

# *the* Availability Digest

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## @availabilitydig – Our July Twitter Feed of Outages

July 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.



### **Millions of PCs hijacked by major Chinese malware attack**

According to extensive research from the Israeli cyber-security firm Check Point, a Chinese digital marketing company called Rafotech has infected millions of computers worldwide with adware that redirects user traffic to fake search engines. The fake search engines then divert their search queries through Google and Yahoo's affiliate programs to earn a commission for the company behind the adware. So far, Rafotech has infected over 250 million computers, according to a rough estimation from Check Point.

<https://t.co/YHdxJjeiJ>

### **What is 'legacy IT' and how scared should we be of it?**

Everyone agrees that modernization of U.S. Federal IT infrastructure and systems is necessary, and the swift passage of the Modernizing Government Technology Act will help. But one area of disagreement is the viability of "legacy" technology and what exactly should be done about it. The government has been reporting that 75 to 80 percent of the Federal IT budget is spent on running legacy (or existing) systems

<https://t.co/V8M2455925>

### **Case Study: Jumping from Legacy Systems to Modern Controls**

The hurdle faced by many plant operators when upgrading their factories is on the approach. How do you attempt to update your legacy systems? Do you shut down your facility or try to upgrade and continue to manufacture product? Should you keep your legacy equipment or invest in brand new hardware? Recently, a case study released by Rockwell Automation highlighted how a research laboratory underwent an expansion where it encountered this particular dilemma.

<https://t.co/oOgfgelsNG>

### **Despite massive reliance on GPS, there's still no Plan B if it crashes**

It only took thirteen millionths of a second to cause a whole lot of problems. Last January, as the U.S. Air Force was taking one satellite in the country's constellation of GPS satellites offline, an incorrect time was accidentally uploaded to several others, making them out of sync by less time than it takes for the sound of a gunshot to leave the chamber. The minute error disrupted GPS-dependent timing equipment around the world for more than 12 hours. But last January's system failure brings up an often-ignored question: What if all these flying clock radios were wiped out, and everything on the ground started blinking 12:00?

<https://t.co/3wja1Gs4gQ>

### **VA to use same electronic health record system as military**

The Department of Veterans Affairs (VA) will replace its legacy electronic health record system with the same commercial system currently used by the U.S. military. The move to modernize the VA's information technology systems recently was announced by VA Secretary David Shulkin, who said the department will move from its existing VistA system to the commercial Military Health System (MHS) Genesis system currently used by the Defense Department. The move means that veterans' electronic records will follow them after they retire from the service.

<https://t.co/sYDpPi0O6r>

### **British Airways was grounded by computers—now the airline needs to look to the cloud**

After its IT systems failed in May, British Airways suffered a major power outage that left more than 75,000 passengers stranded for days at Heathrow and Gatwick airports and clocked up a reported \$150 million in compensation costs. Over the ensuing week, the company attempted to salvage its reputation after heavy criticism of its crisis management plans, which appeared to constitute little more than providing yoga mats to stranded passengers. It seems that BA's lack of vision with its yoga matt distribution crisis management 'plan' was mirrored in its approach to its IT systems. Much has been made of the company's decision to lay off hundreds of IT workers in its software department last year and outsource many of these jobs to India. The problem, however, may be more fundamental; a dated infrastructure that needs rapid updating.

<https://t.co/e0Ts69mfkn>

### **It's not just you—there's a widespread Google Home outage**

Google spent a lot of time at the Google I/O Conference talking about Assistant and Google Home. In fact, it gave a free Home to everyone who attended I/O. Now, a lot of those devices are spitting out errors instead of controlling smart home devices and answering questions. According to multiple online complaints, there's a Google Home outage affecting a significant portion of users. You'll know instantly if your Home is affected. Use the trigger phrase and it'll respond with "Hmm, something went wrong. Try again in a few seconds," or "There was a glitch. Try again in a few seconds." Most users say the issues started popping up in the last day or two—I began getting errors last night, and today Google Home has a nearly 100% failure rate.

