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Using HP OpenVMS for an Adaptive Enterprise Today

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Preview

- What is “Adaptive Enterprise” all about?
 - What problems are being solved by the AE thrust
 - What problems has OpenVMS already solved, and how
 - What tools are being added to OpenVMS, and how they will help

Key to Understanding the HP Adaptive Enterprise thrust



- OpenVMS already has significant capabilities in this area
- Some of the solutions associated with AE may not initially make sense to OpenVMS customers because they solve problems OpenVMS doesn't have, or has already solved in another way
- OpenVMS is implementing additional technologies which will further extend its industry lead in clustering, virtualization and resource management capabilities.

Current Industry Problems

- Proliferation of servers with one application per server (primarily on Windows or UNIX/Linux), resulting in low server utilization (<50%), because:
 - **Problem**: Runaway process hogs CPU
 - **OpenVMS solution**: Class Scheduler, Availability Manager
 - **Problem**: Process has memory leaks and hogs memory
 - **OpenVMS solution**: Process Quotas
 - **Problem**: Frequent need to reboot after software installation/update (Windows), and frequent need to update because of viruses
 - **OpenVMS solution**: Security designed to prevent rather than detect viruses

Current Industry Problems

- Problem: High system administration workload (viruses, patches, task-per-server)
- OpenVMS solutions:
 - Higher security (no viruses, no malware)
 - Patches less frequent and less urgency to install
 - Single-system image -- OpenVMS Cluster can be managed as if it were a single system
 - Shared system disk – multiple nodes can boot from the same system disk, and that system disk need only be updated once to update all those nodes

Current Industry Problems

- **Problem**: Can't "scale up" with clusters
- Windows clusters are unable to "scale out" applications across multiple cluster nodes so they must "scale up" within an SMP box.
- MC/ServiceGuard clusters (on either HP-UX or Linux) typically require something like Oracle RAC to allow multiple nodes to work on the same data at the same time, as without a cluster file system and distributed lock manager only applications with read-only data (not data shared for read-write access), can be scaled by clustering
- **OpenVMS solution**: The cluster-wide file system and distributed lock manager in an OpenVMS cluster means nodes added to a cluster can pick up their share of application workload against common shared data and scale very close to linearly with the number of nodes added.

Current Industry Problems

- **Problem**: Difficult to redeploy a system for another task. Without the ability to share a system disk (or system root) between nodes on Windows and Linux and HP-UX, there's much trouble in rolling out operating system copies and so forth to allow a server to participate in multiple environments
- **OpenVMS solution**: With OpenVMS, simply rebooting a node from a different system disk can bring it's horsepower to bear against a totally different workload, running totally different software.

Current Industry Problems

- **Problem**: Load is difficult to balance across a pool of servers
 - with the exception of a few simple cases like web servers with static (read-only) data, or in areas like HPTC where workload and the associated data is divided up and not shared between systems
- **OpenVMS solution**: With tools like the OpenVMS cluster alias, cluster-wide batch queues, and other load balancing capabilities, workload is much easier to manage. Most often the workload can be distributed and balanced across OpenVMS cluster nodes automatically.

Key Industry Trends / Issues

- Server utilization
- Server consolidation

Key Products / Technologies

- HP Virtual Machines
- Global Workload Manager (gWLM)
- Instant Capacity (iCAP)
- Temporary Instant Capacity (TiCAP)
- Pay Per Use (PPU)

- Remainder of slides were selected from Session 1128 entitled “Using HP OpenVMS Virtualization Technologies to Your Advantage” by Dave Holt and Gaitan D’Antoni, and not duplicated here for the sake of space. Please refer to their full version at this same location.



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Session 1128

Using **HP OpenVMS** **Virtualization** **Technologies to Your** **Advantage**

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Questions?



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