



Dassault Systèmes Americas Corp. (DSAC)

Introducing the Potential of Personal Digital Identity

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Executive summary

Dassault Systèmes, the 3DEXperience company, which has its headquarters in France, has always been at the forefront of technology and innovation. Its technology is used by companies in a wide range of industries in 140 countries, from aerospace, engineering and consumer goods to energy, financial services and transportation. It operates 34 R&D hubs globally, employing 11,000 people and serving 170,000 enterprise customers, with 10 million on-premise users and 100 million online users.

Dassault Systèmes' drive to standardize and streamline how its payments are released globally led its wholly owned subsidiary Dassault Systèmes Americas Corp. (DSAC) to pioneer the introduction of 3SKey in the U.S. 3SKey is a bank-agnostic digital identity key, developed by SWIFT in partnership with the banking community. Using 3SKey does not only deliver global consistency but also offers the promise of extended functionality in the future: Other multinationals could follow DSAC's groundbreaking lead.

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Goals and challenges

DSAC's parent company, Dassault Systèmes, used the Echange Télématique Entre BANques et Clients (ETEBAC) bank-agnostic key system in France to authorize payments securely. Key (or token) systems are commonly used to save time for authenticating authorizers. They require an authorized user to use a physical token with an electronic certificate protected with a personal password to digitally sign payment files, which are then encrypted and transmitted to the company's banks.

With ETEBAC being phased out, Dassault Systèmes required an alternative token system for secure payment authorization. At the same time, Dassault Systèmes was planning to implement a new treasury management system (TMS) to function as a multi-bank portal and facilitate payments. The TMS selected by Dassault Systèmes did not include a multi-bank secure key system but the provider was willing to integrate an alternative key system into its solution.

Having studied various options with its banks in France, Dassault Systèmes selected 3SKey, a SWIFT-developed bank-agnostic digital identity key then under development that can be used to sign and securely authenticate users on any banking channel. 3SKey is a secure token system available to the corporate customers of the bank, whether these are on SWIFT or not. It requires users to plug a physical device containing a personalized digital certificate into a USB slot as well as requiring a user ID and password. The 3SKey token is used as a second level of authentication ensuring that only bulk payment files authorized by a corporate user are sent to the bank. When a payment file is authorized, these details are checked against a SWIFT-managed database that contains details of users' IDs, passwords and entitlements (ensuring, for example, that payments authorized by users who have had their entitlements revoked will be rejected). 3SKey offers many benefits including a clear audit trail, a straightforward way to manage users' access, and an ability to build a wide range of entitlements for individual users.

In the U.S., Bank of America Merrill Lynch is DSAC's lead bank for payments and cash management. Dassault Systèmes was eager that DSAC should gain the efficiency and security benefits of 3SKey in the U.S. and approached Bank of America Merrill Lynch. "We needed them on board to make this work," explains Donna Fusco, director of treasury and financing at DSAC. Dassault Systèmes' principal goal was to standardize and streamline how its payments are released around the world. "As a global company we wanted global consistency," says Fusco. "Additionally, from a timing standpoint we were implementing our new treasury management system, so it was the right moment."

At that time, 3SKey was a technology that no bank had employed for U.S. payment file authorizations. SWIFT worked directly with Bank of America Merrill Lynch and DSAC to achieve their 3SKey objective. "The continued adoption of 3SKey for signing of payments files and application authentication supports the evolving industry requirements for further transparency and individual accountability. Bank of America Merrill Lynch working with Dassault has enabled the first such payments authentication use case." comments Stacy Rosenthal, Head of Corporate Initiatives, SWIFT Americas. "This is a great example of corporates and banks working together to improve internal and external security controls."

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In order to learn about the processes associated with 3SKey, Bank of America Merrill Lynch began a dialogue with Dassault Systèmes' banks in France to discuss the challenges associated with implementing this new security option. As 3SKey is an industry initiative led by SWIFT together with the banking community, there were no commercial ramifications of discussing its implementation, and the dialogue with Dassault Systèmes' banks in France proved fruitful. Bank of America Merrill Lynch gained a useful understanding of how 3SKey was built, its track record in passing compliance requirements and the technology required to support it. Moreover, given that Bank of America Merrill Lynch is a leader in SWIFT for Corporate services of which DSAC is a member, it was confident that it could move forward with 3SKey.

