

# the Availability Digest™

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--- achieving 100% uptime

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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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[FileSync](#) automatically replicates and synchronizes applications and files between NonStop servers.  
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The [Enscribe-2-SQL Toolkit](#) converts Enscribe calls to NonStop SQL/MP and SQL/MX statements.  
Our [TMF-Audit Toolkit](#) easily converts non-Audited TMF files to Audited TMF files.

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## Disaster Recovery to the Cloud

Look out, tape recovery and hot standby systems! A cloud may be hanging over your head.

Disaster recovery of critical systems has become a major priority for most enterprises. However, recovery from tape is slow; and hot standby sites are expensive. Both share reliability challenges in terms of a successful recovery.

Now comes cloud-based Recovery-as-a-Service. In this issue, we review HP's newly announced public cloud recovery services called *HP Enterprise Cloud Services – Continuity*. With only a few days of setup time, HP's cloud recovery services provide the RTO and RPO achievable with hot standby systems but at a tape-backup cost, all without upfront, large capital expenses.

Some companies are reluctant to move their critical applications to a public cloud. For those companies, there is FalconStor's RecoverTrac, which is also reviewed in this issue. RecoverTrac allows a company to build its own recovery cloud capable of handling a broad range of heterogeneous servers, storage systems, operating systems, and hypervisors. Through virtualization, a RecoverTrac cloud can back up multiple data centers, significantly reducing recovery-center costs.

This new DR technology may well change the face of how we protect our mission-critical systems in the future. In fact, cloud technology in general has become one of the technical hot topics today based on the requests I receive to ghostwrite cloud articles.

- Bill Highleyman, Managing Editor

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## Case Studies

### Major U.S. Bank Replaces BASE24

One of the five largest banks in the United States recently moved its debit/credit card authorization network, running on HP NonStop servers, from ACI's BASE24 to Opsol's OmniPayments financial-transaction authorization system. This move accomplished two goals. It allowed the Bank to keep its highly available NonStop servers in operation following ACI's announcement that ACI would "sunset" BASE24 on NonStop. In addition, it allowed the Bank to save millions of dollars in licensing costs.

OmniPayments was online and working with the first interchange network, STAR, in three months. Within a year, the complete OmniPayments system was online and was communicating with ten interchange networks, including Visa, MasterCard, PULSE, STAR, and others. As expected, the risk of migrating to OmniPayments was minuscule as compared to upgrading to ACI's new and different product, BASE24-eps.

The Bank easily made ACI's 2011 sunset deadline and terminated license payments to ACI on the first day of 2012. It continues to run card-authorization services on its highly available HP NonStop systems. Perhaps most importantly, it has significantly reduced its five-year licensing cost by moving 90% of its transaction load to a product whose licensing is insensitive to transaction rates.

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## Never Again

### First Stuxnet – Now the Flame Virus

It was just two years ago, in June, 2010, that the Stuxnet virus was discovered. The worm was significant because mischief or financial reward wasn't its purpose. It was specifically designed to cause centrifuges used in Iran's nuclear program to spin out of control and to destroy themselves.

The international alarm created by Stuxnet has now been superseded by a newly discovered virus, Flame. The UN's International Telecommunications Union (ITU) has issued to its member nations a Flame warning that ITU says is the most serious cyber warning it has ever disseminated. In its present form, Flame is an extraordinarily sophisticated surveillance tool that appears to be used for dangerous espionage of targeted systems. However, its architecture lends itself to be easily extended to Stuxnet-like destructive capabilities.

Stuxnet and Flame have demonstrated troubling capabilities for nation-states to wage cyber war on each other. Maliciousness can range from sophisticated surveillance to attacks against critical infrastructure. This malware is becoming increasingly difficult to detect and impossible to track to its source.

It seems that cyber warfare has arrived, and it is incumbent upon every organization and every nation to take steps to protect confidential data and critical infrastructure.

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## Best Practices

### HP's Cloud Recovery-as-a-Service (RaaS)

Classic tape-recovery strategies today are woefully inadequate for critical applications. They often provide recovery times measured in days, with potential data loss also measured in days because all data since the last tape backup is lost. The alternative – data replication to a hot standby site in a remote location – can provide recovery times measured in hours and data loss measured in minutes. However, this solution is often prohibitively expensive.

What is needed is a flexible, easy-to-schedule continuity solution that has predictable cost with no upfront, large capital expense. The new, cloud-based Recovery-as-a-Service solutions provide these advantages. A synchronized copy of all application and system data is maintained in the recovery cloud via data replication. Virtual machines (VMs) stand ready to be deployed to take over production processing upon the failure of the production environment.

HP has recently announced its cloud-based continuity services, *HP Enterprise Cloud Services – Continuity*. For a cost estimated to be about that of tape backup solutions, HP's RaaS meets Recovery Time Objectives (RTOs) of one to four hours and Recovery Point Objectives (RPOs) of no more than fifteen minutes of lost data. There are no upfront capital expenses.

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## Product Reviews

### FalconStor RecoverTrac – Automated Disaster Recovery

Failover to a backup site following a production-site outage is a complex process and often goes afoul. Many things can go wrong in the heat of the outage crisis as dozens or hundreds of interrelated steps must be accurately executed. Because failover is such a complex and risky process, it is seldom tested thoroughly. Rather, companies often depend on faith and hope that they can achieve a successful failover.

FalconStor's RecoverTrac solves this problem for Windows and Linux systems. It offers a completely automated recovery solution that can provide recovery times often measured in less than an hour with data loss measured in minutes. Equally important is that failover can be easily tested in RecoverTrac's test mode to ensure that failover will be successful in a real-life crisis.

RecoverTrac supports fully automatic or manual V2V, P2V, and P2P failover and fallback in heterogeneous environments. Backup services can be provided for any supported application and database. The production and recovery hypervisors and storage arrays do not need to be the same.

Recovery can be to the current operational state or to a prior snapshot. All replication states are guaranteed to be application-consistent and transaction-consistent.

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Managing Editor - Dr. Bill Highleyman [editor@availabilitydigest.com](mailto:editor@availabilitydigest.com).  
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