

the **Availability Digest**

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@availabilitydig – Our February Twitter Feed of Outages

February 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.



Lloyds Banking Group Outage – a Correction

In an earlier issue of the Availability Digest, we described an outage suffered by the Lloyds Banking Group as being the result of a failover fault. Since then, one of our subscribers came forward with a more accurate description of the outage. Lloyds employed two HP NonStop 16200 systems in an active/active configuration to process its ATM and POS transactions. The outage was caused by a simultaneous failure of four out of eight CPU processors in one of the NS16200 NonStop production servers, which handled 50% of all ATM and POS traffic. The NS16200 server handling the other 50% of traffic was unaffected. The root cause of the failure was finally identified by HP as a rare firmware bug in HP's Logical Synchronization Module. The bug was so subtle that HP had to take the affected part back in order to reproduce the failure. Effectively, the failed server was still running at the point of failure but was ruled as "sick but not dead." This resulted in about 50% of transactions failing. However, the sick system had not really failed, thus complicating the failover process. Automatic failover to the other half of the active/active system did not take place. The transaction traffic had to be switched over manually to the other (unaffected) HP NonStop server.

<https://t.co/l30fM34SAU>

Ins and Outs of Outage Management

Weather, cybersecurity, customer service. Yada yada yada. It's a wonder that utility pros don't blow a fuse with all of this.

<https://t.co/hY7vZCwC0s>

DDoS attacks fingered after Lloyds Bank suffered recent lengthy outage

Lloyds Banking Group is understood to have been the target of a significant denial of service attack in January, leaving significant numbers of customers unable to access their online banking services. The attack started at some point on the morning of January 11, preventing customer access to sites belonging to group members including Lloyds Bank, Halifax, and the Bank of Scotland for at least the best part of three days.

<https://t.co/fpNYlamtnC>

How Sustainable Will Bitcoin Be After the Apocalypse?

Over the past few years, worldwide fears of an apocalypse-type scenario have increased quite a bit. The trend is likely to be associated with global economic turbulence, failed central planning, and the rise of tyrannical governance. With people believing doomsday may come to pass, many are hoarding various commodities like precious metals and now even bitcoins. However, people wonder how sustainable the Bitcoin network will be throughout a global apocalyptic crisis.

<https://t.co/Jm6WD776Av>

Delta Air Lines systems outage: 280 flights cancelled but systems now back to normal

Delta Air Lines said it is recovering from a systems outage that caused departure delays and about 170 cancellations on 29 January. Delta said that its "essential IT systems" went down about 6:30pm on Sunday and was restored a few hours later. It said all systems were back to normal shortly after midnight on Monday.

<https://t.co/LUzLHGL8Ku>

The military has just taken satellite backup underwater

What if you have one of the most advanced and bulletproof military communications networks in the world, but your satellites (like the one above) are still vulnerable to enemy operatives jamming or hacking your system? You go deep. *Really* deep.

<https://t.co/TvcB0SSFP>

Avaya Bankruptcy Sends Clear Message to Legacy IT Makers

Telecommunications provider Avaya, spun out of AT&T in 2000 and which filed for Chapter 11 bankruptcy protection on Jan. 19, stands as yet another example of what can happen if a company doesn't move quickly enough when a technology sea change engulfs it. Kodak didn't make the move to digital fast enough. DEC and Sun Microsystems saw Linux impacting their enterprise server and PC businesses but were slow in adjusting. Avaya didn't make the move to cloud, messaging and mobility in a timely manner.

<https://t.co/HC0Xh7fRRK>

Can Business Applications Be Immune To Network Failures?

Ideally, critical business applications wouldn't be held hostage to network problems and failures. Unfortunately, this isn't always the case. There are four primary network conditions that degrade the performance of business applications: link failures, link degradation, network device failures, and bandwidth shortages.

<https://t.co/uuYgssYyyY>

United Airlines computer glitch creates cascade of delays

United Airlines grounded all domestic flights for about two hours on Sunday evening, 22 January, after a computer glitch struck their system. Leading to six cancellations and 200 delays, it was the latest IT issue to cause the airline problems in recent months. And United is not the only carrier to have suffered such setbacks of late, as the complexity of the computer systems in charge make it all but impossible to proceed when they malfunction.

