

## Case Study: Federation at Boeing



### The Company

Boeing is the world's leading aerospace company and the largest manufacturer of commercial jetliners and military aircraft combined. Additionally, Boeing designs and manufactures rotorcraft, electronic and defense systems, missiles, satellites, launch vehicles, and advanced information and communication systems. As a major service provider to NASA, Boeing operates the Space Shuttle and International Space Station. The company also provides numerous military and commercial airline support services. Boeing has customers in more than 90 countries around the world and is one of the largest U.S. exporters in terms of sales.

### Objectives

Boeing sought to give employees, customers, partners and suppliers easier access to a range of applications and services -- and to cut costs substantially in the process.

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**John Tolbert**  
Federation Lead, Boeing

### The Initial Drivers for Single Sign-On

Like most large corporations, Boeing manages a large benefits program that serves both current and former employees. Duplication of support services was a major cost item. "We had one company that managed our retirement benefits, another that ran our 401(k) and another that handled our medical -- so for each of those contracts, we were paying for separate 24-hour hotlines for individual accounts," said Mike Beach, Chief Security Designer in Information Security at The Boeing Company. "So we thought if we could set up one account with a single sign-on, we could collapse all of those help desks into one, while improving satisfaction and reducing costs."

### Setting the Pace for Federated Identity Deployments

Today, Boeing has extended single sign-on within the organization and has a number of federations with external service providers and customers in production. Within the Boeing federated model, the employing organization authenticates an individual. Federated agreements with other companies make it possible for those organizations to accept the individual's authentication, without the need for the individual to sign on again. At the centerpiece of this capability is the deployment of SAML 1.1, 2.0 and WS-\*. Federation plays out at Boeing in the following ways:

1. Employees can access their benefits information through single sign-on. Employees' 401(k) providers, for example, recognize them automatically because Boeing has authenticated them first.
2. Likewise, Boeing's retired personnel or "alumni" can log on once and access Boeing-sponsored benefits information from multiple providers.
3. Employees at customer airlines can sign in at their home company and seamlessly access authorized Boeing information without a secondary Boeing login. "At Boeing, our Web single sign-on deployment is clearly one of the most popular security efforts we've ever undertaken," said Mike Beach. "People see the benefits immediately."

## Making Life Easier for Employees

Today at Boeing, employees can access more than 1,000 protected Web sites and resources through a single sign-on. The internal portal that Boeing employees use every day also includes seamless connection to a number of external benefits providers -- eliminating the need to have multiple passwords and connections to assorted institutions.

One of the immediate benefits of federation and SSO is the reduction of costs associated with managing passwords and multiple access points for each employee. Rules-based access has also made life much easier for administrators. In the old model, Boeing application and Web site administrators had to manage access one user at a time.

## Expanding Boeing's Range of Federated Relationships

Boeing has seven federations in production today. But working to move partners who were using proprietary solutions into industry-standards-based solutions is not a simple process. Current research indicates that only about 5-10% of prospective partners currently have federation capabilities.

In order to get their partners up to speed, Boeing has been systematically addressing those challenges by:

- Forming a multidisciplinary team to handle federation activities.
- Designing a business process that routes federation requests efficiently to the appropriate people, ensures consistency and compliance with rules, and streamlines implementations.
- Publishing architectural standards and communicating service offerings.
- Putting together a Federation Primer, a comprehensive guide to getting a federation project off the ground.

"We were one of the first to federate on such a wide scale, and we quickly learned the importance of education," said John Tolbert, Boeing's federation lead.

So Beach, Tolbert and their team set up a "federation governance board" within Boeing, a group responsible for managing and sharing federation information throughout the corporation. "We felt it was important to have a place for those business representatives that might have an interest in federation to come and share their ideas and needs," said Tolbert.

Beach adds the primary goal was better integration into the customer's daily environment. Federation also reduces the risk of lingering external accounts when a partner's employee's employment ends. When an employee leaves the partner company and that employee's local network access is "turned off," access to Boeing ends as well. "Under federation, it's very simple: if you don't have an account at your home company that's providing the federation, then you cannot log in to Boeing, whether you still have an account here or not," said Beach.

### The Benefits of Federation

#### Improved user experiences via:

- Reduction of accounts and passwords
- Common user experience across multiple domains

#### Reduced costs for content administration via:

- Standard authentication mechanisms for Web server administrators and developers, in lieu of proprietary and/or unique solutions for every venture
- User access management handled by originating domains

#### Enhanced security via centralization of accounts and management

## About Liberty Alliance

Liberty Alliance is the only global identity organization with a membership base that includes technology vendors, consumer service providers and educational and government organizations working together to build a more trusted Internet by addressing the technology, business and privacy aspects of digital identity management. The Liberty Alliance Management Board consists of representatives from AOL, BT, France Telecom, HP, Intel, Novell, NTT, Oracle and Sun Microsystems. Liberty Alliance works with identity organizations worldwide to ensure all voices are included in the global identity discussion, and regularly holds and participates in public events designed to advance the harmonization and interoperability of CardSpace, Liberty Federation (SAML 2.0), Liberty Web Services, OpenID and WS-\* specifications. More information about Liberty Alliance as well as information about how to join many of its public groups and mail lists is available at [www.projectliberty.org](http://www.projectliberty.org).