<https://t.co/wrMxTKZNyK>

## **Understanding IBM i Options for High Availability**

There are many options when it comes to high availability (HA) for IBM i. Should you use logical replication software like MIMIX or a hardware-based solution like PowerHA? Should you deploy to the cloud or stay on premise? Is remote journaling the way to go, or should you roll your own? IT decision-makers must do their homework if they're going to find the right solution for them.

<https://t.co/wqDKVyNPsB>

## **First Utility-Scale Microgrid in U.S. Enters Service**

Ameren Corp. has completed a \$5 million microgrid at its Technology Applications Center adjacent to the University of Illinois campus in Champaign, Ill. The facility is one of the only utility-scale microgrids in the United States that serves live customer loads on an actual utility distribution feeder. If the grid-connected electric distribution line fails or is knocked out by a storm, the Ameren microgrid is intended to seamlessly transition to island mode and provide 180 residences and 12 commercial buildings with power from dedicated wind, solar, and natural gas resources, backed up by a bank of lithium-ion batteries.

<https://t.co/xGYXL3CcGh>

## **Massive, Six-Story Data Center in a Norwegian Mine Comes Online**

An abandoned mine-turned data center in Norway opened in May and claims to be “the largest green data center in Europe.” Its first two tenants are IBM and the German industrial conglomerate Friedhelm LOH Group. Situated within a deep fjord—much like the neighboring Green Mountain facility at Stavanger—the servers are cooled using seawater cooling systems. The saltwater brought from the depths of the fjord is 45 degrees and cools less corrosive fresh water. The fjord water remains pressurized and requires little energy to pump, eliminating the need for costly high-capacity equipment.

<https://t.co/avYU079vZa>

## **Bridgestone modernizes data center, hauls out 13 tons of copper wire**

In 1968, tire-making giant Bridgestone Corp. opened a data center in Akron, Ohio. If walls could talk, this data center could tell the story of IT. That center opened on Oct. 9, 1968, with racks and racks of tapes and a water-cooled mainframe. Under the raised floor was more history. There were water-cooling lines dating from the late 1960s and evidence of successive waves of technological change, mostly in the form of copper wiring. Physical servers were moved in and out of the data center over the decades, but the older, connecting tech under the floor wasn't all removed.

<https://t.co/ejaZgauNXb>

## **British Airways IT engineer blamed for outage**

British Airways pinned the blame for its £150 million (\$272m) IT meltdown on a single worker who rebooted the system too quickly when the power failed. The engineer allegedly failed to follow proper procedure at a Heathrow data centre and caused "catastrophic physical damage" to servers, leaving 75,000 stranded across the globe,

<https://t.co/JQ3zWm0NOu>

## **An Availability Digest Oldie but Goodie: "The Dawn of Fault Tolerant Computing"**

In 1980, I published a four-part series in Computerworld entitled "Survivable Systems." The articles described the state-of-the-art fault-tolerant systems at the time. The need for systems that never (at least, hardly ever) failed was just being recognized. Several companies jumped in with their own versions of fault-tolerant systems, including Tandem, Stratus, Synapse, Auragen, August, NoHalt, Parallel Computers, and Tolerant Systems. A lot has changed over the 36 years. Systems have become more "open," with Linux-like operating systems and x86-based hardware architectures. However, what hasn't changed is the need for systems that never fail.

<https://t.co/JFyDtIjLTY>

## **Legacy IT is the least of a bank's problems**

It's too late now to turn around the whole legacy IT system of a bank. Each and every bank the author has met burns ridiculous amounts of money trying to make legacy IT work; but so far, nobody has really transformed. Systems are down, projects take forever, IT is always held up by something other than making problem-solving solutions for customers, and the story goes on. Ironically, the core functions of a bank are ridiculously simple. The complexity grows mainly out of the lack of knowledge. Most people inside banks do not know how their systems actually work.

<https://t.co/dlaFrMi1ot>

## **Building High Availability for industrial and embedded systems**

High Availability (HA) is not just for the data center. While the principles of achieving extreme uptime have been honed by enterprise IT teams, it's just as important for industrial and embedded applications, which are often deployed in mission-critical environments. By understanding and leveraging HA principles perfected in the enterprise environment, industrial and embedded servers can be made more robust, reliable, and resilient.

