

# TOP THREE REASONS TO DEPLOY A VIRTUAL DIRECTORY

White Paper

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## **Abstract**

A virtual directory presents a single, consolidated view of disparate identity data to organizations dealing with diverse legacy resources as a result of ongoing growth, mergers and acquisitions, or collaboration with other organizations. Sun offers a virtual directory capability as part of its Directory Server Enterprise Edition offering that requires no additional licensing or other technology investment.

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## Chapter 1

# Executive Summary

Growing stores of disparate identity data are inevitable in today's enterprise, where increasing numbers of users and applications are the rule rather than the exception. Consolidating these stores of data can be essential to controlling IT administration costs and achieving business goals. One way to do this is to employ a virtual directory that aggregates user identity information from multiple data repositories and presents a consolidated view of all the information. While enabling a single view of data from multiple sources is much faster and more efficient than creating a physical directory infrastructure for that purpose, it also preserves underlying secure IT infrastructures when multiple organizations are involved, since the data is not actually replicated or moved out of its original environment.

Today, there are three particularly notable reasons to consider a virtual directory. Deploying a virtual directory to address these issues can help the enterprise accelerate progress toward business goals and, at the same time, keep costs under control.

1. *Costly identity sprawl* that results from running legacy applications that have different identity attributes
2. *Aggressive merger-and-acquisition timelines* for integration of new identity data into existing directory structures
3. *The need to federate faster and deliver services sooner* by speeding information sharing and access to services among collaborating partners

Sun offers a virtual directory capability as a part of its Directory Server Enterprise Edition offering—with no additional licensing required. Sun's solution offers the following specific advantages:

- **No need for data synchronization.** Synchronization of different data stores (LDAP and SQL, for example) takes processing time and introduces undesirable data latency to the process of accessing data from multiple sources.
- **Ability to leverage existing directory investments.** Because the virtual directory is a standard component of Sun's enterprise directory offering, there is no additional technology investment required.
- **Rapid data consolidation, integration, and federation.** Enterprises that are collaborating to deliver new services can get to market faster because they can quickly share identity information.

This paper will explore the three reasons for virtual directory deployment and illustrate how deploying Sun's virtual directory successfully addresses each one.

## Chapter 2

# Reason #1: End Costly Identity Sprawl

At a time when controlling costs has assumed the highest priority for many businesses, it's not unusual for companies to look at consolidating or eliminating datacenter legacy applications to reduce the need for IT resources. The fewer applications, the fewer servers will be required—which can help meet power and other cost reduction targets—and the fewer administrative resources will be needed to manage technology in the datacenter. In the following example, Sun's virtual directory is part of an end-to-end solution for streamlined identity and access management in the datacenter.

## Scenario #1

### The Challenge

After years of ad hoc growth, a large services-driven company with a widely distributed external network of agents is running more than 7,000 disparate applications and managing more than a million internal and external identities. With datacenter costs skyrocketing and operational efficiency suffering, the company decides to replace its disjointed identity and access management framework with a streamlined, consolidated infrastructure based on Sun technology—including Sun Directory Server Enterprise Edition and its virtual directory capabilities.

### The Solution

A virtual directory is critical to enabling consolidation in the datacenter. In the example described above, its role is to integrate identity stores from the thousands of applications that the company operates internally. Sun's virtual directory makes it possible to connect to a multitude of legacy applications (such as Microsoft Active Directory, OracleID, DB2, PeopleSoft, or MySQL) to bring together identity data from them into one consolidated directory view—and to do so without having to change any application code. Beyond that, it can also be used to integrate external identity data from the agents and partners with whom the company does business.

Virtual directory capabilities are integrated into Sun Directory Server Enterprise Edition, as illustrated in Figure 1. The virtual directory can be used to pull user identity information from disparate data sources—both within and beyond the enterprise—and present it to applications in a single, unified view.

### The Benefit

In this scenario, Sun's virtual directory is helping to reduce the cost of managing identities by consolidating attributes from thousands of applications. It's part of a larger solution that is using consolidation to significantly shrink the company's

hardware infrastructure and cut its datacenter costs accordingly.

