Global manufacturer supercharges SAP platform with HP Integrity systems

HP-UX 11i on HP Integrity servers fosters identity and security management initiative

"Our competitiveness depends on our ability to do things quickly. We are seeing response times and throughput from our SAP system using HP Integrity servers with Dual-Core [Intel®] Itanium® processors that meet or exceed our current requirements. This boosts productivity for the business."
Clayton Hinkle, Manager—SAP Basis/DBA, Molex Incorporated

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HP customer case study: HP Integrity servers with Dual-Core Intel Itanium processors, HP Services, HP-UX 11i, HP Serviceguard

Industry: Manufacturing

Objective

Choose a server platform to support an SAP R/3 Unicode conversion, future ERP 6.0 upgrade, and enhanced functionality; enable single sign-on services (SSO) to SAP

Approach

- Integrate the HP Kerberos security libraries with Microsoft® Active Directory services to provide a single, definitive authentication source for both PA-RISC- and Itanium-based servers
- Enable single sign-on (SSO) services to SAP modules on the PA-RISC-based systems via the SAP Secure Network Computing (SNC) Software layer
- Migrate SAP modules from PA-RISC to HP Integrity servers with Dual-Core Intel Itanium processors during a planned hardware refresh cycle

Business technology improvements

- Simplified identity/password management and system authentication
- Access to SAP via the convenience of an SSO process, which saves time for users and mitigates maintaining multiple passwords
- Response and availability times for SAP system that meet or exceed the business needs
- Server scalability, performance, and reliability to support SAP Unicode R/3 and a future ERP 6.0 upgrade

Business outcomes

- Seamless, low-risk migration with little impact on business operations
- Business information highly available to enable accurate decisions
- Compatibility with existing processes and technologies

"The security features of HP-UX 11i, integrated with Microsoft Windows® Active Directory and Microsoft Identity Integration Server, helped us set up enterprise-class, single sign-on services to SAP, which makes logging in convenient for our users and helps us easily manage user rights across the entire enterprise."
Shaun Kirkman, Manager—UNIX® Systems, Molex Incorporated

Support for next-generation SAP upgrades
As the world's second-largest manufacturer of connector systems, Molex Incorporated (NASDAQ: MOLX, MOLXA) (www.molex.com) makes a variety of electronic, electrical and fiber-optic interconnection devices, switches, and application tooling. The company's 33,000 employees in 59 manufacturing facilities in 19 countries and dozens of sales offices around the world play a part in making, selling, shipping, accounting for, and supervising a portfolio of more than 100,000 Molex products.

For nearly 10 years, an SAP enterprise resource planning (ERP) system and PA-RISC-based HP 9000 servers were the power source behind operations. Approximately 9,000 Molex users conduct financial, shipping, planning, warehousing, inventory, human resources, and payroll transactions in the SAP system, where stable, vigorous performance was the norm for the environment. However, Molex found itself at a crossroads in late 2006 due to the impending phase-out of the PA-RISC architecture. The IT staff needed to take a new server path and support the next generation of SAP application upgrades. The planned upgrades will help the company enhance functionality in accounting, business planning, credit management, and employee/manager self-service.

"Our business users expect a certain level of performance, reliability, and availability from the SAP environment, and we need to maintain those response levels," says Shaun Kirkman, Manager—UNIX Systems for Molex. "Given our familiarity with HP's products, we preferred to stay with HP. So, we chose HP Integrity servers with Dual-Core [Intel] Itanium processors."

Binary compatibility for a low-risk migration
Tests on the new Integrity servers convinced the staff that this architecture would meet Molex's current and future requirements. For example, CPU utilization on the Integrity servers dropped about 20 percent compared to the PA-RISC servers. "HP advised us what kind of performance we could expect from Integrity servers, and it was true," says Clayton Hinkle, Molex's Manager—SAP Basis/DBA.

Another reason the staff wanted to continue using HP technology was that the Oracle® database migration would present less risk. "Because the Integrity architecture is binary compatible with the PA-RISC architecture for the Oracle database, it wasn't really a database migration," says Hinkle. "So, we didn't have a lot to do to prepare for the transition. If we had gone to another platform, we would have needed to migrate the database and all of its support systems throughout the entire landscape. The size of our database would have made the migration a big challenge for us."

