JFE Steel transforms to hybrid IT integrated authentication platform

HPE IceWall SSO quickly delivers federated authentication with the public cloud

Objective
Overhaul an authentication platform used by 60,000 users – including JFE Steel’s own employees, users at its group companies, and customers – to resolve various issues revealed in the existing authentication system. Build an authentication scheme for flexible and smooth usage of cloud services.

Approach
Researched packages that provide single sign-on for required secure authentication migration to 200 applications and seamless access to new applications and services on the public cloud.

IT Matters
- Selected the HPE IceWall SSO product to deliver reliable authentication services to 60,000 users
- Reduced implementation of SSO from several man-months to 3-4 days
- Delivered federated authentication with public cloud services

Business Matters
- Improved ease of use and contributed to better user satisfaction and efficiency
- Faster and less expensive new application development
- Expands flexibility of using various cloud services
- Delivered a high-ROI authentication platform that will remain usable in the future

JFE Steel overhauled its authentication platform, which is used by 60,000 users. It deployed the HPE IceWall SSO product to achieve seamless authentication and access to company systems and public cloud services. Implementation of SSO onto applications involving federated authentication (i.e. Federation) with public clouds was made dramatically more efficient with HPE IceWall SSO.

Challenge
IT environment that plays to the company’s strengths
Japan’s JFE Steel is one of the biggest blast furnace manufacturers, handling everything from making the steel to production of materials.

In 2003, Kawasaki Steel and NKK merged their businesses, leading the way in a restructuring of the Japanese steel industry. In recent years, JFE Steel has expanded its businesses in rapidly growing markets by aggressively pursuing overseas business, mainly in China, Thailand, India, and other Asian countries.
We put in place an environment where many applications can be used with one single authentication without users being aware of whether they are interacting with a public cloud or an in-house system. Federated authentication was the most important requirement for our new integrated authentication platform.

— Osamu Hoshika, staff general manager, IT Innovation Leading Dept., JFE Steel Corp.

Osamu Hoshika, platform group leader in JFE Steel’s IT Innovation Dept. says: “JFE Steel has five locations, Chita, Kurashiki and Fukuyama in western Japan and Chiba and Keihin in eastern Japan, allowing it to respond to customer needs as a steel manufacturer with world-class technology. Our strength is our integrated manufacturing and sales business process that benefits from the steel manufacturing technologies we have developed and our expertise.”

The IT Innovation Promotion Division has one mission: to create an IT environment that plays to the company’s strengths. Its remit is very broad, including everything from mission-critical systems that synchronize sales and production plans to operational and business-management applications and system infrastructure. As of 2012, there were around 200 applications developed by the company. The number of users totals 60,000, which includes JFE Steel’s own 14,000 employees and users at its group companies and partners.

“We built a single sign-on system that can be used across many applications as part of our efforts to boost data security throughout the company in the late 90s, when use of web-based applications really came into its own,” comments Ken Sakata of JFE Steel’s IT Innovation Leading Dept. “This authentication system has continued to serve as the front door to usage of our IT services.”

That said, the existing authentication system was over ten years-old and several issues had become apparent.

“When a user wants to use a particular application, he would have to input his ID and password multiple times in order to log in,” comments Hoshika. “Similar problems cropped up in systems used by customers, making a new solution urgently needed.”

JFE Systems is the JFE Steel Group’s system integrator and has extensive experience in building high-reliability systems. Hiroyuki Kawakami, who is in the Server Platform Group at the Tokyo Office’s Technology Division, participated in this project. He describes the matter from the perspective of the systems team: “Whenever we deployed new package applications, we were having more and more cases where linking IDs and passwords with the existing authentication was really hard. We were faced with a dilemma: either outsource implementation of a single sign-on system to an application vendor, which would be extremely expensive, or make an authentication function ourselves, implementation of which would involve untold numbers of hours.”

Of key importance was the fact that introduction of public cloud services prevented federated authentication with the existing authentication system.

“Users of applications in a public cloud would have to re-enter their IDs and passwords over and over again, which defeated the purpose of a single sign-on system,” says Kawakami.
Solution

**HPE IceWall SSO - the single sign-on product with the biggest market share in Japan**

A project was put in place for a new integrated authentication platform and it was decided to go with HPE IceWall SSO.

The project put together a wide-ranging list of requirements for building a new integrated authentication platform and the need for an upgrade. Key system requirements that they decided on were as follows:

- Improved ease of use through simple authentication procedure
- Easy implementation of authentication functionality into 200 old and new systems
- Ability to work with federated authentication when using public cloud services
- Reliability and scalability as an authentication platform for 60,000 users inside / outside of the company.

JFE Steel sent the first RFP to five companies which it narrowed down to two after a general assessment.

“We looked at these two products, which had proven results, and in the end went with HPE IceWall SSO,” comments Sakata. “Only the Hewlett Packard Enterprise’s product successfully met almost all our requirements. Of these, one of the main points of assessment was that federated authentication with public cloud services, which we planned to introduce in the future, would be verified and supported.”