<https://t.co/HaDZEDrlsj>

## **Data Centers Have a Key Role in IT Infrastructure**

Despite the growing presence of the cloud, the majority of IT assets are still deployed at enterprise-owned data centers, according to the Uptime Institute's seventh annual "Data Center Industry Survey." The findings reveal that flaws within the cloud provider evaluation process may be contributing to this trend. Many organizations are, in fact, still addressing data and application storage demands with new data center construction rather than with cloud migrations or colocation space investments. Data center outages still come with the territory, but most tech departments are getting to the bottom of downtime by conducting root-cause analyses of incidents as well as measuring their impact on costs.

<https://t.co/H3GSlpCgOG>

## **What Can You Do to Not Be Like British Airways?**

While the forensic analysis of the recent British Airways outage is still some time away, the airline's woes are a good reminder of why we need robust systems in place to protect the systems and data that underpin our businesses. While cyber-threats pull the headlines, they aren't the biggest causes of business disruptions. Natural disasters, hardware failure, software failure and corruption, human error are far more prevalent than malware and hackers. So what can we do to mitigate the risks of a British Airways type of incident in our businesses?

<https://t.co/l6jsbyDcZb>

## **From BA to the NHS: why the UK needs to seriously step up its IT game.**

Another week another UK IT headline. A 'power outage' at British Airways caused the UK's national carrier to cancel worldwide flights at the start of the UK May bank holiday. The WannaCry ransomware attack brought much of the National Health Service to a halt. Events like these expose once again the importance of IT systems in today's business. But this should not be the only lesson to take. Such incidents highlight the complexity and the sheer number of vulnerabilities in critical infrastructure sectors such as the NHS, airlines or telecom operators caused by complex software. It's simply all about complexity.

<https://t.co/qdScc2cLaB>

## **"Killing COBOL: The Massive Mistake Everyone Wants You to Make"**

The world runs on mainframes. Sure, pure-play digitals may live on the cloud—but their partners, the world's biggest banks and insurance companies as well as government agencies, trust their systems-of-record exclusively to COBOL on IBMz Systems. So even when you flag a ride on Uber, you trigger a mainframe transaction. The status quo for so-called "legacy" code, however, is no longer acceptable. Existing mainframe applications simply can't be modified quickly enough to keep pace with the relentless demands of the digital marketplace. Should you pull the plug on your mainframe and re-platform your critical systems of record or invest in mainframe Agile and DevOps?

<https://t.co/JwFFPr6zVz>

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## **Meg Whitman Says HPE Has to Reconsider This Business**

For the second quarter in a row, Hewlett-Packard Enterprise chief executive officer Meg Whitman said that one part of the company's business—which sells servers to major cloud and telecommunications providers—was slammed by lower sales to a "single tier one" customer.

Whitman, again, attributed lower-than-expected server sales to declining orders from a single customer, which she never identified but that others have reported is Microsoft. But this time, Whitman said that HPE has to think about whether it even makes sense to stay in that business.

<https://t.co/U2TQmMbJOC>

### **Israeli 'Solar-Power' Tree Is Charging up a Small French Town**

An Israeli company is charging up a small French town with a solar-powered eTree that allows residents to power their phones, sit in the shade or enjoy free Wifi. In May, the Sologic eTree, created by Israeli entrepreneur Michael Lasry and designed by Israeli artist Yoav Ben Dov, was "planted" in the central French town of Nevers for its population of 37,000 to enjoy. The project, made of solar panels shaped like leaves, is the first to be installed in Europe, with other prototypes operating in 10 Israeli and American cities.

<https://t.co/TQEh5X84Xs>

### **Tidal energy turbine with Lockheed Martin Technology deployed off Scotland**

Atlantis Resources Limited has deployed the first AR1500 tidal energy turbine with new Lockheed Martin (LMT) technology off the coast of Scotland. The installation is the latest development in the MeyGen project designed to harness the motion of the tides to provide clean, sustainable, predictable power for up to 175,000 homes in Scotland.

<https://t.co/zm9hqao2ek>

### **BBC News - What went wrong at BA?**

As British Airways (BA) began to recover from a disastrous IT failure, an inquest already was under way into what went wrong and why it took so long to fix it. Some questions: Why did a power failure have such an impact? Why was it so difficult to recover? Was data corrupted?

