the Availability Digest

@availabilitydig – Our February Twitter Feed of Outages
February 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.

From the Availability Digest: "Can Hackers Take Down Our Power Grid?"

A recent investigation by the U.S. Congressional Research Service has determined that sensitive computer systems maintaining the U.S. power grid increasingly are being attacked. It has distributed its findings in a report entitled "Cybersecurity Issues for the Bulk Power System." The report warns that hackers potentially affiliated with terrorist groups or rogue nations have the ability to insert harmful malware into the internal systems governing the U.S. power grid.

https://t.co/9kLRwNP9uL

Governance Model for Open Container Initiative

The Open Container Initiative (OCI) unveiled its technical governance model in December. With this announcement, the coalition also published a list of "values." They include:

- Composable: all tools for downloading, installing and running containers should be well integrated, but independent and composable.
- Portable: the runtime standard should be usable across different hardware, operating systems and cloud environments.
- Secure: isolation should be pluggable, and the cryptographic primitives for strong trust, image auditing and application identity should be solid.
- Decentralized: discovery of container images should be simple and facilitate a federated namespace and distributed retrieval.
- Open: the format and runtime will be well specified and developed by a community to ensure code development leads specification development.
- Minimalist: The OCI Specifications aim for simplicity, to ensure stability, optimize innovation and encourage experimentation.
- Backward compatible: OCI Specifications and OCI Projects strive to be as backward compatible as possible with prior releases.

https://t.co/H3oHaDFEVW

What's behind most data center outages?

The rising cost of unplanned data center outages will further constrain already tight government budgets, increasing the need for carefully considered risk mitigation strategies and disaster recovery plans. According to a recent study by Ponemon Institute, the average cost of a data center outage rose to USD $740,357 in 2015 -- an increase of 38% since 2010. The increase in the maximum downtime cost ($2,409,991) was even greater, climbing 81 percent over that same time period.

https://t.co/RsKmSroM4J

6 Things Amazon Can Teach us About How to Do Cloud Computing Correctly

Amazon Web Services, or AWS, has been setting the standard for online e-commerce solutions for some time now. But in its early adoption of cloud computing as a solution to scalability issues, Amazon may just revolutionize how other companies approach the cloud as a resource. In this post, learn six things AWS can teach any business about using cloud computing effectively.

https://t.co/fNbeLmrLO0

Rampant waste: the hidden cost of enterprise software

Increasingly, enterprises are waking up to the fact that as much as 25 percent of their software expenditure is being wasted -- but many are less clear on why this waste is occurring and what they can do about it.

https://t.co/S5VEI7LcUt

Following Processing System Glitch, IRS Fends Off Hackers

Following a processing system glitch last week that caused its E-file system to temporarily shut down, the IRS encountered new troubles this week when hackers tried to attack the IRS.gov Electronic Filing PIN application. The IRS states it has "identified unauthorized attempts involving 464,000 unique Social Security Numbers. 101,000 of those SSNs made it through the IRS application system without being detected and succeeded in "access[ing] an E-FILE pin."

https://t.co/6dIWAazigM

Netflix Completes Years-Long Cloud Migration and Shuts Down Last Data Centre

Netflix has been moving huge portions of its streaming operation to Amazon Web Services (AWS) for years now, and it says it has finally completed its giant shift to the cloud. "We are happy to report that in early January of 2016, after seven years of diligent effort, we have finally completed our cloud migration and shut down the last remaining data center bits used by our streaming service."

https://t.co/aF3PWsIex4

How to survive a broadband service failure

With BT yet again forced to apologise to consumer and business broadband customers after another technical fault, how can businesses reliant on one telco prepare themselves for the inevitable?

https://t.co/ftHIr2msEe

From the Availability Digest: "Protect Your Data Center From Flooding"

Have you cleverly located your data center high up in a building, far away from the risk of flooding? How about the backup generators and fuel pumps? Most of them live in basements. When they fail due to flood waters, so do your IT services. So what are you going to do?