HPE IceWall SSO was introduced in 1997 and over 40 million user licenses have been sold to date. It is widely used in intranet, B2C and B2B services and more as a solution that delivers an integrated authentication platform. In Japan, the domestic market share is 46.9\%\(^1\) overwhelming other products.
“With HPE IceWall SSO, we thought we would be able to get the full benefit of single sign-on—the ability to use multiple applications with a single authentication,” comments Kawakami. “We would be able to offer users a client environment that is easy to use, while at the same time dramatically improving implementation efficiency of authentication functionality to other applications, which is a plus from the standpoint of system development.”

In February 2012, Kawakami of JFE Systems started to design and construct the new authentication platform. In June of the same year, he completed implementation of the system platform. As a result of the efforts of JFE’s system engineers, the phase 1 migration of several applications were completely successful by August even though it was a short period of time.

Hoshika comments: “The new integrated authentication platform was deployed on the assumption that it would be applied first to the Sales Production Planning System. This is a strategic system for formulating optimum sales, production, and shipping plans to match demand and trends in material prices. This system incorporates applications used by client companies, and it was in sore need of usability improvements.”

Transitioning to the new integrated authentication platform dramatically simplified the authentication procedure needed for users to start using applications.

“The work required for implementing authentication functionality in applications used to require up to several man months of effort, but can now be done in three or four days,” says Mr. Kawakami. “That is a dramatic improvement in efficiency.”

**Seamless authentication and access to public cloud services**

So, the next requirement was compatibility of the authentication platform with cloud. JFE Steel decided to go with the Salesforce Platform and KDDI Knowledge Suite (GRIDY) which are public cloud services. The new integrated authentication platform fulfilled these new requirements.

Kawakami says: “The federated authentication with the public cloud services was done in a week. Single sign-on was hard to implement with our previous authentication system, but we got it done in the blink of an eye!”

Implementing HPE IceWall SSO brought with it a federated authentication module called HPE IceWall Federation as a standard feature. Using this, it is easy to provide federated authentication between internal systems and the public cloud using SAML (Security Assertion Markup Language), the industry standard.

“With HPE IceWall Federation, connection with a variety of cloud services was already verified by HPE, and not left up to the user company, which gave us big relief,” comments Kawakami. “I’m quite sure that the ability to provide functionality that meets the needs of Japanese companies might be the primary benefit of a product originating in Japan.”

It is important to research common single sign-on products. Some of them have features supporting standard protocols such as SAML even though the connectivity with a specified cloud service is unverified.
Customer at a glance

HPE services
- HPE IceWall SSO
- HPE IceWall Federation

HPE IceWall Federation has been verified as a product vendor for connection with major cloud services such as Salesforce and Google™ Apps, and enables faster and reliable implementation of the authentication function.¹

“We put in place an environment where many applications can be used with one single authentication, without users being aware of whether they are interacting with a public cloud or an in-house system,” says Hoshika. “This federated authentication has allowed us to cross the biggest hurdle of an integrated authentication platform.”

Benefit

A platform that supports authentication for 60,000 users
The project entered its second phase and the transition of around 100 additional sales system applications needed to be moved forward by the systems engineering team at JFE Systems.

Kawakami said: “The single sign-on system located at the entry point to all the applications has to be an extremely reliable and stable service,” comments Kawakami. “The infrastructure equipment has been designed with redundancies to prevent the risk of service stoppages. If a problem were to occur in the connection to the cloud service, we can get support from Hewlett Packard Enterprise Japan to solve the issue, which is a big relief for us.”

At the implementation of the system, the remote site had to be prepared as one of requirements for Business continuity planning.

“We deployed DR (Disaster Recovery) systems at both of eastern and western Japan sites in order to organize the framework which prevents service suspension. Synchronizing authentication data from eastern Japan with night batch processing allows the system in western Japan to continue with the authentication service in case of system trouble on the main site,” Sakata says.

Sakata adds: “We had a strong image of HPE as a hardware vendor but that image was totally changed after this project. I learned that HPE is a global IT company that has many solutions and technologies. I hope to continue getting unique suggestions from HPE in the future.”

Hoshika sums up: “We are proud that we have honed our technologies and made our business stronger. Applications that support our strength will probably be very unique in the future. At the same time, we have once again been made aware that there are benefits to using industry-standard, world-standard solutions in the area of infrastructure, such as integrated authentication platforms. We have high hopes for this system to support our business, as the entry point to our applications.”

Learn more at
hpe.com/jp/icewall_eng

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² Cloud-computing platform supporting web site creation and operation provided by Salesforce.com, inc.
³ A OEM-supplied SaaS groupware from KDDI corp. in alliance with Knowledgesuite, Inc. (formerly Brand Dialog)
⁴ See HPE IceWall Federation website for details.