<https://t.co/vLhVkwkV6>

Hidden Figures and the IBM 7090 computer

Hidden Figures isn't just the story of three brilliant and determined women but also of the transition from human to electronic computing. The latter stars the IBM 7090; and as the movie shows, the transition was far from smooth.

zd.net/2jE5F0G

Oracle's monster security update: 270 fixes and over 100 remotely exploitable flaws

In January, Oracle released its first quarterly critical patch update of the year, urging customers to immediately apply the bundle's 270 fixes to a number of its products. Product families fixed in this update include Oracle Database Server, Oracle Enterprise Manager Grid Control, Oracle E-Business Suite, Oracle Industry Applications, Oracle Fusion Middleware, Oracle Sun Products, Oracle Java SE, and Oracle MySQL. Oracle's updates are typically large; but the 270 fixes in this advisory are just short of Oracle's record critical update last July, which contained 276 fixes.

zd.net/2jnfZHG

Galileo satellites experiencing multiple clock failures

The onboard atomic clocks that drive the satellite-navigation signals on Europe's Galileo network have been failing at an alarming rate. Across the 18 satellites now in orbit, nine clocks have stopped operating. Three are traditional rubidium devices; six are the more precise hydrogen maser instruments that were designed to give Galileo superior performance to the American GPS network. Galileo was declared up and running in December. However, it is still short of the number of satellites considered to represent a fully functioning constellation; and a decision must now be made about whether to suspend the launch of further spacecraft while the issue is investigated.

<https://t.co/KI3w3qemty>

HPE acquires SimpliVity for \$650M in cash

HPE has acquired data management platform SimpliVity for \$650 million in cash. SimpliVity is one of the many companies space focused on what is often called "hyperconverged infrastructure." Hyperconverged systems combine compute, storage and networking into a single system. For HPE, the idea here is clearly to expand its existing infrastructure, automation and cloud services with SimpliVity's platform.

<https://t.co/9F1vwCKDSM>

DOT Watchdog: FAA Not Yet Prepared for Mass ATC Outage

Despite efforts to improve emergency contingency procedures, the U.S. Department of Transportation Inspector General contends the FAA is still not completely prepared to handle events that could cause major outages, such as the fire that was deliberately set in the Chicago Air Route Traffic Control Center in September 2014. The DOT IG stated that belief in a study the watchdog conducted at the behest of Congress on whether the FAA can manage air traffic control crises that arise within the National Airspace System.

<https://t.co/Q0QMgO377G>

Oracle announces new UK, US and Turkey cloud regions, adds product enhancements

Oracle's new regions, in Virginia, London, and Turkey to be more precise, are expected to go live by the middle of 2017, while the company expects to add further regions in APAC, the Middle East, and North America, to be launched a year later. Oracle says that the new regions will comprise at least three high bandwidth, low latency sites – for which the company code is 'availability domains' – located several miles from each other and designed to be built to avoid failover.

<https://t.co/MXDeuJOo0L>

“Component failure” caused Amsterdam blackout; Power utility offers cash to those hard hit

A massive power outage that affected 360 thousand homes in and around Amsterdam on 17 January and left train traffic across the country in chaos was the result of a "component failure" in a TenneT power station on Hemweg in the Dutch capital.

<https://t.co/sQICqDzQmV>

Report: IBM in Talks About Takeover of Lloyds Data Centers

Lloyds Banking Group is in talks with IBM about potentially selling its data centers to the US company and having it run them as a service provider to the British financial services. The move is seen as a potential way to raise cash and get some expensive assets off the balance sheet rather than a way to improve services for Lloyds, which has been undergoing massive restructuring, laying off back-office and IT workers, and shutting down branches.

<http://bit.ly/2l3Sy6l>

Tesla Gigafactory Will Have World's Largest Solar Rooftop Array

Tesla is taking full advantage of its ownership of SolarCity, and it will have the world's largest solar rooftop array at its Gigafactory. The facility in Nevada will have the capacity to generate 70 megawatts of power thanks to its rooftop solar panel array, which is roughly seven times more than the current largest installation on a single roof, located in India. Thanks to the incredible scale of the solar panel array on its roof, along with the setup of Powerpack batteries, Tesla will have a net-zero-energy production facility that is powered from renewable sources. It will not need to use the Nevada power grid; and it will not require any fossil fuels, which should make its critics silent on that matter.