The basis for competitive advantage
HP Services provided performance information for the Integrity servers in terms of SAPS (SAP Application Performance Standard) and tpmC (transaction processing per minute) ratings. Handling the migration themselves, the Molex staff sized the servers based on their knowledge of the workloads and estimated growth. Both HP 9000 and Integrity servers run in harmony.

Clustered Integrity rx7640 Servers run SAP R/3 in an active-passive mode. "We implemented HP Serviceguard on our HP Integrity servers, which provides predictable performance and recoverability," says Hinkle. "Even with the complexity of our setup, we managed to exceed the planned uptime for the ERP production environment last year on a mix of HP 9000 and Integrity servers," Kirkman says.

These uptime levels are important for a global manufacturer that never stops and operates across six continents in various time zones. An unplanned SAP system outage would affect productivity during the event. With a highly available, centralized SAP system and 95 percent of Molex linked into SAP performing business transactions, Molex has the basis for an advantage over its rivals. "Our SAP ERP environment allows us to collect useful information, focus on what really matters, and make more accurate decisions—faster," says Kirkman.

Molex has migrated its central SAP ERP, Customer Relationship Management (CRM), and Business Warehouse (BW) modules to the Integrity platform and expects to migrate other modules and databases soon.

The staff also installed six Integrity rx4640 application servers, several of which run SAP BW built on Oracle9*i*. "We bought some of the first Dual-Core Itanium-based machines, and we are pleased with them. Integrity servers perform very well," Kirkman says.

An improved security posture with HP-UX 11i
HP-UX 11i delivers a robust operating environment with free-foundation security features for Molex's important business applications. Molex leverages HP-UX Secure Shell, which provides added protection for remote login, file transfer, and remote command execution.

The HP Services consultants helped Molex configure enterprise-class, single sign-on services (SSO) to SAP. They used HP-UX Lightweight Directory Access Protocol (LDAP)-UX Integration, its interface with Kerberos authentication services, and interoperability with Windows Active Directory Services. LDAP-UX Integration allows HP-UX to retrieve account, group and system configuration from—and authenticate to—Molex's corporate Windows Active Directory. The use of Active Directory and LDAP-UX Integration allows Molex to manage and control all user identities in a single repository.

Another result is that Molex users can log on to their laptops in Windows for single sign-on access to the back-end SAP system and forego keeping up with multiple passwords. In addition, the IT staff has fewer credentials to manage.

"We've obtained some positive feedback from our users about this log-in convenience," Kirkman comments. "There are other products on the market costing significant dollar amounts that we could have used, but the integration of Active Directory with HP-UX was a good saving for us, and HP Services did a great job on this project." The IT team is planning to consult with HP Services on HP Role Based Access Control (RBAC) within HP-UX, which allows the management of role-based access and root privileges for different users to reduce internal risk.

HP storage engineered for disaster recovery

Molex connects an HP StorageWorks XP12000 Disk Array in its remote standby facility directly to the Integrity servers. Another HP storage device, an XP1024 Disk Array, functions in a storage area network in the company's Chicago data center, alongside HP ProLiant servers and third-party storage.

Molex chose the XP12000 array due to price, software, reliability, and support services. "We adopted enterprise-class storage with fully redundant disks, power, and ports, so the XP12000 Disk Array is an integral part of our disaster recovery strategy. HP storage and Integrity servers are engineered for high availability and continuity," Kirkman concludes.

Customer solution at a glance

Primary applications

- SAP R/3 4.7 ERP modules: Customer Relationship Management (CRM), Business Warehouse (BW), SAP Advanced Planner and Optimize (APO), Open Text, Electronic Data Exchange (EDI)

Primary hardware

- 2 HP Integrity rx7640 Servers with six (6) Dual-Core Intel Itanium processors
- 6 HP Integrity rx4640 Servers with two (2) Dual-Core Intel Itanium processors
- 18 HP 9000 servers (models rp5470, rp7410, and rp8400)
- HP StorageWorks XP12000 Disk Array
- HP StorageWorks XP1024 Disk Array
- 75 HP ProLiant DL380 and DL580 servers

Primary software

- HP-UX 11i v2
- HP Serviceguard clustering technology
- HP-UX LDAP-UX Integration
- HP-UX Kerberos Client
- HP Systems Insight Manager
- Oracle9*i* (upgrading to Oracle10*g*)
- Microsoft Windows Server 2003
- Microsoft Windows 2003 Active Directory
- Microsoft Identity Integration Server (MIIS) 2003

HP Services

- Critical Services for SAP
- Three-year software support contract

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