

the Availability Digest

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@availabilitydig – Our January Twitter Feed of Outages

January 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.



First known hacker-caused power outage signals troubling escalation

Highly destructive malware that infected at least three regional power authorities in Ukraine led to a power failure that left hundreds of thousands of homes without electricity in late December/early January. According to antivirus provider ESET, the Ukrainian power authorities were infected using booby-trapped macro functions embedded in Microsoft Office documents. If true, it's distressing that industrial control systems used to supply power to millions of people could be infected using such a simple social-engineering ploy. It's also concerning that malware is now being used to create power failures that can have life-and-death consequences for large numbers of people.

<https://t.co/T65t3AgbTD>

Southern California Edison Installing 41 Backup Generators in Santa Barbara, Goleta Areas

Southern California Edison has installed 41 portable generators around Santa Barbara County (U.S.), where they will remain throughout the winter storm season. After that, the backup electricity providers — each the size of a semi-trailer and placed as far from homes and other sensitive places as possible for safety reasons — will be towed away. The pre-staging ahead of a stronger-than-normal El Niño weather forecast has never happened locally. But the response is an added Edison measure for the South Coast, which has fewer transmission lines than the rest of the service area and is geographically vulnerable because of its relative isolation.

<https://t.co/kGifJtzW77>

HSBC issues apology after second day of online banking problems

HSBC has "profoundly" apologised to customers as it suffered a second day of online banking glitches. The bank said it was getting closer to resolving a "complex technical issue" with its internet banking systems and that the hitches were not caused by a cyber attack or any other malicious act.

<https://t.co/ctaDRgu7jG>

Understanding the Promise and Pitfalls of Machine Learning

Machine learning is generating a tremendous amount of attention these days from the press as well as the practitioners. And rightly so – machine learning is a transformative technology. But despite the references to the topic, the money raised from venture capitalists, and the spotlight that Google is bringing to the subject, machine learning is still poorly understood outside of a core group of highly technical leaders.

<https://t.co/uClOkh4Jma>

Here's what NZ's Internet looks like

This is what New Zealand's supply of Internet looks like. Two cables connect our country to the rest of the world. As an island at the bottom of the world, we'd be otherwise isolated and reliant on satellites for connectivity. In comparison, the west coast of America has 14 cables landing at different sites from Washington to California.

<https://t.co/79wflsy8sH>

'mind the gap' announcements on loop driving Metro customers loco

A glitch in the system has caused some Melbourne, Australia, Metro Trains to turn on a new safety message telling commuters to "mind the gap." And its frequency is driving some commuters crazy. The message, alerting travellers to the gap between the train and the platform, is not normally heard in Metro trains. But a programming error has caused the announcement to be played on some trains as they enter and exit a station. It appears the announcement system went off the rails last week and started repeating the message "excessively."

<https://t.co/wX4Tx7mTHR>

In Machines We Trust: Algorithms Are Getting Too Complex To Understand

Perhaps the greatest challenge of the algorithm revolution is that as machines and the algorithms that drive them have become ever-more complex, we are rapidly losing our ability to understand how they work and anticipate unexpected behaviors and weaknesses. From just 145,000 lines of code to place humans on the moon in 1969 to more than 2 billion lines of code to run Google in 2015, today's systems are labyrinths of interconnected systems.

<https://t.co/cp2GQWyAYO>

2015: The tech year in cartoons

From renewed hostilities in the debate over H-1B visas to Apple and Microsoft elbowing into each other's markets, here's a look at some of the year's biggest IT stories from the pen of Computerworld's editorial cartoonist, John Klossner.

<https://t.co/bAdLrvBbQK>

'Always-On' business to be the norm for 2016

In 2016, the Internet of Things brings availability to the fore. The rise of mobile and connected devices demonstrates that there is zero tolerance for downtime. Even a slight outage of a few hours will cause everyone involved in the business to be unhappy that they don't have access, but more importantly, businesses will lose money, data, respect of employees, credibility from partners and loyalty of customers, doing potential damage to consumer and investor confidence.

<https://t.co/PD2H5MfHi>

Ukraine Claims Hackers Caused Christmas Power Outage

Just before Christmas, power went out across western Ukraine. Soon after, the energy ministry confirmed it was exploring claims a cyber attack disrupted local energy provider Prykarpattiaoblenergo. If the information is accurate, the attack is a rare public example of hackers taking out critical infrastructure and another sign of the rising digitization of warfare.

