

the Availability Digest

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@availabilitydig – Our July Twitter Feed of Outages

July 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.



Goodbye productivity: Google Calendar and Hangouts are down

Google Calendar, the staple of Internet scheduling, was down for five hours for many users worldwide on July 1st. The outage occurred just as Google for Work targeted Microsoft productivity tool users in an attempt to lure them onto its own platform.



<https://t.co/9Mp2s0GHMR>

U.S. Nuclear System Relies On Outdated Technology Such As Floppy Disks

The U.S. nuclear weapons system still runs on a 1970s-era computing system that uses 8-inch floppy disks. Beyond the nuclear program, much of the technology used by the federal government is woefully outmoded, says a newly released report. About 75 percent of the government's information technology budget goes toward operations and maintenance rather than to development, modernization and enhancement.

<https://t.co/miBNDG9E6d>

To Protect the Grid from Hackers, You Need To Break It

Today's electric grid increasingly uses "smart" devices that can be controlled remotely — letting operators manage the grid better and more efficiently. But as the electric grid becomes smarter, it also becomes more vulnerable to hackers.

<https://t.co/TzHj9FY1rz>

From the Availability Digest: "CenturyLink Targets Six Nines"

The U.S. telco giant CenturyLink is aiming to offer its customers six nines of reliability in its SLAs (Service Level Agreements). This is an extraordinary level of reliability. It means that, on the average, its service will be down for only thirty seconds per year. Of course, this doesn't imply that it may be down thirty seconds every year. It may be down five minutes every ten years. Nevertheless, it is an availability that is difficult to achieve. CenturyLink has yet to issue its SLA guaranteeing six 9s of availability, and SLAs have a tendency to make big guarantees with minor penalties.

<https://t.co/WTwk4gDrlM>

Amazon Web Services adds Mumbai as a region to better serve huge Indian market

Amazon Web Services has added a new cloud computing region in Mumbai, India — its first in the country — to better serve the tens of thousands of Indian customers that until now have had to connect outside their country in order to use Amazon's popular cloud services. Roughly 75,000 Indian customers already are remotely using AWS regions. With their own local region, Indian businesses gain lower latency and the reassurance of keeping their data nearby. The Mumbai region brings to six AWS's total number of regions in the Asia Pacific area and its worldwide total to 13.

<https://t.co/fK2m6NDqid>

FCC makes subsea cable outage reports mandatory

The Federal Communications Commission has adopted rules to promote a reliable subsea cable communications infrastructure, with submarine cable licensees now required to report major outages on 60 US-connected cables that provide voice, data and Internet service connectivity.

<https://t.co/us7aVlrorZ>

Reliable data on 911 outages and service is hard to come by

When a glitch in phone company systems left Baltimore, Maryland (USA) without 911 service for over an hour in June, The Baltimore Sun wanted to know how often such outages occur. Public records made it clear that the outage wasn't unique. However, much of the information about problems with 911 is confidential, making it difficult to figure out just how often the emergency phone system is out of action. The secrecy highlights the 911 system's strange role. It is a critical lifeline to police and fire departments but also is one almost entirely run by private companies.

<https://t.co/mm29PeKwll>

From the Availability Digest: What the Heck is 160516?

Like viruses that lie dormant in the human body, 160516 remained undetected for over thirty years. Then on Friday the 13th in May, word leaked out to HP NonStop users and vendors that a critical date-routine bug would wreak havoc in payment processing applications the following Monday, May 16th. Once the date changed to May 16th, impacted processes would abend and would continue to abend with an arithmetic overflow every time they were restarted.

<https://t.co/LP4SGpD7BJ>

Crow Causes Blackouts across San Fernando Valley

A crow flew into a circuit breaker on Thursday, June 23, triggering blackouts throughout the San Fernando Valley (California, USA) and causing heavy traffic congestion.

<https://t.co/ultLfRL6GV>

YouTube Went Down For 15 Minutes, For The First Time In Years: Was It Hackers?

