwXeqiTkE1

Users rage as 123-reg admits it has no customer data backups

Just 26 of UK web hosting provider 123-Reg's servers are back online following a catastrophic gaffe that saw the company wipe 67 servers, inadvertently obliterating customers' businesses and websites. The company also warned that some of the affected parties will be unable to recover their sites at all.

https://t.co/05dNBeCNvx

Another web hosting disaster as Squarespace suffers major outage

Squarespace, one of the world's leading web hosting providers with more than one million paying customers, suffered a "major outage" in April. It caused businesses around the world to go offline. The downtime was the second to strike a major web hosting company in one week after 123 Reg revealed that an outage over the weekend saw it accidentally delete an unspecified number of virtual servers. 123 Reg is still struggling to get many of its customers back online, with a large chunk of them having no backup of their data.

http://bit.ly/1Tz7hp5

Bug at BT forwards every sent email to one man's email account

BT, the UK's largest broadband provider, admitted that a "testing" error resulted in every email sent across its network being forwarded to a single account for three hours in April. A "Steve Webb" received every email sent by BT users. Customers may have seen errors when sending mail because the inbox on the receiving end grew full and began to bounce new mail back to the sender.

https://t.co/mFn9wIDwRR

No Breakthrough Yet: Stephen Hawking's Interstellar 'Starshot' Faces Challenges

On Tuesday 12 April, a group of scientists, engineers, and investors announced Breakthrough Starshot, a $100 million initiative to study sending tiny robotic probes to the nearest star system beyond the sun, Alpha Centauri, within a generation. The project faces a number of challenges, some of them more problematic than others.

https://t.co/ARsmjBDXm4

Series of human, technological failures result in 911 outage

A perfect storm of failures, both human and technological, were at the heart of a nearly 3½-hour shutdown of Erie County's 911 system in the early morning hours of March 30th. When an air conditioner broke down in a power supply room in the county's public safety building, a cooling system circuit board was supposed to activate a second cooling system and issue an emergency alert to county employees. It failed to do both tasks. When the power supply room heated to more than 100 degrees, a late-shift building engineer responded to the audible alarms. That's when human error entered the equation and ultimately played a major role in the shutdown. What the engineer believed to be a reset button was actually an emergency kill switch for power. It resulted in all of the power at all of the public safety work campuses losing power and falling offline.

http://bit.ly/1SahsKF

Inside the Nondescript Building Where Trillions Trade Each Day

Six miles northwest of the New York Stock Exchange as the microwave flies, across the Hudson River and within earshot of Interstate 95, is a building with no name. Like much of its surroundings, it's nondescript. It's also a critical node in the U.S. financial system: The 49 different exchanges that lease space at this data center sent a record 9.6 million messages per second through its fiber-optic cables in February. Every day, electronic trades representing trillions of dollars' worth of equities, derivatives, currencies, and fixed-income assets pass under this roof. This is where Wall Street actually transacts, and it's owned by Equinix, the world's largest owner of interconnected data centers.

https://t.co/COniOvGHDy

St. Thomas-St. John Blackout Caused By Human Error, Fault on Feeder

A fault on a feeder along with human error was the cause of an eight-hour service interruption in St. Thomas – St. John on a Sunday night in mid-April. When the feeder experienced a fault, its relay allowed the fault to remain on the line for a longer period than required and resulted in the loss of other feeders. The power system became unstable but would have met most of the power demands. However, a power plant control room operator attempted to close or re-energize the originally impacted outage without first ensuring that the fault was cleared. This action resulted in a reoccurrence, this time sidelining both remaining generating units, knocking out all remaining feeders and leading to the district-wide electric service interruption.

https://t.co/T0VEz3Qgia

Google to cloud customers: Sorry, but here's how two bugs knocked us out worldwide

If you had trouble accessing certain apps on Monday, April 11th, there's a chance it was caused by a brief but widespread outage on Google's infrastructure-as-a-service offering, Google Compute Engine (GCE). The outage only lasted 18 minutes, but it knocked out GCE instances in all regions. That's not good news for customers who expect Google's multi-region datacenters to offer some failover capability.

https://t.co/WvaUxbEamG

The dirty parts of the computing world

The computer industry has been very successful at running under the radar when it comes to energy and environmental oversight, making it a significant contributor to global warming. Some figures

suggest that the carbon footprint of Internet activity well exceeds that of air travel, yet we hear a lot about the latter and almost nothing about the former. It seems that much of our shiny, white, iPad economy - promoted so heavily as environmentally friendly - actually runs on dirty black coal.

https://t.co/3HnsUukhF3

Spare Transformers: The Answer to Extreme Weather Risks?