<https://t.co/xISWWlkxOw>

### **Few firms will be ready for new European breach disclosure rules, fines**

The new European General Data Protection Regulation goes into effect next May with onerous notification requirements and high penalties, but a year might not be enough for firms to get ready. Recent surveys show that most companies are not prepared for the regulations. According to a recent survey, 80 percent see GDPR as a priority, but only 25 percent have an established plan. Gartner estimates that the majority of all companies affected by GDPR will still not be in compliance at the end of 2018.

<https://t.co/XYKC2EI6v3>

### **US utility offers clients cheap Tesla batteries for grid backup**

For the first time, a power utility has teamed up with Tesla to use its battery packs for extra grid power during peak usage times. Vermont's Green Mountain Power (GMP) is not only installing Tesla's industrial Powerpacks on utility land, it's also subsidizing home Powerwall 2s for up to 2,000 customers. Rather than firing up polluting diesel generators, the utility can use them to provide electricity around the state. At night, when power usage is low, they're charged back up again.

<https://t.co/NxclBpTWrp>

### **British Airways: Flights cancelled amid IT crash**

Serious problems with British Airways' IT systems led to thousands of passengers having their plans disrupted. All flights from Heathrow and Gatwick were cancelled.

<https://t.co/eKUOfSGAD>

### **How many Teslas does it take to black out an apartment block?**

While Australia's slow uptake of electric vehicles is a source of great frustration to some, to others, like the nation's owners and builders of apartment blocks, it offers precious time to work through some of the more thorny problems that are expected to arise out of mass EV uptake. Problems such as: Who pays for the electricity used to charge an EV in an apartment building carpark? How do you bill it? How much will it cost apartment dwellers to charge their EVs at home? Where should EV charging stations be put? What does it do to a building's emissions profile? And how many Tesla Model S cars can be charged at one apartment block before its lifts cut out?

<https://t.co/f5VCc3tUeU>

### **The Last Itanium, At Long Last**

In a world of survival of the fittest coupled with mutations, something always has to be the last of its kind. And so it is with the "Kittson" Itanium 9700 processors, which Intel quietly released in May and which will mostly see action in the last of the Integrity line of midrange and high-end systems from Hewlett Packard Enterprise.

<https://t.co/U5LIDH3S3y>

### **Starbucks Turns Coffee Beans into Coffee and Lemons into Lemonade**

In late Spring, Starbucks experienced a technology glitch that shut down its payment system in various stores throughout the U.S. and Canada. A failure like this could have cost the coffee shops millions of dollars. Think about it. If you owned a store and couldn't accept payment for whatever you sold, what would you do? Starbucks stated that its stores would stay open. Most locations did – and took care of their customers. That means they still gave the customers their drinks but didn't take their money.

<https://t.co/jyYj8Cm121>

### **Processing system glitch hits airports across Australia**

Travellers trying to check in for international flights out of Australia in late May suffered long delays when the immigration department's passenger processing system crashed. Based on technology from air transport industry IT provider Sita, the system – known as Advanced Passenger Processing (APP) – is used by airlines to verify travelers' passports and to ensure they are cleared to fly. Carriers were forced to resort to manual check-ins for passengers, and long queues formed at counters across Australian international departure terminals.

<https://t.co/5rbsgcKe2J>

### **What the Northwest Could Learn from Japan's Eco-Friendly 'Smart Homes'**

Recovering from a big earthquake and tsunami has lead Japan to invest in new communities called "smart cities" with interconnected electric cars, solar panels and advanced energy-saving technology. They're eco-friendly, and they're also better prepared for when the next big one hits because they're filled with "smart homes" that supply their own power when disaster strikes. There's nothing quite like these "smart homes" in the U.S. Pacific Northwest...yet.

<https://t.co/5r0NlxSeuo>



## **Hackers hit Russian bank customers, planned international cyber raids**

Russian cyber criminals used malware planted on Android mobile devices to steal from domestic bank customers and were planning to target European lenders before their arrest. Their campaign raised a relatively small sum by cyber-crime standards - more than 50 million rubles (\$892,000).