For the first time since November 2013, Google-owned YouTube experienced a major global outage that caused video lovers worldwide to panic. So what exactly caused the 15-minute downtime of YouTube? According to Google, the outage was not caused by hackers in some sort of attack against the video-sharing website. Instead, the downtime was due to routine engineering updates.

<https://t.co/4s6lAca9yF>

Mistakes that racked up millions: the costliest typos in history

The twelve events mentioned in this article include: 1) A Chilean stockbroker lost \$206 million in the early 90s when he entered a trade as a buy instead of a sell; 2) The first attempt, in 1962, by the US to send a spacecraft to Venus cost NASA \$80m after the Mariner 1 was destroyed 293 seconds after launch when it veered off course due to a missing hyphen in its code.

<https://t.co/yee6ldewVV>

Why Is The FCC About To Require Batteries For Surfing The Web?

A recent wave of meetings at the U.S. Federal Communications Commission indicates the agency is planning to force broadband providers to redesign cable and DSL modems to have bigger backup batteries so you can (in theory) surf the web for up to 8 hours during a power outage. The FCC's plan to "place the responsibility" on broadband providers to provide backup power for your broadband devices might sound good in the abstract. But responsibility and consumer choice are two sides of the same coin, and consumers will ultimately end up paying the price.

<https://t.co/qMHKaxygYm>

Telia engineer error to blame for massive net outage

Swedish infrastructure company Telia is to blame for a massive Internet outage in June after an engineer apparently misconfigured a key router and sent all of Europe's traffic to Hong Kong. The Tier 1 network provider is one of fewer than 20 companies that provide a basic foundation for much of the Internet. It sent a note of apology to other network operators several hours after huge disruptions were reported across Europe. When millions of Internet users reported problems with their Internet connections, covering everything from WhatsApp to Slack, it was so significant that the first assumption was that a transatlantic cable had been damaged or cut.

<https://t.co/z0HzZ7yc4D>

As Telstra outages are unavoidable, what are your only backup plan options?

For consumers and businesses requiring Internet at all times, Telstra's outages have provided a stark lesson. Whether you're a Telstra customer or not, your ISP or telco will one day have an outage; and you'd better have a backup.

<https://t.co/vXD8bv4JRO>

Rajshahi plunges into darkness

The life of people living in Rajshahi city (Bangladesh) and its suburbs came to a halt on June 22nd due to a power cut caused by the collapse of the Katakhalī grid sub-station that provides the whole region with electricity.

<https://t.co/7KWEZ7KY1u>

Global Telia Outage Disrupts Popular Internet Services

Telia Carrier, the backbone network operator arm of the Swedish telco TeliaSonera, lost data packets traveling between five continents (North America, South America, Africa, Europe, and Asia). The result, attributed unofficially to human error, affected a whole range of popular sites and services. Among them were CloudFlare and WhatsApp.

<https://t.co/PYiGGcon69>

Widespread Charter Internet Outage Affects Los Angeles, Atlanta, St. Louis and other U.S. cities

A widespread outage starting on 22 June affected Charter Internet customers across the U.S. Sources told news outlets that the outage was caused by a fiber optic cable that had been accidentally severed.

<https://t.co/Y0ki7W8MOr>

Failure to Block Backup Circuit Breakers during Testing Responsible for May 25 Downtown Power Outage

Seattle City Light recently announced that crews testing new relays were the cause of the massive power outage impacting downtown Seattle, Washington (USA). The relays were being tested to make sure they worked with older, existing relays in the substation's complex protective system. A Seattle City Light representative said, "During the test, our crews blocked the primary circuit breakers at the substation but overlooked the backup breakers. When they performed the test, the backup breakers received the test signal and opened, cutting power being delivered to the substation by two high-voltage transmission lines.

<https://t.co/QgVCnXT3gy>

What Works for Wind Power Could Also Work Under the Sea

Jim Dehlsen, a 79-year-old wind-energy pioneer who sold one turbine company to Enron and took another public, has spent his life thinking about the best way to make blades turn in the sky. For his latest effort, he's flipping a turbine upside down and plunging it dozens of meters into the ocean in waters that are up to 300 meters deep. There, marine currents rotate the 13.5-meter long blades to pull power from the sea.