That bad weather can damage property and lives is already known. It also turns out to be the leading cause of power outages in the United States. And that, in turn, has helped spur the formation of a consortium of electric utilities that plans to create a national stockpile of hard-to-replace spare transformers.

https://t.co/yD5JGyR95M

Telstra risks exodus unless it repairs its severed connection with customers

Pressure is mounting on Telstra to ensure the outages that have blighted its network in recent weeks do not become a permanent fixture. As home working becomes more widespread and as more and more people rely on the network for their livelihood, patience with the service once regarded as the best in Australia is running out.

http://bit.ly/1OUoNlx

No More Shooting in the Dark: Accurately Predicting the Impact of New Services and Devices on the Network

In today's hyper-competitive environment, operators need to be able to continually introduce new devices and services to satisfy consumers' insatiable desire for the next shiny object. The stakes are high. The challenge historically has been that operators have no way of knowing what the full impact each new service will have on the network, the in-home WiFi experience or even on the device itself. By applying a new breed of real time analytics, operators are able to derive insights to improve service operations and significantly enhance the customer experience.

https://t.co/9Hktb6O5oN

MIAA owns up to blackout

The Manila International Airport Authority (MIAA) has acknowledged responsibility for the five-hour power outage at the Ninoy Aquino International Airport (NAIA) Terminal 3 on Saturday, April 2nd. The power outage was caused by the tripping of a transmission line. Out of the 10 independent backup generators, nine kicked in; but one failed because of a faulty battery. The failed generator provided backup power for vital parts of the airport terminal, including departure entrances, the baggage handling system and some areas of the check-in lobby. The faulty battery was discovered in January, but bidding for battery replacement was not opened until March 18th. Airport officials said that it was their bad luck that an outage happened before a battery replacement could be delivered.

https://t.co/q6RP1tQfHi

DC 911 Call Center Power Outage Reveals Backup Generator Problem

The weekend power outage in early April at D.C.'s 911 call center revealed a problem with the backup generators. Power outages from high winds knocked out electricity to the D.C. 911 call center. 911 calls were not delayed or impacted, but 311 calls were down for about two hours. Officials believe a power surge or spike caused the backup generators to fail.
https://t.co/srviGa2Umv

Tapping Earth's Abundant Geothermal Energy

Geothermal energy is generated by heat from Earth's rocks, liquids and steam. It can come from shallow ground, where the temperature is a steady 10 to 16 C, hot water and rocks deeper in the ground, or possibly very hot molten rock (magma) deep below Earth's surface. As with clean-energy sources like solar, geothermal energy systems vary, from those that use hot water from the ground directly to heat buildings, greenhouses and water to those that pump underground hot water or steam to drive turbines. Unlike wind and solar, geothermal provides steady energy and can serve as a more cost-effective and less environmentally damaging form of baseload power than fossil fuels or nuclear. It's not entirely without environmental impacts, but most are minor and can be overcome with good planning.

https://t.co/oSxCYk5fOo

How national infrastructure became top of the hacker hit-lists

The world of cybercrime expands incrementally each day, leading to the current state of affairs in which even national infrastructure organisations are vulnerable to the growing sophistication of hackers. To newsreaders around the world and especially the hundreds of thousands of victims in Ukraine, the ability of hackers to worm their way into critical infrastructures and even cause mass blackouts is understandably shocking. To those with a deep familiarity of the cybersecurity field, this handful of recent events, while still incredibly alarming, may not come as such as a surprise.
Many governmental agencies have a legacy of utilising outdated cybersecurity measures and operating systems, such as Windows XP, that are no longer supported by manufacturers.

https://t.co/NWErw9PoV9

MedStar hack shows risks that come with electronic health records

For all the enthusiasm about adopting electronic medical records, security remains a concern. The primary worry has been that hackers could steal patients' information to enable identity theft. But recent attacks have demonstrated the threat of ransomware, in which hackers deny access to data rather than stealing it.

http://bsun.md/1YaNpGv

How bridging the OT/IT divide is a sticking point for IoT

The Internet of Things (IoT) has arguably taken business by surprise. Gartner predicts that nearly 6.4 billion connected 'things' will be in use in 2016. Yet the difference between this operational technology (OT) environment and traditional IT is stark. How can an organisation overcome the gap between the zero tolerance to downtime of the OT world and the break-and-fix, five nines approach that still prevails within IT? Who will take responsibility for the security of 10,000s, even 100,000s of IoT devices?

https://t.co/U64x3pzeHT

How Telstra's free data day 'backfired'

Telstra's plan to offer customers free data on Sunday, April 3rd, backfired with some customers after thousands took to social media to lambast it for internet delays. The telco spent hours fielding complaints from frustrated customers wanting to take advantage of the free mobile day, which it had offered to all customers as compensation for a series of network outages.

http://bit.ly/1repGum