



Online Marketplace Manages Disparate Identity Information Using Integration Server

Overview

Country: USA

Industry: Worldwide Online Marketplace

Customer Profile

eBay is the World's Online Marketplace for the sale of goods and services by a diverse community of individuals and small businesses.

Business Situation

eBay needed a scalable, maintainable identity management solution to provide a consistent single view of employee data from disparate systems including Active Directory, Remedy, and SAP.

Solution

eBay chose Microsoft Identity Integration Server 2003 as the solution architecture best able to support eBay's identity management synchronization and metadata repository requirements.

Benefits

- Scalability-Maintainability
- Accessibility and Availability
- Simplified Systems Management

"MIIS 2003 has simplified every aspect of our synchronization system and metadata repository. We now have an easy way to modify, manage, and control the system using the GUI tools available in MIIS."

Diego Vinas, eBay Project Manager

eBay manages identity information for its internal workforce using disparate systems that require synchronization to provide a single view of employee information. Due to its rapid expansion, eBay's internally developed synchronization engine became difficult to maintain and was lacking in scalability, supportability, and manageability. "We grew so fast, we had to find the best tools on hand to solve our immediate problems," says Diego Vinas, Project Manager for eBay. Faced with the task of finding a replacement for its synchronization engine, eBay's Centralize People Database (CPD) project team engaged Unisys, a Microsoft Certified Partner. Unisys implemented Microsoft® Identity Integration Server (MIIS) 2003 as the single source for employee identity information, thereby offering eBay a scalable, maintainable solution that simplifies management and improves efficiency.

Situation

Founded in September 1995, eBay is the World's Online Marketplace for the sale of goods and services by a diverse community of individuals and small businesses. Today, the eBay community includes more than a hundred million registered members from around the world. eBay's auction services allow customers to browse, buy, and sell practically anything—millions of items are listed and purchased on eBay each day. In fact, people spend more time on eBay than on any other online site, making it the most popular shopping destination on the Internet.

Based in San Jose, California, eBay is globally dispersed and uses localized sites to serve more than 20 countries. eBay maintains nearly 10,000 employees to support its operations. When someone is hired to work at eBay, the person's information must be entered in eBay's identity management system. To do this, the IT staff must prepare all required resources before the new hire's first day on site, including authorization to access eBay's facilities and systems.

The initial point of entry for a new hire is BMC Software's Remedy, a service management software solution that maintains general employee information, such as phone numbers and cubicle locations. Another point of entry is the Microsoft Active Directory® directory service, a central component of the Microsoft Windows® operating system platform, to provide user accounts such as the Microsoft Windows NT® logon and password, and e-mail. The data for eBay's alternative workforce (AWF) employees including contractors, consultants, and part-time employees is maintained in these systems under IT management.

The information for full-time employees is also set up in the SAP R/3 Human Resources (HR) module as the primary repository and authoritative source for all eBay employees.

The HR data is managed by eBay's Human Resources department.

To maintain the timeliness and consistency of the employee information in these disparate systems, the data is synchronized, stored in a metadata repository, and shared between these systems. The synchronized identity information provides a single, coherent view of employee information that is used to support downstream applications such as eBay's online corporate employee directory.

Limited Maintainability of Synchronization Scripts

Due to eBay's rapid growth, the logic for synchronizing its identity information was developed internally and embedded in a number of complex Practical Extraction and Report Language (Perl) scripts. The Perl scripts allowed identity information to be updated and stored in a separate metadata repository. Due to their complexity, maintaining the Perl scripts involved a time-consuming, manual process where IT staff had to search for the specific logic rules and attributes needed to complete a particular change. Administrators found the process of examining another developer's customized code difficult and unreliable.

Unorthodox Synchronized Metadata-Repository

The customized synchronization engine stored the employee data in a metadata repository that was contained within the Remedy database (not the Remedy employee data source described previously). "This wasn't the intended purpose of the Remedy database," says Vinas. "By customizing the software in an unorthodox way, eBay increased the risk of database malfunctions to a level that extended beyond the normal scope of Remedy's vendor support services."

Because eBay did not use a separate database, the applications that needed to use the metadata repository had to access Remedy, making accessibility and maintenance inefficient and difficult.

Limited System Supportability and Reliability

As eBay continued to grow, the customized synchronization solution proved functional, but it had limited supportability. For example, if the IT staff needed to temporarily shut down the Remedy database for malfunctions, maintenance, or updates, the metadata repository contained in the database would also be temporarily inaccessible to the entire company, affecting efficiency and productivity. During this downtime, vital employee and company information such as phone numbers, e-mail addresses, and work locations was inaccessible.

The dependency on the Remedy database as the metadata repository limited reliability and performance, and offered a single point of failure for the synchronization of data with SAP. As a global enterprise with data arriving from many different sources, eBay needed a better way to synchronize and store employee identity information.