Creating a solution

Bank of America Merrill Lynch assessed how 3SKey would meet — and be compatible with — the bank's compliance and information security requirements as an authentication method. This analysis showed that there would be some technological issues to overcome. However, its security did meet the bank's requirements. Specifically, the bank determined that it would have to build the technology to verify 3SKey digital identity and join the SWIFT 3SKey community to access the database that contains the 3SKey revoked certificate.

Bank of America Merrill Lynch did multiple stages of testing with the company's multi-bank portal provider. Contingency arrangements were put in place to help make sure that payments would still be made even if elements of either party's 3SKey processes failed to operate as planned.

"Even though Dassault Systèmes had implemented 3SKey in France, the implementation process in the U.S. was a new learning process for both Dassault Systèmes Americas Corp. and Bank of America Merrill Lynch," says Fusco. "Although it was possible to utilize some of France's experience, the situation was quite different. In France, 3SKey replaced an existing bank-agnostic key — there was a cultural understanding of how such a system worked. In the U.S., there was nothing comparable and consequently it was a process of discovery. It was often a matter of testing, failing and then refining."

Given this unique situation, effective communication was critical to the project. "It's very easy to have miscommunication between corporates and banks because they operate so differently," says Fusco. "However, with Bank of America Merrill Lynch everything went smoothly. We had the right project leader in place and met regularly. Everyone knew exactly what was happening and when."

Informally, Dassault Systèmes was in almost daily contact with Bank of America Merrill Lynch. "As a client, Dassault Systèmes took a hands-on approach," says Linda Haddad, global integration product manager at Bank of America Merrill Lynch. "And from a project management perspective, it was great to work with a company willing to share ideas to develop a service that met their needs."

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It was important to define and agree on the distinction between authentication and authorization. Although 3SKey has the capability to provide both, Bank of America Merrill Lynch and Dassault Systems agreed early on that only the authentication technology would be deployed. Authentication helps make certain that every file coming in to the bank includes the 3SKey signature(s), is not tampered with, belongs to a designated DSAC user, and is not on the SWIFT Certificate Revocation List (CRL). Failure at any of these steps results in a rejected payment file.

One of the critical messages for Bank of America Merrill Lynch to communicate with DSAC was therefore that the use of 3SKey requires strict management. If the key is not used or fails one of the control checks then the entire payment file will be rejected. “Putting in a security feature with strict rules means strict enforcement,” explains Haddad. “We discussed with Dassault Systèmes that mismanaged or misplaced 3SKeys would result in rejected files. Dassault Systèmes was happy with this: They reemphasized their commitment to the technology and the central importance of security. They updated back office procedures to help ensure the integrity of key management.”

Delivering results

The 3SKey implementation was part of a much bigger project that kicked off in June 2012 and finished almost exactly a year later. DSAC launched phase one of its 3SKey implementation with inter-company payments. Now that 3SKey processes are well established, phase two, which includes ACH and Wire, will be implemented. “The timeline took longer than we had originally envisioned because the overall project turned out to be far harder than anyone could have anticipated,” says Fusco. “However, both Dassault Systèmes Americas Corp. and its parent company are pleased with the implementation and satisfied with the progress of the project.”

For a security-conscious company such as Dassault Systèmes, and a global leader in payment file processing such as Bank of America Merrill Lynch, 3SKey was a good fit to meet the stated security objective. In the future, additional authority and entitlement protocols can be built out. “It’s not unreasonable for our file delivery clients to expect the same level of entitlement management as we offer on our proprietary portal payments application,” says Haddad. “A personal digital identity solution is the first step to identifying individual file originators and synching entitlement administration across both the portal and file channels.”

Dassault Systèmes has expressed its eagerness to explore the potential for further development of its use of 3SKey and confirmed its confidence in Bank of America Merrill Lynch as the best partner to help it in this process. “We will continue to explore ways to enhance the use cases for 3SKey,” says Haddad. “These will include additional authentication and entitlement options as well as potential uses for authorizations. Electronic bank account management (eBAM), for example, is a logical area to explore

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when talking about digital authorization.” Fusco agrees that 3SKey has great potential. “eBAM is clearly an option with 3SKey,” she says. “It seems that the technology is still developing but when it’s ready, the idea of using 3SKey for eBAM requests, such as account opening and signer management, is definitely appealing.”

While 3SKey has been successfully introduced, Dassault Systèmes and Bank of America Merrill Lynch recognize that the technology—and its capabilities—will continue to evolve, with further releases and innovations. “We hope that the knowledge base for 3SKey broadens beyond payment files and beyond Bank of America Merrill Lynch,” says Fusco. “3SKey will be important to our processes in the years to come and no doubt other global corporations will seek to follow in our footsteps.”