



Case Study:

Citi Leverages a Time-honored Role in Identity Management New Services Embrace Liberty Standards

The Organization

Citi is one of the world's pre-eminent financial services companies, with some 200 million-customer accounts in more than 100 countries. Major brand names in Citi's diverse portfolio include Citi Cards, CitiFinancial, CitiMortgage, CitiInsurance, Primerica, Diners Club, Citi Private Bank, and CitiCapital.

Citi's Global Transaction Services offers integrated cash management, trade and securities and fund services to multinational corporations, financial institutions and public sector organizations around the world. With a network spanning over 100 countries, Citi's Global Transaction Services supports over 65,000 clients.

Deployment Background

Managing trust and vouching for identities is a role that financial institutions have been playing for hundreds of years. Today, banks are facing a new and increasingly complicated challenge: how to effectively establish and convey identity assurance in a digital environment which also enables business parties to transact online, while eliminating the reliance on manual and paper-based processes?

This is where Citi comes in. Over the past several years, Citi has taken the lead in finding ways to make digital identity management more efficient, secure and valuable for all parties involved in a given process.

To best understand Citi's new IDDY award-winning deployment, it's necessary to go back a few years when a global pharmaceutical company approached Citi asking the bank if it could build and provide a completely paperless, electronic solution to automate business critical processes within their R&D processes. These processes included

Citi® Managed Identity Services Offerings

- High-assurance credential issuance services (as a Credential Service Provider - CSP) with provisions for legal enforceability, liability and misuse across multiple industry segments beyond Financial Services at a global scale
- Acts as a third-party trust provider and vouching for the identities issued through Citi in a federated [B2B] environment
- Provides identity-enabled online financial services applications (as a Relying Party - RP), starting with cash management and treasury services that leverage high-assurance digital identities to increase visibility and control associated with high-value transactions at an individual user level. Examples include: digital signing to approve and authorize a payment transaction, signing electronic forms, and approving requests to open and manage corporate bank accounts, etc.
- Value-added services that leverage high-assurance digital identities in end-to-end business flows, such as electronic vault services to accelerate the migration of highly sensitive processes from paper to electronic

(Deployment Background Continued...)

electronic submissions to the Federal Drug Administration (FDA), where Citi would act as a 3rd party voucher for the identities of the individuals involved in the process.

“At first, this proposition took us a bit by surprise”, said Frank Villavicencio, Director of Product Management within Global Transaction Services at Citi. “The fact that a pharmaceutical company would reach out to its preferred global bank for this type of service was a bit odd a few years back, but after some consideration, the request made total sense to us”.

“The pharmaceutical company had very compelling reasons for reaching out to us”, he said. “As a global bank, familiar with risk management and regulatory compliance on a global scale, Citi uniquely understood the challenges around verifying the identity of its customers, following the ‘Know Your Customer (KYC)’ process”.

In addition, the pharmaceutical firm was looking for a partner who, like their own organization, operated on a global scale.

“And this is exactly what happened”, added Villavicencio, “Citi, working in partnership with this pharmaceutical client, built out a solution, based on open and interoperable standards, that effectively enables the transformation of manual, labor-intensive and heavily paper-based processes into paperless, electronic workflows which addressed appropriate compliance requirements.”

As a result, a growing number of researchers have been issued Citi digital credentials, which they use to authenticate and digitally sign transactions within their portfolio of identity-enabled online applications in a paperless environment.

“Citi’s deployment shows what’s possible with standards-based identity management,” said Britta Glade, Liberty Alliance’s Director of Marketing. “It enables cost savings, productivity improvements, increased security, and assured privacy--all rolled into a powerful new business offering from a trusted name. The IDDY Award recognizes Citi’s leadership and well-thought out approach and deployment.”