Instead of a limited, workaround environment, eBay needed a supportable identity management solution that offered reliable access—a fault-tolerant, scalable synchronization engine with the capability to grow with the company and one that could be maintained without intensive effort.

Solution

In search of a replacement for its synchronization engine, eBay performed a detailed analysis of major automated identity life-cycle management systems. In doing so, eBay turned to Unisys, a Microsoft Gold Certified Partner, to help find an effective solution. The Unisys proof-of-concept study

recommended Microsoft Identity Integration Server (MIIS) 2003 as the solution architecture best able to support eBay's synchronization and metadata repository requirements.

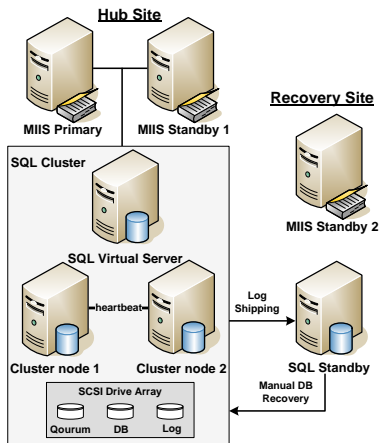
MIIS 2003 is a centralized service that creates, stores, and distributes an integrated view of identity information from multiple data sources. MIIS 2003 can help reduce the risk and complexity associated with building, deploying, and maintaining an end-to-end identity and access management solution.

The goal of MIIS 2003 is to provide organizations with a single, unified view of all known identity information about users, applications, and network resources. MIIS 2003 helps to improve productivity, reduce security risk, and reduce the total cost of ownership (TCO) associated with managing and integrating identity information across an enterprise.

In March 2004, Unisys performed an initial implementation of MIIS 2003. Lab development took five weeks—two weeks for design and three weeks for implementation. Unisys built a “miniaturized” new-hire database using data from eBay's production systems. In May 2004, eBay completed testing and implemented the MIIS 2003 system in its production environment.

Microsoft's Identity Integration System

As shown in Figure 1, the eBay MIIS 2003 system uses two Dell PowerEdge servers—one for primary and one for standby—that run MIIS 2003 on Microsoft Windows Server™ 2003, Enterprise Edition. MIIS 2003 manages the flow of data between all connected data sources and automates the process of updating employee identity information in eBay's environment.



MIIS stores identity information in a separate SQL database, rather than in tables that are part of the Remedy database. In eBay's environment, the MIIS 2003 system uses Microsoft SQL Server™ 2000, Enterprise Edition with Service Pack 3, configured locally in a clustered, high-availability configuration, as the metaverse repository for identity information. SQL Server 2000 is scalable, reliable, fault-tolerant, and transactional (roll-back, event logging). eBay uses log shipping to its recovery site in Germany to prevent data loss and to ensure business continuity.

Remedy is the initial point of entry for employee information that is available to the MIIS 2003 system. Because all eBay employees and contractors are required to have a Remedy account as new hires, Remedy is also the best data source for the creation of the initial MIIS 2003 metaverse entries.

eBay uses Active Directory to manage its network infrastructure and provide user accounts for its employees and contractors. In the eBay infrastructure, Active Directory connects directly to MIIS 2003, eliminating the need to create any new code.

Because the SAP servers are hosted by a third-party vendor and located behind a

firewall, eBay opted for an indirect connection to MIIS 2003. "Because of the problems we had in the previous environment, we wanted to limit the number of direct connections," said Vinas. As a result, SAP information is transferred to the MIIS synchronization engine using webMethods middleware.

In eBay's MIIS 2003 environment, application developers require a method to access data from the MIIS metaverse for non-connected applications. eBay selected Active Directory Application Mode (ADAM) as an extensible architecture that could isolate and expose all synchronized data in MIIS for querying applications. ADAM is a Lightweight Directory Access Protocol (LDAP) directory service that runs as a user service, rather than as a system service, to provide data storage and retrieval for directory-enabled applications.

In place of Perl scripts, eBay uses the graphical user interface (GUI) in MIIS 2003 to set up and, if necessary, change basic synchronization rules, such as who owns the data. For example, as mentioned previously, the primary source for employee information resides in SAP, whereas contractor information is stored in Remedy.

While you can configure most rules directly, administrators can customize the way MIIS 2003 works by creating rules extensions. At eBay, rules extensions are created by using the Microsoft Visual Studio® .NET 2003 development system. Rules extensions are implemented as a Microsoft .NET Framework class library or as a dynamic-link library (DLL).