<https://t.co/BpFOvmALBU>

Software glitch blows Lexus computer 'mind,' sends car owners back to dealers

Radio: nonfunctional. Blue tooth: soundless. Navigation: clueless. That was the situation for Lexus owners in South Florida and across the country in June following a computer glitch that disabled navigation, audio and climate control systems in 2014, 2015 and 2016 models.

<https://t.co/4kAiKulJ9g>

Massive 800 MegaWatt-hour Battery to Be Deployed in China

China will soon be home to the world's largest battery. The massive power facility will provide peak shaving, grid stability, emergency power, and load management to the Dalian peninsula in northeastern China. According to the US Department of Energy, the largest battery-based energy storage system currently in operation is a 50 MW (300 MWh) sodium-sulfur battery in Japan. The largest one in development is the 100 MW (400 MWh) peaker plant in California. It will use a battery technology that's yet to be determined. And now, UniEnergy Technologies announced a partnership with Rongke Power, which will build and deploy a 200 MW (800 MWh) energy storage system featuring Rongke Power vanadium flow batteries.

<https://t.co/CdO2QYduof>

(A Case Study) Stratus enables always-on water resource management with Stratus everRun

The City of Santa Rosa, California Utilities Department controls water distribution for approximately 150,000 residents using Wonderware® InTouch® human-machine interface (HMI) software protected by Stratus everRun software. Santa Rosa's system includes 605 miles of potable water pipeline that fill 20 enclosed reservoirs with a storage capacity of 19.45 million gallons. The city's average water usage is 21 million gallons per day (MGD) with a summer peak average of 33 MGD and a winter flow average of 13 MGD.

<https://t.co/P1RqQzNUxA>

This Is Likely Why the Navy Is Causing a Massive And Mysterious GPS Outage In The Western US

Picture a giant, invisible, upside-down cone rising up from the desert floor near Naval Air Weapons Station China Lake (U.S.). It ranges over 500 miles in every direction, covers more than 500,000 square miles in total, and reaches up higher than any civilian aircraft can fly. Inside the cone, GPS-related systems fail to function. That invisible cone will be a reality this month, at least intermittently, and the Federal Aviation Agency is warning pilots that GPS-related systems may fail to work in the area over the next three and a half weeks.

<https://t.co/bSdoE23lwG>

Hewlett Packard Enterprise to bundle Docker technology with every server

Hewlett Packard Enterprise recently acknowledged the growing popularity of containerized software, saying it will bundle Docker Engine with its servers and will provide varied forms of support for Docker. Container technology such as Docker lets developers bundle up an app and the components needed to run it in an easy-to-deploy package.

<https://t.co/NGMz2hRdco>

Monkey stumbles into hydroelectric power plant and triggers 4-hour blackout across Kenya

When a monkey fell on a transformer at a Kenyan hydroelectric dam, the entire nation lost its electrical power.

<https://t.co/YGodlbwe8s>

Amazon's storm outages serve as a warning to businesses

Australian businesses have been warned they need to spread the risk in their cloud computing operations across different regions after the Sydney storms on Sunday knocked out the operations of numerous Amazon Web Services customers. The ferocious storms that hit NSW left AWS clients, including Domino's Pizza, Foxtel, The Iconic, Stan and Domain, without websites or key systems for hours. It served as a warning that sending systems to the cloud rather than hosting them on-premise does not remove the risk of costly failures.

<https://t.co/zzfcOkYh9d>

From the Availability Digest - "Cyber Security and Downtime"

Cyber attacks are here to stay and are not only breeding like rabbits but are growing into something bigger and stronger. The biggest problem in this area is the openness of the Internet and the relatively easy access to any services using it.

<https://t.co/zHixQOjxn0>

AWS Sydney outage knocks out websites during storm

Amazon Web Services' Sydney zone suffered a power-related outage in early June as storms lashed the Australian city. The Elastic Compute issues had flow-on effects to other Sydney services, with AWS ElastiCache, Redshift, Relational Database Service, Route 53 Private DNS, CloudFormation, CloudHSM, Database Migration Service, Elastic Beanstalk and Storage Gateway all experiencing connectivity issues.