Overall Benefits

- Bank grade solution for conveying identity assurance in adherence to standardized trust frameworks
- Promote industry collaboration and information sharing within interoperable networks
- Streamline paper-based, labor-intensive, manual processing with non-repudiable electronic transactions
- Enhance visibility and control via process controls, policies and audit trails

Specific to Pharmaceutical Companies include

- Reduce overall costs in drug R&D processes
- Help meet strict FDA regulatory requirements for records management (21 CFR Part 11)
- Automate and reduce overall time-to-market for new drug approval to commercialization

Cross Pollination within the Financial Supply-chain

After this experience working with the pharmaceutical company, Citi identified further applicability of this solution in its own portfolio of financial services products, starting in the cash management areas. It was clear that the identity services they were developing could help transform and streamline manual business processes and add a layer of security and control to Citi's leading cash management products. "Our corporate clients helped us identify 'pain' areas they wanted simplified and at the top of the list was the automation of the bank account opening process along with the management of authorized signers," said Villavicencio. "This is a one-hundred-year-old process that hasn't fundamentally changed since its inception."

He explained that these processes could often involve hundreds of pages of paper that needed to be signed, at times notarized, and the signatures verified. This happened for hundreds of accounts at thousands of clients in hundreds of countries. On top of that, each country has its own variation on documentation and approval requirements.

So Citi took initiative to make the process electronic, and triggered a paradigm shift that is accelerating the transformation on an entire industry.

Today, this offering is being incrementally rolled out and its adoption is expected to rapidly gain momentum.

"We see our role as a catalyst in the adoption of high-assurance digital identities across industries globally, and advocates of collaboration and synergies that can accelerate the pace of adoption," said Villavicencio. "This trend will yield significant benefits across industries and geographies, and will deliver real value to our clients by enhancing the applications and services they use from their banks."

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-Frank Villavicencio
Director of Product Management
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Delivering Results

What's unique about Citi is that federation and identity assurance represent real business opportunities. So Citi is not looking at identity services as technological components but as a revenue-generating business.

Among the metrics involved in Citi's value proposition is the reduction or elimination of paper-based workflows, as well as the automation of a number of high value processes in a straight-forward fashion across industry segments and geographies.

Industry studies estimate that paper-based business processes within the pharmaceutical industry account for approximately 40% of annual R&D costs and that approximately \$9 billion of this is in the U.S. alone.

Among pharmaceutical companies, the solution is already having significant impact – particularly when it comes to streamlining regulated processes, such as submissions to the FDA for new drug approval. This submission process has traditionally been time-consuming, expensive, and paper heavy.

Now, with Citi migrating it into an electronic flow, and with researchers submitting data electronically, the overall cost and time to market is reduced by more than 40 percent.

This translates into efficiencies and competitive advantages to pharmaceutical companies and could, in the end, translate into lower overall costs for healthcare delivery.

Villavicencio reports that leveraging Citi-issued identities, one pharmaceutical company was able to eliminate 2.5 million printed documents per year and migrate approximately 14,000 signatures for various drug research documents into electronic-only workflows.

On the financial services side, simple processes such as the manual approval of fund transfers can be streamlined, thus representing savings upwards of US\$1.5 million per year for single business flow within a typical organization. More complex processes, such as bank account management and lending processes (including mortgages), which drive significant transaction volumes can be significantly optimized and automated by leveraging digital identities and electronic workflows.

Leveraging the LIAF: Liberty Identity Assurance Framework

Today, Citi is a leading provider of managed identity services acting as both a Credential Service Provider and a Relying Party as defined in the Liberty Identity Assurance Framework (LIAF).

The LIAF defines a global standard framework and necessary support programs for establishing trust at pre-determined levels of identity assurance in a consistent and objective way. The protocol-independent LIAF makes it easier and more cost effective for organizations to deploy and join identity federation networks by standardizing the definition of four levels of identity assurance and the related assessment process for credential service providers that assert identities at any one of these assurance levels.

Citi was instrumental in the development and promotion of the LIAF. Frank Villavicencio along with Alex Popowycz, Vice President, Fidelity Investments, co-chair the Identity Assurance Expert Group (IAEG) who authored the LIAF.

“The LIAF provides federation operators and organizations in every sector with an industry standard for moving multi-protocol federations ahead based on trusted identity assurance levels,” says Brett McDowell, Executive Director of the Liberty Alliance. “The LIAF delivers the business and policy foundation, so businesses and system integrators can now begin to leverage to more easily build and deploy a wide variety of new federated services and enterprise-grade online applications.”

LIAF and Identity Assurance

The LIAF details four identity assurance levels to ease and speed the process of linking trusted identity-enabled enterprise, social networking and Web 2.0 applications together based on standardized business rules and security risks associated with each level of identity assurance.