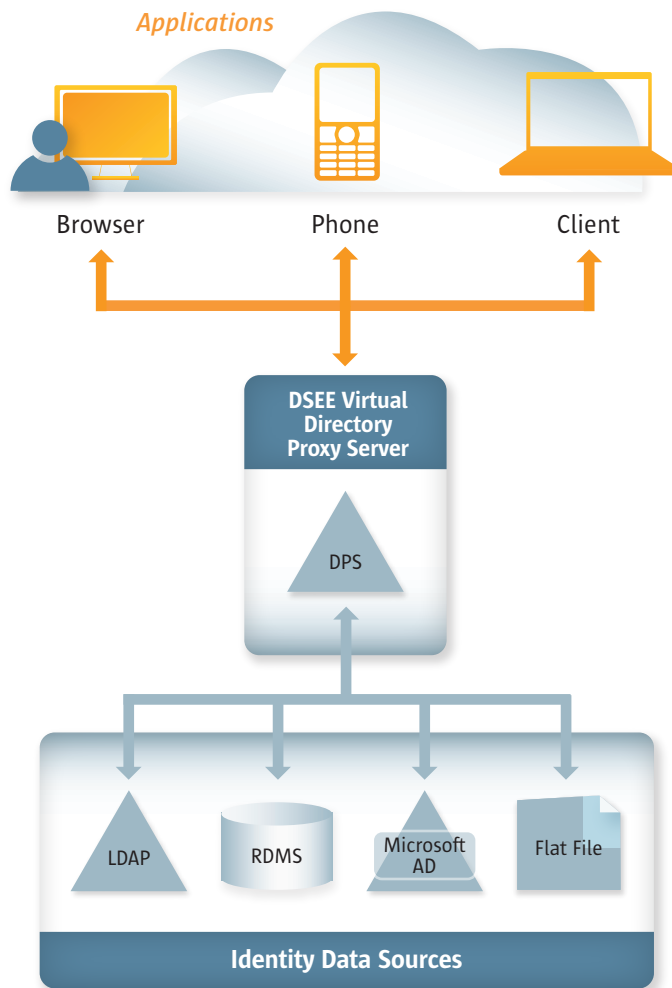


Figure 1. Overview of Sun Virtual Directory

## Chapter 3

# Reason #2: Meet Aggressive M&A Deadlines

Integrating user identities after merger-and-acquisition (M&A) activity can be a tremendously difficult undertaking. But the challenge isn't just integrating user identity data; it's integrating it quickly, according to the kind of aggressive post-merger timeline that's typical today. The following example presents a scenario in which Sun's virtual directory makes it possible to meet a demanding schedule for integrating employee identities—and to do so without any additional investment in directory services.

## Scenario #2

### The Challenge

Let's say Company A has announced plans to acquire Company B, with merged operations to begin two months hence. This raises a number of operational issues: Will the latter's employees will be able to use the former's mail server from the first day of combined operations? Will they be able to use their existing usernames and passwords? Will Company B applications that continue to exist after the acquisition be able to access legacy identity attributes from before the acquisition? Success relies on being able to immediately unify the separate data stores that are involved. Waiting for physical network changes and system consolidations is not a viable option, given the timeline for integration.

### The Solution

A virtual directory can help by enabling the directories of the two merging companies to appear as a single directory. This way, information from Company B can be viewed in the format that Company A's applications require. For example, imagine that you have two directories, `dc=example, dc=com` and `dc=acquisition, dc=com`. But you have applications that need both directories to look like `dc=example, dc=com`. With a virtual directory, that is how both directories will appear.

Figure 2 illustrates how identity data from an acquired company's directory is transformed when viewed through Sun's virtual directory. The directory appears to the acquiring company's applications as no different from its own existing directory.

### The Benefit

In this scenario, Sun's virtual directory enables a company to not only navigate complex data ownership issues after an acquisition, but also to meet aggressive timelines for completing the integration of user identities. This results in better productivity for employees and the overall business. Furthermore, the company can accomplish these goals by leveraging its existing Sun directory services solution.

