the Availability Digest™

achieving 100% uptime

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The digest of topics on Continuous Availability. More than Business Continuity Planning.
BCP tells you how to *recover* from the effects of downtime.
CA tells you how to *avoid* the effects of downtime.

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For the past eleven years, we have distributed the Availability Digest in the body of an email sent directly to you. As an option, the Digest also included a link to a PDF version.

Unfortunately, our email service provider has "upgraded" its functionality and no longer renders the Digest's HTML version in a readable format. Therefore, we now will email you a link to the Digest. The link will take you to a PDF version of each month's issue. Since our articles are published as PDFs, I assume you already have that capability. If not, you can obtain a complimentary PDF Adobe Acrobat reader at Adobe Reader.

We hope this method allows our subscribers to continue enjoying the Availability Digest. Please contact me if you have any questions about the Digest itself or about any of our writing or consulting services.

Dr. Bill Highleyman, Managing Editor

Never Again

Pop! Goes the Weasel!

The Large Hadron Collider (LHC) is a multimillion-dollar project near Geneva, Switzerland. It is designed to smash subatomic particles together at close to the speed of light. Constructed between 1983 and 1988, the LHC is a superconducting circular tunnel seventeen miles in circumference. The tunnel straddles the French/Swiss border. It is twelve-feet wide, and its depth ranges between 164 feet to 574 feet underground.

Beams of protons shoot through the massive collider in opposite directions at nearly the speed of light. Four laboratories around the track use batteries of sensors to monitor the collisions. Subatomic rubble is scrutinized for novel particles and the forces that hold them together.

On April 29, 2016, the LHC lost power despite a series of sophisticated safeguards. A weasel had chewed through the cable connecting a 66-kilovolt electrical transformer. The fried remains of the weasel were found next to the gnawed cables. It took two weeks to get the facility back to working order.

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160516

160516. What is that?

It is a NonStop date routine bug that has lain dormant for over thirty years. Just after midnight on Friday, May 13, 2016, support personnel from several vendors were alerted by a NonStop customer to a critical bug that would impact payment-processing applications on Monday, May 16th.

Several vendor products exhibited the very same date bug. When the date changed to May 16, 2016, the application processes would abend. They would continue to abend with an arithmetic overflow every time they were restarted.

What possibly could be special about May 16, 2016, so special that nobody saw it coming? In this article, we review the one line of faulty code that led to the problem.

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Best Practices

Telstra Plagued With Series of Outages

Australia's communications company, Telstra, has suffered a bad string of months. During the four-month period from February 2016 to May 2016, Telstra experienced seven outages. Some of them denied millions of customers access to voice and data services for hours.

Telstra Corporation Limited is Australia's largest telecommunications and media company. It provides voice, mobile, and Internet services as well as pay television and other entertainment products. It builds and operates the telecommunication networks used to deliver these services.

Telstra's mobile network had five major communication outages in February and March. They were followed by two ADSL outages in May. To compensate its mobile customers, Telstra offered its customers two 'free data' days that also caused problems and unhappiness.

In an effort to elevate its service, Telstra is investing AU$50 million into network improvements. They include fault-monitoring, shortening recovery times, and increasing the capacity and path diversity of its critical signaling channels.

The multiple outages over the four-month period are described in this article. Telstra constantly stresses in its marketing messages the dependability of its network. However, it is clear that Telstra's network is as prone to failure as any other network.

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Product Reviews

CenturyLink Targets Six Nines

The U.S. telco giant CenturyLink intends to offer its customers six 9s 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 CenturyLink may be down thirty seconds every year. It might 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. It will be interesting to see how strongly it stands by this commitment. SLAs have a tendency to make big guarantees with only minor penalties.

CenturyLink plans to improve its availability to this six 9s level as it rolls out new data centers. However, the company has a long way to go to achieve its goals. For instance, its CenturyLink Cloud includes a network infrastructure availability SLA of just four 9s.

Furthermore, especially at high levels of availability, it is important to define what is 'downtime.'

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Tweets

@availabilitydig – The Twitter Feed of Outages

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.

Now with our Twitter presence, we don't have to feel guilty. This article highlights some of the @availabilitydig tweets that made headlines in recent days.

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