<https://t.co/TtlmVORW0n>

Legacy systems – still the big barrier to banking innovation

“Outdated legacy IT systems are a major stumbling block for traditional UK high street banks as they look to fight back against their often more agile rivals, widely known as ‘challenger banks’, who unhindered by complex, unwieldy IT infrastructures are typically better positioned to innovate,” writes Nimish Shah, banking sector lead at Talend.

<https://t.co/OskpGWVVbh>

Smart cards are here, but most stores can’t process them

A recent survey by the U.S. consumer advocacy organization, ConsumerWorld.org, has found that while virtually all of national and regional retailers surveyed have installed checkout terminals with slots to read credit cards with embedded computer chips, three-quarters of them have not yet enabled the technology chainwide.

<https://t.co/b0OriwWcR8>

Still coming soon: The SEPTA Key transit smart-card

Philadelphia, Pennsylvania’s (USA) new SEPTA Key fare system, under which smart cards will replace tokens and passes on public transit services throughout the city and its surrounding counties, is to debut in 2016, about three years later than expected. The delays, depending upon to whom you talk, are the result of the industry’s immaturity in the United States, a lack of technical know-how on SEPTA’s part, and the speed at which technology is moving. SEPTA is short for Southeastern Pennsylvania Transportation Authority.

<https://t.co/p1W4aOnhWa>

Lawmakers Take on Federal IT Fossils

U.S. Federal Chief Information Officer Tony Scott has called the problem of outdated federal IT systems a “crisis that’s bigger than Y2K.” Now, some of the same lawmakers who wrote and championed last year’s sweeping IT acquisition reform bill are digging into federal agencies’ reliance on aging software and archaic hardware.

<https://t.co/QEblZfQXvJ>

5 Ways Machine Learning Reinvents IT Root Cause Analysis

What do Google driverless cars and Stanford University autonomous helicopters have in common? Both rely on machine learning technology to make sense of complex environments, while ensuring good decisions are made sooner. Machine learning’s ability to make good decisions faster in complex environments also can be applied to solve challenges in IT operations.

<https://t.co/AboGE8MeYG>

When is the Best Time to Retire a Server?

There is always a point in time at which holding on to a server becomes more costly than replacing it with a new one. Finding out exactly when that point comes requires a calculation that takes into account all capital and operational expenditures associated with owning and operating that server over time.

<https://t.co/ZoHSSvK41E>

An Availability Digest Oldie but Goodie: "Flywheel UPS Systems"

Flywheel-based UPS systems are virtually maintenance-free with MTBFs measured in years. Monitoring of flywheel health is simple, as only the speed of rotation need be measured. There are many vendors of flywheel UPSs capable of delivering over a megawatt of power per UPS. Flywheels may well be the future of UPS systems.

<https://t.co/76TONGn3KE>

IT Recovery Automation: The Solution to Short and Long Term Outages

Mention "IT outage," and thoughts turn to super storms -- hurricanes, tornadoes or some other natural disaster causing widespread havoc with your critical data. Typically, though, what causes a data disruption is much more mundane. For instance, a power failure or a hardware glitch. Or (you can't make this up) a squirrel, a dropped anchor, or burning cigarette butt left in the wrong place. They're unusual, to be sure, but they still result in disruptions in IT operations.

<https://t.co/HQ66rhlaps>

High Availability: Past, Present and Future

To understand what HA solutions best fit your environment, you need to understand their history and how they've evolved.

<https://t.co/cZS0986wld>

Continuous Processing: Failure Is Not an Option

Stratus Technologies just announced its partnership with Solarflare to address the needs of companies in the financial services market and applications executing on Linux systems. Stratus says that the eighth generation of its ftServer, running Red Hat's Red Hat Enterprise Linux (RHEL) 7 combined with the third generation of its ftScalable Storage, provides extremely high levels of availability and continuous processing. The company also explained that its new systems are built using Intel's latest E5-2600 v3 processors and claimed a performance gain of more than 75 percent.

<https://t.co/8KflrdVHky>

Are enterprises taking business continuity seriously?

Are organisations taking business continuity seriously? Apparently they are, but how they go about handling disaster recovery is another matter. The difference is made in how companies manage disaster recovery and business continuity and the emphasis they place on how time really matters by putting solutions in place to ensure that a high level of uptime and network performance is maintained.