https://t.co/n423eS4AYY

5 Important Facts about High Availability

As datacenters grow increasingly essential to enterprise applications, there is a rise in the concerns about datacenter reliability and its availability. Redundancy is considered to be an important factor for infrastructure reliability by industry experts, but it's not the only factor. What is more important is the need to keep the design and actual requirements of enterprises in sync.

https://t.co/ClTIruWmye

TPG customers face slowdown after "major" submarine cable fault

Thousands of kilometres off the coast of Australia, a major Internet cable fault could be set to cause big problems for TPG customers back home. Worse still, repairs could take more than a month.

https://t.co/xs4hi4RTPZ

Telstra blames major network outage on human error

"Critics say a single engineer shouldn't be able to bring down the entire network." Australia's largest telecoms company, Telstra, has issued an apology following a major outage that affected millions of customers. The Telstra mobile network went down due to an "embarrassing human error" after an engineer took a malfunctioning network node offline without first provisioning a replacement.

https://t.co/wwaafqK9gJ

Telstra outage shows customers pay extra for false peace of mind

The massive Telstra outage in February brought the issue of network reliability and redundancy into prominence once again. Many people pay a premium to use Telstra's services on the assumption that the biggest network provides the most reliable coverage. But as this recent outage shows, Telstra's network is as prone to failure as anyone's. The latest problem was blamed on human error – someone threw the wrong switch – but network failure can occur for many reasons.

https://t.co/xawoOfhev6

Matthews-Based Company Invents Power-Outage Bulb

A Matthews, North Carolina (USA)-based company invented a new bulb that can keep you in the light, even when there's no power. It's called the Smart Charge Rechargeable Bulb. The bulb has a built-in rechargeable battery. When power goes out, you can still turn the bulb on/off from the same light switch. The battery lasts four hours. The company invented the bulb in 2013 but spent two years perfecting it. It is now ready for market.

https://t.co/ozKtkIGlit

How NJ Transit plans to keep trains running during a blackout

The first steps to building a back-up power system to keep sections of New Jersey Transit's busiest rail lines running after a blackout or storm knocks out electricity were taken by NJ Transit's board in February. Board members approved a $17 million contract to design what could be the U.S.'s first mass transit micro power grid. "If there is a blackout, it will allow some 40 to 50 percent of the train service to continue operating."

https://t.co/2eKaBM3KIM

Power Grid Cyber Attack Was Months in the Making, Ukrainian Energy Ministry Says

After conducting an investigation, Ukraine's energy ministry concluded that hackers made phone calls from inside Russia and used a Russian-based Internet service provider as part of their coordinated attack on the Ukrainian power grid in December. Deputy Energy Minister Oleksander Svetelyk also emphasised that the attack had been well-orchestrated. "The attack on our systems took at least six months to prepare—we have found evidence that they started collecting information (about our systems) no less than 6 months before the attack."

https://t.co/ERpUI0AIPS

It's Not Just You: Comcast Is Having A Nationwide Outage Today

Comcast Corp. said on Monday, 15 February, that it had restored "almost all services" disrupted in a widespread national outage (U.S.) on its network earlier in the day. The company did not disclose the cause of the outage or its extent. An outage map on Downdetector.com showed people in most Comcast markets reporting some form of outage of TV, phone or Internet services. The company apologized for the inconvenience.

https://t.co/wbAdmedY1h

Microsoft Plumbs Ocean's Depths to Test Underwater Data Center

Taking a page from Jules Verne, researchers at Microsoft believe the future of data centers may be under the sea. Microsoft has tested a prototype of a self-contained data center that can operate hundreds of feet below the surface of the ocean, eliminating one of the technology industry's most expensive problems: the air-conditioning bill.

https://t.co/rTyFJ4OJZH

Why Seacom Has Suffered Another Outage

Construction work in Egypt is a key reason behind fibre cuts that have disrupted Internet services in South Africa twice recently in one week. Seacom is an undersea broadband cable that stretches along Africa's eastern coastline to Europe via connection points in Egypt.