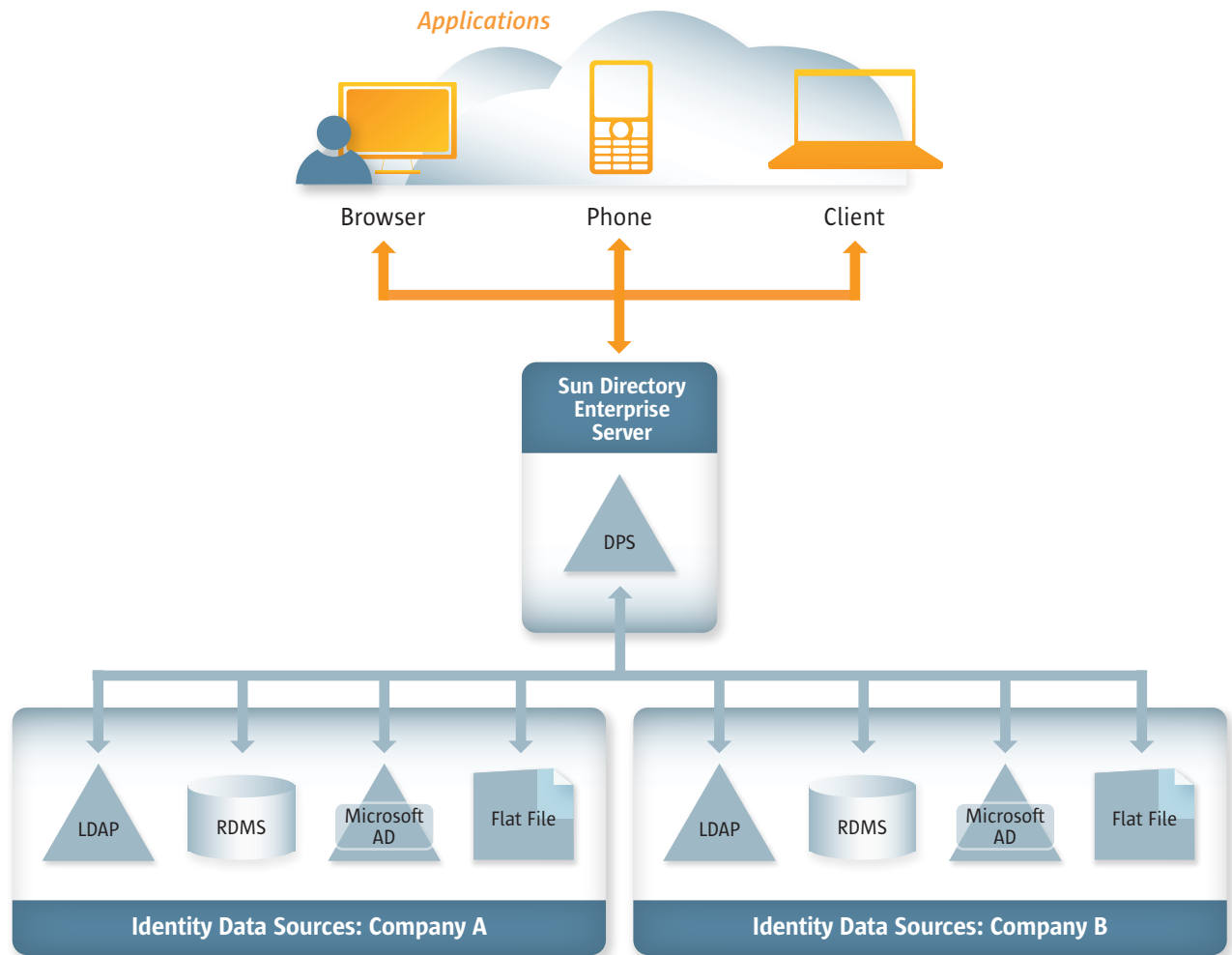


Figure 2. Merging user data from an acquired directory

## Chapter 4

### Reason #3:

## Federate Faster and Deliver Services Sooner

Dealing with multiple data repositories is a given when an enterprise is working with external entities to achieve business goals. Collaborating with partner organizations, outsourcing non-core activities, federating with clouds—these are all examples of circumstances under which directories should not necessarily be consolidated, but the identity information in them needs to be shared. In the following example, Sun's virtual directory plays a key role in enabling information to be shared securely.

### Scenario #3

#### The Challenge

Suppose a company wants to create a new portal that shares information and services with customers and partners. Customers' identity information that needs to be shared as part of this initiative is contained in two legacy applications. The challenge is therefore two-fold: 1) to combine information from both repositories so that it can be easily accessed and managed, and 2) to federate so that information from the two repositories can be shared externally without compromising login and password information.

#### The Solution

A virtual directory can address collaboration, outsourcing, and similar challenges by exposing data attributes from different repositories and combining them in a single view that applications can then leverage. This is the first step for the company creating the portal in the example described above. Once it has combined identities and attributes from the two identity stores using Sun's virtual directory, the company can use the Sun OpenSSO Enterprise solution to federate with its partners. OpenSSO Enterprise is a federation solution that uses the industry-leading SAML federation standard to achieve secure application interoperability in heterogeneous technology environments.

#### The Benefit

In this scenario, Sun's virtual directory works in tandem with its federation solution to enable information and services delivery. The virtual directory speeds federation by efficiently combining the appropriate attributes into a single view, while OpenSSO Enterprise enables secure access to company resources by customers and partners. As a result, the company can leverage its existing investment in Sun directory services, as well as take advantage of federation services from the same source.