<https://t.co/larg6d7Gaw>

## **Honeywell Gets First Airline for Data-Driven MRO Service**

HNA Group subsidiary Hainan Airlines will become the first airline to use Honeywell's GoDirect Maintenance Service program, which Honeywell has designed to use connectivity and data analytics to improve maintenance operations and reduce equipment downtime.

<https://t.co/g2FQSK2Q8u>

## **Now available on-demand: The Disrupted Data Center - cloud-based resiliency spreads workloads across data centers**

Uptime Institute's recent webinar discusses:

- A deep dive into the pros and cons of four resilient architectures (traditional single-site, linked-site, distributed-site, cloud-based)
- Challenges with distributed resiliency
- Multi-site infrastructure best practices and the benefits of Uptime Institute Tier Certification
- Common causes of failure in data centers and outage costs

[okt.to/U9xfrmD](http://okt.to/U9xfrmD)

## **Arctic stronghold of world's seeds flooded after permafrost melts**

It was designed as an impregnable deep-freeze to protect the world's most precious seeds from any global disaster and ensure humanity's food supply forever. But the Global Seed Vault, buried in a mountain deep inside the Arctic circle, has been breached after global warming produced extraordinary temperatures over the winter, sending meltwater gushing into the entrance tunnel.

<https://t.co/INVoDnMT7x>

## **Is Serviceability More Critical to IIoT Than Security or Availability?**

Whenever talk turns to the Industrial Internet of Things (IIoT), security and availability typically take center stage. It's easy to see why the security topic arises since in any IIoT structure, a large degree of device and system openness is required that runs counter to the historical design of such systems. Availability also looms large in IIoT discussions because immediate access to computing is so critical. Some in IT argue that although these factors are important, they should be positioned further down the IIoT adoption curve.

<https://t.co/MaXKcA9LcX>

## **The Big Green Bang: how renewable energy became unstoppable**

It is early, but the evidence is mounting. Wind and solar parks are being built at unprecedented rates, threatening the business models of established power companies. Electric cars that were hard to even buy eight years ago are selling at an exponential rate, in the process driving down the price of batteries that hold the key to unleashing new levels of green growth.

<https://t.co/vlcTg8oUej>



## **7 Painful Outages for Big Brands in Q1 2017**

The start of 2017 saw some of the biggest brands scurrying to fix unexpected and damaging website outages. Check out the 7 most talked-about system downtime incidents of Q1 2017. One of the hottest topics surrounding the outages this quarter is not how the problem happened but how the company handled it. And when companies showed true transparency in the process, as GitLab and Instapaper did, they were heaped with praise instead of criticism. These cases prove that a disaster can be turned around into an opportunity to strengthen — rather than harm — one's reputation.

<https://t.co/ku7c6EKEzy>

## **What SaaS DevOps teams are saying about SLA, availability and performance**

Not having an SLA or status page for availability costs companies in lost revenue, compensation and brand reputation. To find out how SaaS organisations meet their SLAs (service level agreements) with customers and the challenges they face, the Imperva Incapsula team surveyed nearly 400 industry DevOps professionals responsible for IT, product development, network ops, engineering and e-commerce.

<https://t.co/k8yNKO23B4>

## **Toronto's glass condos are burning thermal holes in the sky**

The Toronto-led TransformTO road map calls for all new buildings to put out near net-zero emissions by 2030. But in a city where half the greenhouse gas emissions now come from leaky buildings, the glass condo boom may be setting the city up for failure.

<https://t.co/Y47wZXYbgx>

## **Weathering the Storm: How Storm Impact Analytics Can Save Utilities**

Now seen as the “new norm,” major outages from U.S. coast to coast due to severe weather have increased six-fold in the past 20 years. More than ever before, utilities are under rapidly increasing pressure to address the threats that severe and volatile weather pose to their operations. Knowing how to execute the proper response is becoming an increasingly coveted skill, and using innovative technology through storm impact analytics will prove key to responding to a crisis that affects a utility's functionality.