The LIAF has been developed within the Liberty Alliance Identity Assurance Expert Group and corresponding public special interest group with input from members of the global financial services, government, healthcare, IT and telecommunications sectors. The policy-based framework removes the need for organizations to “reinvent the wheel” each time they need to make trust decisions about the acceptance of identity credentials, which can span from SAML to X.509, when building and expanding identity systems. Organizations adopting the LIAF immediately understand how to address the business and policy challenges involved in adding new members and services to federations based on standardized LIAF criteria, helping to reduce the complexities and costs of advancing secure and privacy-respecting inter-federations across sectors and regions.

The four identity assurance levels outlined in the Liberty Identity Assurance Framework are based on a comprehensive set of processes, and policy criteria organizations must meet to participate in LIAF-based federations. The LIAF details authentication requirements to allow federation operators and federating organizations to address cross-industry business, policy and privacy requirements related to applications and services built using any federation protocol and falling into each identity assurance level.

According to Dr. Peter Alterman, Assistant CIO for E-Authentication at the US National Institutes of Health and Chair, US Federal PKI Policy Authority, “The Liberty Identity Assurance Framework will help us achieve global trust at common, known levels of assurance. This will enable secure, trusted electronic business transactions outside of the enterprise. We’ve recognized this need for years within the US Government and introduced some of the first successful interfederated business processes in early 2001, and we know that to maximize the value we deliver to all of our citizens and businesses within the US, we must grow these federations to achieve economies of scale, and provide new end user offerings with validated privacy and security. The Identity Assurance Framework enables the growth of these services worldwide.”

For more information on the Liberty Alliance LIAF identity assurance accreditation and certification program, contact: <https://maa.projectliberty.org/pub/contact>.

The first version of the Liberty Alliance Identity Assurance Framework available for download.
www.projectliberty.org/content/download/4315/28869/file/liberty-identity-assurance-framework-v1.1.pdf

Technological Foundation

The technology footprint for the Citi Managed Identity Services infrastructure spans the web (HTTP/HTTPS), web services (SAML, WS-Security, SOAP), PKI (Certificate Authorities, X.509, PKCS#7), strong authentication technologies (HSM, KSM) records management and entitlement management (XACML), identity platforms (RDBMS, LDAP), document formats (PDF, XML) and development platforms (.NET, Java) – in all the services provided are very dependant on technology.

Villavicencio adds that interoperability is important not only at the technical level, allowing technology platforms to integrate and communicate through secure protocols and interfaces, but also at the business level, allowing a Citi-issued credential to be leveraged in an application provided by another organization and vice versa, thus allowing end-users to securely and confidently transact online, leveraging a single credential.

“Citi advocates identity management and identity assurance standards as the vehicle for truly achieving trust and interoperability,” he says. “Interoperability is essential if we are to truly deliver efficiencies in automating and transforming critical business processes.”

Working with the Liberty Alliance to Drive Adoption

Given the critical role that standards play in fostering adoption and materializing interoperability and reuse, Citi decided to join the Identity Assurance Expert Group within the Liberty Alliance in early 2008.

“We saw the need to play a leadership role and collaborate in defining and driving adoption of a standard for establishing identity assurance in federated networks, which did not exist at the time, and found that Liberty Alliance’s IAEG was the right forum to achieve this,” said Frank Villavicencio, “looking at where the LIAF is at now, we feel we have made the right decision, and are glad to see that many organizations across various industries and geographies also converge in this view. Liberty’s global focus and ability to allow organizations to collaborate has validated our decision.”

“Standards are important, and organizations like Liberty Alliance are extremely important to getting us to the next stage” Villavicencio stressed, “but they are truly the means to the end, identity is an enabling element in transformation, but true value is in the end-to-end processes that are transformed and streamlined thanks to the use of a trusted digital identity, and the benefits they bring to clients.”

About Liberty Alliance

Liberty Alliance is the only global identity community with a membership base that includes technology vendors, consumer service providers and educational and government organizations working together to build a more trust-worthy Internet by addressing the technology, policy and privacy aspects of digital identity management. Liberty Alliance is also the only identity organization with a history of testing vendor products for true interoperability of identity specifications. Nearly 80 products and identity solutions from vendors around the world have now passed Liberty Interoperable™ testing. 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 SAML 2.0 Federation, 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.