https://t.co/5SBJKRfcaH

Apple Crushes Safari Bug That Caused Crashes On Mac And iOS Worldwide

Apple claims it has squashed the bug that triggered its Safari web browser to crash when users carried out a search on its address bar. Users across the globe confirmed that they had encountered this issue on both the firm's Mac computers and iOS mobile devices.

https://t.co/1sHbgAgBg7

Europe Is Building a 'Space Data Highway' With Lasers

The first satellite of the European Data Relay System (EDRS) launched at the end of January with a laser node payload that aims to make the transfer of Earth imaging data from satellites to ground stations about 90 times faster than your typical earthly internet connection. At the moment, most Earth imaging satellites are placed in low Earth orbit and transmit the data they collect to stations on the ground. But a satellite can make contact only when it's over the relevant ground station, which can often mean gaps of 90 minutes between communications and a limited time slot to transfer the data. The EDRS-A node orbits much higher at around 36,000 km and so has a wider view of the planet. As such, it will be able to transmit data to a ground centre "between 50 percent and in the best case 100 percent of the time."

https://t.co/fEVs43GXIz

HSBC says internet banking services down after cyber attack

HSBC is working with law enforcement to catch those behind a cyber attack that forced its personal banking websites in the UK to shut down, its second major service outage in the month of January. Europe's largest lender said it had "successfully defended" its systems against a distributed denial of service (DDoS) attack, but it was experiencing fresh threats that impeded full restoration of services.

http://reut.rs/1nsh0yN

How Long Could the U.S. Go Without Electricity?

In his new book, *Lights Out*, Ted Koppel asks how well-prepared the country is to cope with a long-term, widespread power failure. The answer to that is - not one little bit.

https://t.co/4xI8X4EwUk

Seacom blames civil construction for outages

Undersea cable operator Seacom says civil construction activity in Egypt is to blame for the multiple outages that left most of Africa without Internet connectivity in late January.

https://t.co/Hezgn5BJ90

Fibre Outages Highlight Infrastructure Problems

On Thursday 21 January, Seacom was hit by two route failures in Egypt. Almost simultaneously, the WACS cable was hit by an outage on the route connecting it to a data centre in London. What can a crisis like this teach operators? It certainly provides a good moment to remember the continent's wider, unsolved infrastructure problems.

https://t.co/GftCW1DpOr

You built it, you fix it: Developers move to frontlines of IT incident response

Depending on the setup, being on-call can mean a 24-hour shift that can drag out for days. For those in IT with on-call duties, they'd probably tell you it's not the most fun part of the job. But as they say, someone's got to do it. However, who exactly is on the hook for incident response is changing. According to the State of On-Call report, recently released by incident management platform VictorOps, more organizations are shifting the role of rapid responder from operations to developers.

https://t.co/uyeIHfZmHE

Modular Cooling System Enables On-Demand Data Center Capacity

A data center service provider formed just seven months ago is using modular cooling systems designed by a sister company to introduce a higher degree of elasticity to the colocation model.

https://t.co/LKlO1oPtfg

Cyber attack is wake up call for energy sector

The energy sector has been served a wakeup call on how vulnerable the industry is to cyber attack after hackers managed to cut off 80,000 Ukranian electricity customers. Highly destructive malware known as Black Energy infected the Ukranian regional power and left thousands of homes in the Ivano-Frankivsk region of the country without electricity on December 23.

https://t.co/ojAQQw5BNO

In Most Hacks, 'the Common Denominator' is People

The U.S. Congress asked industry tech leaders to offer insights for how the government might reduce the number of data breaches and shore up its cybersecurity posture. Here's one thought that came out of the discussion: the latest and greatest technology means absolutely nothing if your workforce isn't properly trained and competent regarding the Internet. For instance, a number of large-scale data breaches in retailers could have been avoided but weren't. Why not? The overwhelming common denominator was people.

https://t.co/r6VjY6hK2p

Squirrels Among Top Threats to US Power Grid

Squirrels cause more power outages than lightning. The little critters scamper around on power lines, chewing on the wires and electrocuting themselves. They also manage to commit suicide inside other sensitive and expensive equipment.

https://t.co/RjaTZCmAsL