

the **Availability Digest**

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Active/Active Full-Day Seminar at HPTF

April 2009

On June 15th, Dr. Bill Highleyman, Managing Editor of the Availability Digest, will teach a full-day preconference seminar at [HPTF&E](#), the HP Technology Forum and Expo. Sponsored by HP and Connect, the HP Business Technology Community, the conference will be held from June 15th through June 18th in Las Vegas.

Entitled “Active/Active Systems: Theory and Practice,” the seminar will describe active/active systems and why they provide such high availability. It will conclude with several examples of NonStop, OpenVMS, and Linux active/active systems that have been in production for years without a failure.

Dr. Bill will present an overview of his seminar during a one-hour “sneak peek” webinar on Thursday, May 21st, at 11 am Eastern Daylight Time. You can register at <https://www1.gotomeeting.com/register/117299321>.

The agenda for the June 15th seminar follows:

9:00 – 10:30: Concepts in Availability

- MTR, MTBF, Availability, and their relationship
- The 9s Game – Measuring availability as 9sh
- The impact of redundancy on availability
- Failure modes – what are they and what is their affect on availability
- Calculating availability
 - Dual failures
 - Failover times
 - Failover faults

10:30 – 10:45: Break

10:45 – 12:15: Active/Active Systems

- What is an active/active system?
- Recovery time objective (RTO) and recovery point objective (RPO)
- Synchronizing database copies with data replication:
 - Asynchronous replication:
 - Replication latency
 - Data loss following a node failure
 - Data-collision detection and resolution

- Synchronous replication:
 - Application latency
 - Network deadlocks
- Coordinated-commit replication:
 - Low latency of asynchronous replication
 - Zero RPO and RTO of synchronous replication
- The importance of redundant, reliable networks:
 - Internode connectivity
 - User connectivity
- Other uses of data replication:
 - Disaster recovery
 - Heterogeneous application integration
- Active/active systems versus clusters

12:15 – 1:15: Lunch

1:15 – 2:45: Other Advantages of Active/Active Architectures

- Disaster tolerance for free
- Elimination of planned downtime
- Elimination of failover decision time
- Efficient use of all capacity
- Improved data locality
- Risk-free failover testing
- Application scaling via symmetric expansion
- Application scaling via asymmetric expansion
- Load balancing
- Lights-out operation

2:45 – 3:00: Break

3:00 – 4:30: Active/Active Systems in Action

- Replication products
 - DRNet
 - GoldenGate
 - Shadowbase
 - Oracle
 - Continuent
- Financial case studies
- Telecommunication case studies
- Other case studies
 - OpenVMS Split-Site Clusters
 - Continuent uni/clusters