

# *the Availability Digest™*

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The digest of current 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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Join us at the NonStop Advanced Technical Boot Camp in San Jose, November 3<sup>rd</sup> through 5<sup>th</sup>.

Sunday's Preconference Day includes in-depth, half- and full-day NonStop education seminars.  
Monday's and Tuesday's Education Days feature dozens of breakout sessions and vendor talks.

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## The Digest's Managing Editor Presents the Keynote Address at InNUG

The India NonStop User Group (InNUG) held its annual meeting, NonStop Open World 2013, in Goa, India, from October 3 to October 5, 2013. The meeting was held in conjunction with the India HP-UX User Group as the joint Business Critical Dialog meeting. Over 200 NonStop, HP-UX, and OpenVMS customers and HP staff attended.

I was asked to present the keynote address to the entire Business Critical Dialog group. My presentation, entitled "High Availability – An Insider View," discussed the reasons for data-center failures and the methods to achieve continuous availability with NonStop servers, HP-UX Serviceguard clusters, and OpenVMS clusters.

If you are planning to be at Connect's NonStop Advanced Technical Boot Camp, to be held in San Jose, California, from November 3 through November 5, 2013, please attend my talk on "DDoS Attacks – the Latest Availability Threat." In this talk, I discuss the mechanics of Distributed Denial of Service attacks, how these attacks can take down any data center for days, some disturbing examples, and how you can protect yourself against such attacks.

Dr. Bill Highleyman, Managing Editor

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## Case Studies

### agileTel Runs Active/Active with Linux and MySQL

In a previous article, we looked at the paucity of active/active implementations in the commodity server world. We review in this article one such successful example of an active/active system using Linux servers and a MySQL database. It is a virtual PBX marketed by agileTel.

There are three primary considerations when deciding whether to run a critical application as a continuously available active/active architecture:

1. Can the application be structured to run in a distributed environment with other active copies of the application?
2. Is there a reliable and efficient bidirectional replicator available?
3. Is the cost of going active/active warranted by the cost of downtime?

In agileTel's case, the answer to all of these questions is a "yes." The processing of each transaction (a call request) is independent of all other transactions, so running multiple such transactions in multiple sites does not cause any conflict.

The MySQL database has an excellent bidirectional data-replication engine with collision detection.

And finally, any downtime for the agileTel telephone system is simply unacceptable. If agileTel's system is down, its customers are cut off from the rest of the world.

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## Never Again

### Metro-North Taken Down by Redundant Power Failure

On Wednesday, September 25, 2013, at 5:20 AM – the beginning of the rush hour – trains on the busy New Haven line of Metro-North in New York and Connecticut, U.S.A., came to a halt. They had no electric power. The primary power cable feeding an eight-mile section of track had failed. The backup power cable was out of service for an upgrade.

Metro-North is the busiest rail line in the United States, servicing 125,000 commuters daily. It stops at 38 stations in 23 towns. Its rail network comprises nine branches connecting major towns in Connecticut to Grand Central Station in New York City. All of Metro-North's lines are electrified. It runs only electric locomotives.

About 40,000 commuters ride the New Haven line during each rush hour. Many of these commuters took to the highways, causing fifteen-mile backups into New York City.

It was initially estimated that it would take four weeks to return the New Haven line to service. However, service was restored two weeks earlier than that.

Interestingly, the American Society of Civil Engineers has recommended for years that a third cable be put in place to maintain redundancy during periods of planned or unplanned downtime for a cable. Maybe Metro-North will now hear this recommendation.

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## Best Practices

### Windows XP Retirement a Hackers' Boon

Microsoft will retire its venerable twelve-year old popular XP operating system on April 8, 2014. Windows XP is currently used on over a third of all PCs worldwide.

The retirement of Windows XP raises a severe security risk for users who continue to run their PCs on XP. Microsoft will no longer issue patches to correct security flaws or other bugs in the operating system. Therefore, it is expected that hackers will begin to bank their zero-day vulnerabilities until Microsoft stops patching XP next April. Large users can continue to receive support through Microsoft's expensive Custom Support program.

Computerworld sees six options that are open to Microsoft in order to ease the burden of this transition on its XP users:

1. Continue free patching for critical vulnerabilities.
2. Selectively patch for free only those critical bugs that are being actively exploited by hackers.
3. Provide limited custom support to small customers for a smaller fee.
4. Heavily discount Windows 7 or Windows 8.1 to existing XP users.
5. Some combination of the above.
6. Do nothing.

At this point in time, it appears that Option 6 is the option of choice for Microsoft.

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## Product Reviews

### Protect your mission-critical applications with HP Serviceguard Solutions for Linux

HP Serviceguard Solutions for Linux is a suite of complementary software solutions designed to work together to meet the variable needs of any business. It protects against faults within a data center and enables downtime-free maintenance and upgrades.

Serviceguard for Linux monitors the availability and accessibility of critical IT services, such as applications and databases. Those applications—and everything upon which they rely to do their job—are meticulously monitored for any fault in hardware, software, OS, virtualization, storage, or network. When a failure or threshold violation is detected, Serviceguard for Linux automatically and transparently fails over those applications and resumes normal operations in mere seconds, without compromising data integrity and performance.

HP Serviceguard Disaster Recovery Solutions provides protection against site outages across varying distances. Data centers stay protected when they are located on different floors of a building or even in separate buildings, cities, or continents. Regardless of the distance, access to critical data and applications are maintained even with the loss of a data center. The result is that data centers are resistant to multiple points of failure and to singular, massive failures.

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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.

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.

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