<https://t.co/sHI3FVqcPv>

AWS Sydney outage prompts architecture rethink

The 5 June outage to an Amazon Web Services Sydney (Australia) availability zone is prompting some of AWS' biggest local customers to reconsider their architectures to mitigate future damaging downtime. Big-name web properties spent Sunday night scrambling after bad weather fried hardware in one of Amazon's Sydney data centres, sending EC2 and EBS instances in one of its availability zones offline and creating problems for other AWS services, including Elastic Search and internal DNS. API call failures in the affected availability zone also meant that those hosted there were unable to fail over elsewhere despite having multi-zone redundancy in place for such events.

<https://t.co/dOGtx2l0Oq>

CenturyLink Targets 'Six Nines' Reliability

US telecom giant CenturyLink is aiming to improve its offering by guaranteeing customers "six nines" reliability rather than the "five nines" that traditionally has been featured in telco service level agreements (SLAs). Reliability is becoming an increasingly hot topic as operators introduce software and virtualization technologies into their networks and prepare to roll out new types of service. Indeed, there are doubts that operators will be able to make such SLA guarantees in a more virtualized environment.

<https://t.co/Ans70lCzma>

Apple hit by big App Store, iCloud outage

Apple's overnight outage in early June lasted for 5 hours. Users could not update, download or purchase applications, backup data to iCloud, or make use of Apple's other cloud-based applications like the iWork suite, which comprises Pages, Numbers and Keynote. Outages for Apple services are rare but not unprecedented. iTunes and the App Store went down for 12 hours last year, with the Cupertino-based company blaming a DNS problem.

<https://t.co/NDTvNWCC69>

Testing failure caused downtown Seattle power outage

Thousands of downtown Seattle, Washington (USA) homes and businesses lost power on 25 May because of an engineering oversight by a Seattle City Light utility crew. Relays detect electrical faults and signal circuit breakers to open to prevent power surges. Relay testing is routine, and a crew was testing new relays to ensure they worked with older ones when the failure occurred. Crew members failed to block backup circuit breakers; so when they sent the test signal, it tripped those breakers and dropped power from two high-voltage, 115-kilovolt transmission lines.

<https://t.co/EeMxaXmiPA>

From the Availability Digest: "Migrating IBM Power Systems to HPE Open Systems"

Hewlett Packard has several decades of experience in migrating mission-critical applications from IBM Power Systems to HP (and now HP Enterprise) open systems. HPE has demonstrated that the majority of such migrations result in a significantly less expensive operating environment – often by a factor exceeding 50%. At the same time, the new HPE open environments match or exceed the performance and availability attributes of the original Power Systems.

<https://t.co/pF0NcDcsMn>

Dell's Cooling Innovation for Scale-Out Computing

Dell's Extreme Scale Infrastructure (ESI) group recently unveiled Triton, their new **liquid cooling** solution. Triton achieves a performance level for CPU-intensive workloads that is simply not available using traditional air-cooled means. These workloads include HPC verticals such as oil and gas, research labs, gaming, financial services (specifically high-frequency trading), large data search and the like. Because of its unique design, Triton can use **almost any source of facility water**, from the cooling tower water to a chilled water distribution system. Bringing water into a data center is a sign that what's old is new again. The original mainframes of the mid 1960s were water-cooled.

<https://t.co/HGmeFWj3ci>

Here comes the FUD! Legacy vendors sure to jump on the Salesforce outage

[Salesforce](#) had an [ill-timed outage](#) recently. While any outage is bad, and this is especially the case for cloud-based solutions that demand connectivity to be operational, it isn't a case of the sky falling in. So given that the next few weeks will no doubt see a host of vendors jump in, go on the attack, and suggest that cloud is a flawed delivery methodology, here's some clarity around the issues.

<https://t.co/kRiWclEyRz>