Benefits

The addition of MIIS 2003 to eBay's IT environment delivers a scalable identity management solution that can be easily maintained and managed. MIIS 2003 provides efficiencies that simplify maintenance, improve productivity, and reduce the administrative cost of keeping

employee identity information up-to-date across the enterprise. MIIS 2003 enhances and streamlines eBay's synchronization process and metadata repository, improving reliability and lowering the TCO.

Improved Scalability and Maintainability

By using MIIS 2003, eBay has implemented a synchronization solution capable of supporting the company's explosive growth. "MIIS 2003 makes it much easier to add new systems and groups into our synchronized environment," says Vinas. By using MIIS 2003, eBay can now incorporate its telecommunication and security groups into the identity management solution. eBay also plans to integrate other organizations as well as its method of viewing the data.

In addition, MIIS 2003 GUI tools can be used to change information such as the system, attribute flow, and attribute precedent. "All of this information is available in the GUI," says Vinas. "We've eliminated the need to decipher customized code and manually update the logic in complicated synchronization scripts."

Improved Accessibility and Availability

eBay's MIIS 2003 solution gives employees, groups, and applications unlimited access to a convenient single view of employee identity information.

eBay uses ADAM to isolate the metaverse repository in MIIS 2003, allowing custom applications to query synchronized data from an enterprise directory. "By creating a common metadata repository, we've helped eBay eliminate the need to re-create identity information," says David Rusting, Senior Solutions Architect at Unisys. MIIS 2003 provides convenient access to clean, consistent identity data such as for access control and simple record-keeping.

MIIS 2003 also increases the flow of information. "Many of the groups interested in joining our MIIS engine enjoy the fact that the synchronized data is available in real time," says Vinas.

Simplified Systems Management

eBay has simplified and reduced its operational complexity to one solution that can handle identity management. In fact, MIIS 2003 streamlines eBay's synchronization process. "Microsoft Identity Integration Server 2003 has simplified every aspect of our synchronization system," says Vinas. "With MIIS, groups can easily share information such as telephone numbers or extract information such as recent hires or terminations. We now have an easy way to modify, manage, and control the system using the GUI tools provided by MIIS."

By using SQL Server 2000 tables to support the MIIS 2003 metaverse, instead of Remedy, eBay has significantly simplified the support requirements for maintaining the Remedy database. In addition, in the previous environment, eBay's unorthodox use of Remedy tables affected vendor support for Remedy. "Now we don't have to support and maintain the metadata repository in Remedy," says Vinas. "And by using the Remedy database in a conventional way, we receive full vendor support."

Future Plans

One of eBay's upcoming projects is to use MIIS 2003 to automate the provisioning and deprovisioning of accounts in an enterprise environment. "MIIS 2003 is a great tool for managing synchronized identity information data on different systems," says Vinas. "We're very happy with MIIS. In fact, there are many options within MIIS 2003 that we have not yet implemented, but we look forward to using in the near future."

For More Information

For more information about Microsoft products and services, call the Microsoft Sales Information Center at (800) 426-9400. In Canada, call the Microsoft Canada Information Centre at (877) 568-2495. Customers who are deaf or hard-of-hearing can reach Microsoft text telephone (TTY/TDD) services at (800) 892-5234 in the United States or (905) 568-9641 in Canada. Outside the 50 United States and Canada, please contact your local Microsoft subsidiary. To access information using the World Wide Web, go to: www.microsoft.com

For more information about Unisys products and services, call (800) 874-8647 or visit the Web site at: www.unisys.com

For more information about eBay products and services, call (408) 376-7400 or visit the Web site at: www.ebay.com

Microsoft Windows Server System integrated server infrastructure software is designed to support end-to-end solutions built on the Windows Server operating system. Windows Server System creates an infrastructure based on integrated innovation, Microsoft's holistic approach to building products and solutions that are intrinsically designed to work together and interact seamlessly with other data and applications across your IT environment. This helps you reduce the costs of ongoing operations, deliver a more secure and reliable IT infrastructure, and drive valuable new capabilities for the future growth of your business.

For more information about Windows Server System, go to: www.microsoft.com/windowsserversystem Microsoft Windows Server System

Software and Services

- Technologies
 - Microsoft Identity Integration Server 2003
 - Microsoft SQL Server 2000, Enterprise Edition
 - Microsoft Windows Server 2003, Enterprise Edition
 - Microsoft Active Directory / ADAM
 - Microsoft Visual Studio .NET 2003
 - Microsoft .NET Framework

Hardware

- Dell PowerEdge servers

© 2005 Microsoft Corporation. All rights reserved. This case study is for informational purposes only. MICROSOFT MAKES NO WARRANTIES, EXPRESS OR IMPLIED, IN THIS SUMMARY. Microsoft, Active Directory, SQL Server, Visual Studio, Windows, the Windows logo, Windows NT, Windows Server, and Windows Server System are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries. The names of actual companies and products mentioned herein may be the trademarks of their respective owners.