<https://t.co/RNO1X1DkQJ>

IBM Watson Vs. Amazon: Machine Learning Systems Presage the Future

IBM has evolved its artificial intelligence system Watson into a service used across a variety of industries from medicine to sports. Watson has its own developer ecosystem and a cloud-based platform called IBM Bluemix that gives developers the opportunity to tap into Watson's capabilities to create new "intelligent" apps. The Bluemix community consists of 77,000 developers who are prototyping and building what IBM calls "cloud-based cognitive computing applications." Likewise, Amazon says it's doing a great job of making predictive analytics built on its Amazon Web Services (AWS) easy to use and accessible.

<https://t.co/3NvU6TMZAn>

Can HPE's "The Machine" Deliver? A 320-terabyte prototype will showcase the company's bid to reinvent computing

When Hewlett-Packard Co.—now split in two—announced The Machine in Las Vegas in 2014, it presented the project as a near-complete overhaul of traditional computer architecture. It seems we'll soon get a glimpse of the vision, realized in hardware; Hewlett Packard Labs (formerly HP Labs) says it hopes to unveil its first large-scale prototype of The Machine in 2016.

<https://t.co/gV2aBBXo8n>

Forget big data – it's time for big algorithms to change the world

It's no good just having data – it's what you do with it that counts. In five years, one million new devices will come online every hour, creating billions of new interconnections and relationships and producing more and more data. But these relationships will not be driven by data, but by algorithms.

<https://t.co/lezfSdFv7x>

From the December Availability Digest: "Applying Predictive Analytics to Power Backup"

In today's data centers, protection from primary power outages is typically provided by backup generators and UPS systems that supply power until the generator can be started and brought online. The failure of a generator or a UPS system is one of the major causes of datacenter outages. Often, generators and UPS systems are monitored by extensive monitoring systems. However, most of the data generated is unused for any actionable purposes. By analyzing the data in real time using predictive analytics, actionable insights can be generated for intervention and maintenance before a failure occurs. This can improve the availability of a data center significantly.

<https://t.co/q98QZyFOvI>

5 ways to fight cyber attacks

Financial institutions now have available a leading practices guide to improve their operational continuity and reduce risks associated with a destructive cyberattack. Offered by the Financial Services Information Sharing and Analysis Center, the new publication focuses on the relatively rare but extremely harmful cyber attacks that seek not to just steal data but to cause catastrophic harm to a financial services entity.

<https://t.co/w3mB26q1GQ>

AT&T vows to upgrade North Coast network after outages

In response to several service outages caused by fiber line cuts over the last year, AT&T announced in December that it will be upgrading its North Coast network in 2016 to reduce outage impacts on local communities and businesses. Once completed, the majority of the fiber lines will be protected from single points of failure.

<https://t.co/Xi0MgNEazG>

Verizon says FCC's submarine cable reporting plan will burden redundant system operators

In a recent (U.S.) Federal Communications Commission (FCC) filing, Verizon said it is concerned that the FCC's proposed new rules to require submarine cable operators to report outages to the regulator could place burdensome requirements on submarine cable providers., Verizon said it's particularly concerned that the FCC's proposed plan would apply to both redundant and non-redundant submarine cable systems.

<http://bit.ly/1n063Vf>

USPTO experiences catastrophic failure of electronic patent and trademark systems

On December 22, 2015, the United States Patent and Trademark Office (USPTO) experienced a catastrophic failure of electronic information systems. According to the USPTO, "Power that comes into the USPTO's main building feeds two power filtration systems that provide steady, "filtered" power so systems don't suffer from damaging surges or drops in power supply. A malfunction in the power supply lines feeding these two systems caused significant damage to both systems. This is what we believe caused our systems to go down on Tuesday night."

<https://t.co/VvmyPLvZGZ>

A system glitch on 4 December: First Data Hit By Card-Processing Glitch Friday Morning, Now Restored

Payment-processing company First Data Corp. said it experienced an outage on 4 December that affected the authorization of transactions made on certain credit cards and debit cards. The company, which processes transactions for card-issuing financial institutions and millions of merchants, attributed the outage to a hardware issue that affected a card-processing platform. It is one of the nation's largest third-party card processors. Impacted were such card issuers as issuers PNC Financial Services Group Inc. and SunTrust Banks Inc.

<https://t.co/DJqBxDaT43>

Near Miss at Calvert Cliffs - All Things Nuclear

The U.S. Nuclear Regulatory Commission (NRC) sent a special inspection team to Calvert Cliffs (Lusby, Maryland) to investigate electrical fluctuations on the offsite power grid that caused both reactors to automatically shut down on April 27, 2015, and problems with both of the standby emergency diesel generators on Unit 2.

<https://t.co/Qy65K8iC4s>