<https://t.co/6cXYkhjGIE>

## **Will America's Steel City Build the First Grid of Microgrids?**

To many, the idea of creating a grid of microgrids is somewhere out in the future. Even a pipe dream. But for Pittsburgh, it's now. The city is pursuing an aggressive plan to lead on energy, which includes developing a series of connected local energy systems. “The idea of having an energy plant that is 100 miles away producing energy to make your toast would be left in the 19<sup>th</sup> century, where it was started,” said Pittsburgh Mayor William Peduto.

<https://t.co/ai4ncaltU1>

## **Power Outage in Large Part of Iceland**

A power outage affected an area from Kirkjubæjarklaustur in South Iceland and eastwards to Vopnafjörður in Northeast Iceland for about two hours in May. The root of the problem was traced to a leakage in an aluminum smelting pot at the Grundartangi aluminum plant of Norðurál in West Iceland.

<https://t.co/mFMgX16jDT>

## **Digest Mng Ed. Bill Highleyman presented “How ‘Fat’ Are Your Fingers?” at NYTUG - 25 May, Berkeley Heights, NJ (USA).**

### **Improving Availability and Performance in Mainframe Storage Distance Replication Networks**

As a mainframe end user, the chances are quite likely that you have a disaster recovery/business continuity strategy that requires you to replicate data to a remote site. That data may be stored on a variety of media: spinning disk, flash/SSD, virtual tape, or physical tape cartridges. While some of you may still be using the PTAM (pickup truck access method) and have tape cartridges physically transported to an offsite location, the overwhelming majority of you are doing some form of electronic data replication. For longer distances the replication methodology is usually asynchronous, while for shorter distances (less than 50 miles) the replication methodology is often synchronous. The platform/protocols used for the data replication over distance can be a wide variety including DWDM, FCIP, or IP.

<https://t.co/F4QDEWPMt5>

### **Intel's Itanium, once destined to replace x86 processors in PCs, hits end of line**

It's the end of the line for Intel's Itanium chip, a troubled processor family that spawned many product delays and bad blood between HP and Oracle. In May, Intel started shipping in volume its latest Itanium 9700 chip, code-named Kittson. It's the last of the Itanium chips, which first appeared in early 2001. Beyond Kittson, there will be no more chips coming from the Itanium family. That ends a tumultuous, 16-year journey for Itanium, which Intel once envisioned as a replacement for x86 chips in 64-bit PCs and servers.

<https://t.co/x7S6UMFhqC>

### **Economic and regulatory issues do little to stop UK businesses wasting millions on unnecessary downtime**

UK businesses are hemorrhaging hundreds of millions of pounds a year via unplanned downtime by not ensuring 24.7.365 access to data and applications. Despite awareness of the need to improve their data management and storage processes, and with European regulations like the General Data Protection Regulation (GDPR) requiring stricter enforcement of how data is handled, new research finds organizations are still cannot ensure data availability, protection and recovery.

<https://t.co/x4Ed8iTi7u>

### **What to do if Amazon is down, because your S3 apps don't have to be**

The Amazon Simple Storage Service outage in February was spectacular in both its scope and its magnitude. It seemed as though it affected every Internet user on the planet, and it stirred up a firestorm of bad press for the company. But let's face it, cloud outages will happen, which is why it's imperative that software architects know what to do if Amazon is down.

<https://t.co/nc3bwogFlv>

### **From Good to Great: The Path to Improved System and Application Uptime**

We can thank SaaS providers for raising the bar with regard to system and application availability. Today, while 99.5 percent system and application uptime are considered “standard” by most cloud providers; this equates to 3.42 hours of downtime per month—a significant speed bump in today's always-on business environment. Increasingly this “min” bar is being raised to 99.99 percent—a figure which equates to 38 minutes (or less) of downtime per month. The question many IT organizations face: How to meet this uptime imperative without significantly increasing costs? Ensuring the right disciplines are in place is a good place to start.

<https://t.co/avnM8rUzVx>

### **Enterprise-owned data centres still ‘essential’ despite cloud growth, research notes**

Enterprises may be starting to move workloads to the cloud, but enterprise-owned data centres remain the ‘primary compute venue’ with workloads staying consistent over the past three years, according to new research from the Uptime Institute.

<https://t.co/lgas09eJqw>