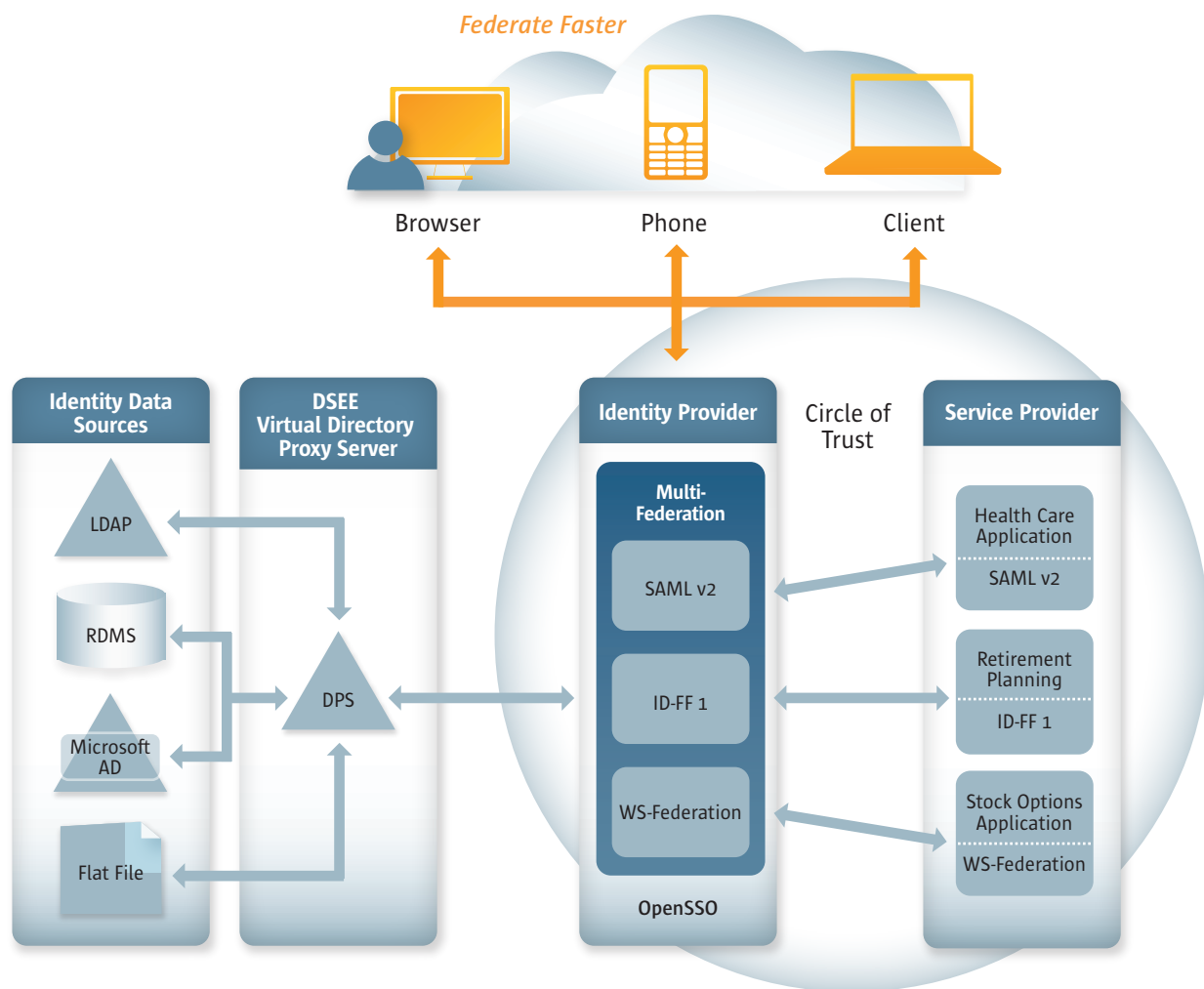


Figure 3. Virtual Directory and OpenSSO-based Federation

## Chapter 5

# About Sun Directory Services

*Sun Directory Server Enterprise Edition* provides full-featured directory services for securely storing, retrieving, and managing identity data in enterprise environments. Highlights of the offering include:

- Support for virtual directory capabilities
- On-demand password synchronization with Microsoft Windows environments
- Multimaster replication, load balancing, and automatic failover for enterprise-class availability
- Ability to perform backup, reindexing, and other management operations online, with no impact on availability
- Superior scalability to reduce costs by decreasing the number of systems that must be deployed
- Centralization and aggregation of identity information
- Proxy services to prevent denial-of-service (DoS) attacks and unauthorized access
- Web-based console for management of the overall service

## Chapter 6

# Conclusion

Dealing with stores of disparate identity data is inevitable today, whether across legacy resources within enterprises, across resources in different organizations, as the result of merger-and-acquisition activity, or as part of a collaboration with partner companies. As the amount of data grows, it becomes increasingly unfeasible to create a physical directory infrastructure within which to view the data as a whole.

A virtual directory is a faster and more efficient vehicle with which to achieve a consolidated view of identity data from multiple sources. Sun Directory Server Enterprise Edition includes a virtual directory as part of its basic capabilities, enabling organizations to deploy a virtual solution without additional technology investment.

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