<https://t.co/nQLhgPupJz>

GoDaddy revokes nearly 9,000 SSL certificates issued without proper validation

GoDaddy, one of the world's largest domain registrars and certificate authorities, revoked almost 9,000 SSL certificates in mid-January after it learned that its domain validation system had a serious bug for the past five months. The bug was the result of a routine code change made on July 29 to the system used to validate domain ownership before a certificate is issued. As a result, the system might have validated some domains when it shouldn't have, opening the possibility of abuse.

<https://t.co/MLcVNUGbfe>

The looming national security threat everyone keeps ignoring

This week's U.S. confirmation hearings for homeland security secretary and transportation secretary were notable for something not discussed: the fact that the two departments have failed for 12 years to comply with presidential orders to eliminate one of the most serious threats to the security and economy of the United States.

<https://t.co/leIWmN0qNg>

How Iran's efforts to censor porn led to Internet outage in distant Hong Kong

In a world interlinked through the Internet, a small problem can cascade into a full blow outage. According to a recent report, Iran's recent attempt to block pornography websites in the country's borders hampered access in Russia, Hong Kong and other nations in the region. Iran's national telecom authority used a protocol called BGP to block the access of Iranian citizens to the porn sites. But closing the BGP tap caused severe Internet issues in faraway Hong Kong and Russia.

<https://t.co/ppLWltiUoh>

Tech industry big guns unite to create crash-free IT services and systems

The Zero Outage Industry Standard Association (ZOISA), which counts Dell-EMC, IBM, NetApp, SAP and T-Systems as founding members, has released further details of the work it is doing to help minimise the risk of users suffering from IT service outages.

<https://t.co/iSSB4V8nbH>

BT customers suffer lengthy broadband outage—rogue router fingered

An unknown number of BT broadband customers across the UK were unable to access the telecoms giant's network for hours on 2 January —with some claiming that the outage caused by an apparent DNS error was yet to be resolved. BT told Ars that a "small number of BT Broadband customers had issues accessing Web pages. This was an issue with a router in our network and has now been resolved. We apologise to any customers affected."

<http://bit.ly/2kL0D3q>

Amazon is considering using blimps as huge airborne warehouses

Amazon has already started using drones to deliver products to its customers, albeit on a very small scale. However, there's one small problem with drone deliveries as it stands: launching drones from the ground and flying them to people's houses requires a considerable amount of energy. In order to get around this potential issue, Amazon is looking at storing products at altitude in huge floating airships — described by Amazon as "airborne fulfillment centers" — and a network of drones to essentially float items down to people.

<http://read.bi/2ihx59r>

No excuse for airline system outages

In 2016, as multiple system outages led to long check-in lines, flight cancellations and passengers camping out in airports, several airlines' reputations made unplanned descents. What could they have done differently to prevent these crises or to recover from them more rapidly?

<https://t.co/OIQOtCsKbF>

Long lines, frustration after U.S. Customs system outage at airports

A U.S. Customs and Border Protection system outage Monday, 2 January, at some airports caused long lines and delays for those trying to enter the United States. It is unclear how widespread the outage was; but issues were reported in Miami, Fort Lauderdale, Atlanta and Washington Dulles International Airport. The outages began around 5 p.m. EST and ended around 9 p.m. EST.

<https://t.co/bq4bBhnDD2>

Visa and MasterCard are delaying the EMV shift for gas stations

The US EMV migration is occurring in several stages, and the first shift occurred for retailers in October 2015. For gas stations, that deadline was supposed to be set for October 2017. But recently, Visa and MasterCard shifted the deadline for gas stations back to October 2020, giving their fuel clients three additional years to upgrade their pumps.

<http://read.bi/2gAjoN>

A lesson from network outages: Redundancy matters

Redundancy is a basic IT tenet. Whether it's multiple back-end servers running the same web applications or setting up disk drives in RAID arrays, IT regularly ensures availability even in the case of a failure. Yet the massive DDoS attack against DNS service provider Dyn showed that many organizations failed to think about redundancy on their critical infrastructure.

<https://t.co/QbRWHcjYCN>