



Volume 4
Issue 6

Availability Digest

--- achieving 100% uptime

June 2009

Current topics on Continuous Processing Architectures. More than Business Continuity Planning.
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HP NonStop Enables Synchronous Data Replication

HP has announced its Synchronous Gateway that allows third-party data-replication engines to join a NonStop TMF (Transaction Management Facility) transaction and vote on its outcome. This will allow synchronous data replication from NonStop source databases to be provided with no collisions and no data loss. We explore this new facility in our article, "HP's NonStop Synchronous Gateway." Ask your data-replication engine provider what their plans are to support synchronous replication. Better still, come to HPTF&E 2009, the HP Technical Forum and Expo, being held in Las Vegas from June 15th through the 18th, and hear directly from HP and the data-replication vendors.

Speaking of HPTF&E, there are over two dozen sessions being presented concerning continuous availability and high availability across all platforms. We summarize these sessions in our article this month entitled "Continuous Availability Featured at HPTF 2009." Use this information to schedule a very full week in Las Vegas on availability topics.

I look forward to seeing you there.

Dr. Bill Highleyman, Managing Editor

Case Studies

European Bank's Active/Active ATM Network

A large European bank uses Base24-atm from ACI to run its ATM network. For over fifteen years, this network has been managed by an active/active configuration comprising Tandem systems (now HP NonStop servers).

The bank has experienced no planned or unplanned major outages in its ATM network since implementing its active/active system. This has been true even in the face of many upgrades, including several major hardware upgrades.

The bank has been a pioneer and a leader in the use of active/active technology and is well positioned to reap future benefits from this important experience.

[--more--](#)

Best Practices

Continuous Availability Featured at HPTF 2009

Continuous availability is a major topic at this year's HP Technology Forum and Expo (HPTF&E), to be held in Las Vegas from June 15th through the 18th. Dr. Bill Highleyman, Managing Editor of the Availability Digest, will be contributing with two talks on active/active systems – "Eliminating Planned Downtime in Active/Active Networks" and "Achieving Century Uptimes with Active/Active Systems."

There are several other excellent presentations and SIGs (Significant Interest Groups) dealing with continuous availability and high availability, many highlighting active/active technology. Abstracts dealing with continuous availability and the titles of sessions dealing with high availability are mentioned here in this month's Digest.

Of particular interest to many of you is HP's announcement of its new TMF (Transaction Management Facility) Synchronous Gateway, which lets a third-party replication engine join a TMF transaction. Several sessions will show you how third parties are striving to bring synchronous-replication engines to your applications.

[--more--](#)

Availability Topics

The Fragile Cloud

Caution: Cloud computing can be hazardous to your health.

In our previous article, "The Fragile Internet," we questioned the dependability of the Internet for critical corporate functions. We pointed out several instances in which the Internet disappeared for hours or days and

asked what you would do if a portion of your enterprise was suddenly left without Internet service for an extended period of time.

This quandary is magnified manifold by a new and emerging paradigm – cloud computing. Cloud computing provides services that can be delivered and used over the Internet through an as-needed and pay-per-use business model. However, as any pilot knows, there is turbulence in a cloud; and if the cloud is a thunderstorm, that turbulence can be fatal.

In this article, we describe cloud computing and look at its recent availability experience. Based on these findings, we suggest what the proper use of the cloud is today, and what is not.

[--more--](#)

Product Reviews

HP's NonStop Synchronous Gateway

HP has recently announced the release of its NonStop Synchronous Gateway (SG). The SG allows third-party synchronous-replication engines to participate in transactions coordinated by the NonStop Transaction Management Facility (TMF).

Synchronous replication solves the asynchronous-replication problems of data loss following a node failure and of data collisions. However, it has its own problem - application latency. The application must wait for each operation to complete over the application network and for the updates to be committed to all copies of the database, thus delaying transaction completion. Since a big factor in these delays is communication-channel latency, application latency limits the distance by which nodes in an active/active system can be separated, thus imposing limits on the degree of disaster tolerance that can be achieved. Typical separation limits are in the order of tens of kilometers over fibre channel.

An alternative solution is to use a coordinated-commit replication engine - a combination of asynchronous- and synchronous-replication technologies - to eliminate the problems of data loss and data collisions and to mitigate the effects of application latency.

In this article, we review SG and its application to coordinated commits.

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