



HOW A LEADING BANK MODERNIZED ITS CORE PLATFORM WITH PEGA INFINITY AND CLOUD MIGRATION

Discover how a North American bank modernized its Pega platform and completed a full cloud migration to unlock a modern, secure, and scalable ecosystem.

About the Customer

A leading North American financial institution offering a broad suite of retail, commercial, and corporate banking services. Operating at enterprise scale, the bank is known for its disciplined operations, strong focus on digital transformation, and ongoing investments in automation and data-driven initiatives to enhance efficiency, transparency, and customer experience.

Engagement Story

The bank relied on a large, long-running Pega application to support critical payment investigation workflows. As industry security standards evolved, enterprise vulnerability scans revealed multiple issues within the older Pega version, prompting leadership to mandate an upgrade to the latest, fully compliant release.

At the same time, the bank was experiencing a steep rise in operational costs due to its On-Prem infrastructure. This made cloud migration a parallel priority, and the two initiatives, Pega upgrade and cloud adoption, naturally converged into a single modernization effort.

Given the technical complexity of moving to the cloud, redefining deployment models, validating integrations, and addressing infrastructure readiness, the bank engaged EvonSys to help shape and lead the transformation. The project required deep collaboration across Pega teams and the bank's broader infrastructure organization, setting the stage for one of their most significant modernization programs.

Security vulnerabilities and rising on-prem costs pushed the bank to upgrade its Pega platform while moving to the cloud. These parallel priorities converged into a complex, enterprise-wide modernization program.

Key Business Challenges

The bank faced multiple architectural, security, and infrastructure constraints that put the stability and continuity of its payment investigation platform at risk.

Infrastructure Dependencies

- Real-Time Payments and SWIFT investigation workflows were heavily dependent on JMS components hosted on WebSphere Application Server (WAS).
- Other connected applications also depended on WAS, limiting modernization.

Data Center Exit Pressures

- The bank needed to decommission On-Prem application and database servers, creating urgency to move to a cloud-ready model.
- This introduced potential continuity risks for the Pega platform.

Security & Compliance Gaps

- Enterprise vulnerability scans flagged Pega 7.1.7 as non-compliant with the bank's latest security and governance standards.
- The Pega 7.1.7 EAR file did not pass the bank's new vulnerability benchmarks, requiring immediate remediation.
- The Architecture Review Board would not approve continuing this version within the payments ecosystem.

Technology Compatibility Issues

- The existing Pega version was not fully compatible with modern browsers such as Edge Chromium.
- Modern API standards required new patching capabilities not supported by the existing version.

Database Modernization Requirement

- The bank needed to decommission Oracle and migrate to PostgreSQL.

Existing dependencies on WebSphere and JMS, along with security scan findings on Pega 7.1.7, highlighted elevated risk within the bank's payments ecosystem.

Desired Goals

The bank defined clear objectives to strengthen security, reduce operational risk, and prepare the platform for future growth.



Meet Security and Compliance Requirements

- Upgrade to a Pega version that meets the bank's latest security, vulnerability, and audit standards.
- Obtain approval from the Architecture Review Board.



Enable Cloud Readiness

- Transition away from on-prem servers to support the enterprise-wide Data Center Exit initiative.
- Adopt a cloud-compatible deployment model without disrupting payment workflows.



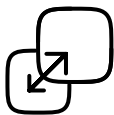
Reduce Platform Dependencies

- Minimize reliance on WebSphere Application Server and JMS bottlenecks to enable more flexible, scalable deployment.
- Shift toward a deployment model aligned with the bank's architecture direction.



Modernize Technology Stack

- Adopt PostgreSQL as the new database standard.
- Ensure compatibility with modern browsers and updated APIs requirements.



Create Scalable Platform

- Position the payments investigation platform for easier upgrades, better maintainability, and long-term resilience.

The financial institution aimed to upgrade to a secure, cloud-ready Pega platform that reduces legacy dependencies and aligns with modern architecture and compliance standards.

Solution

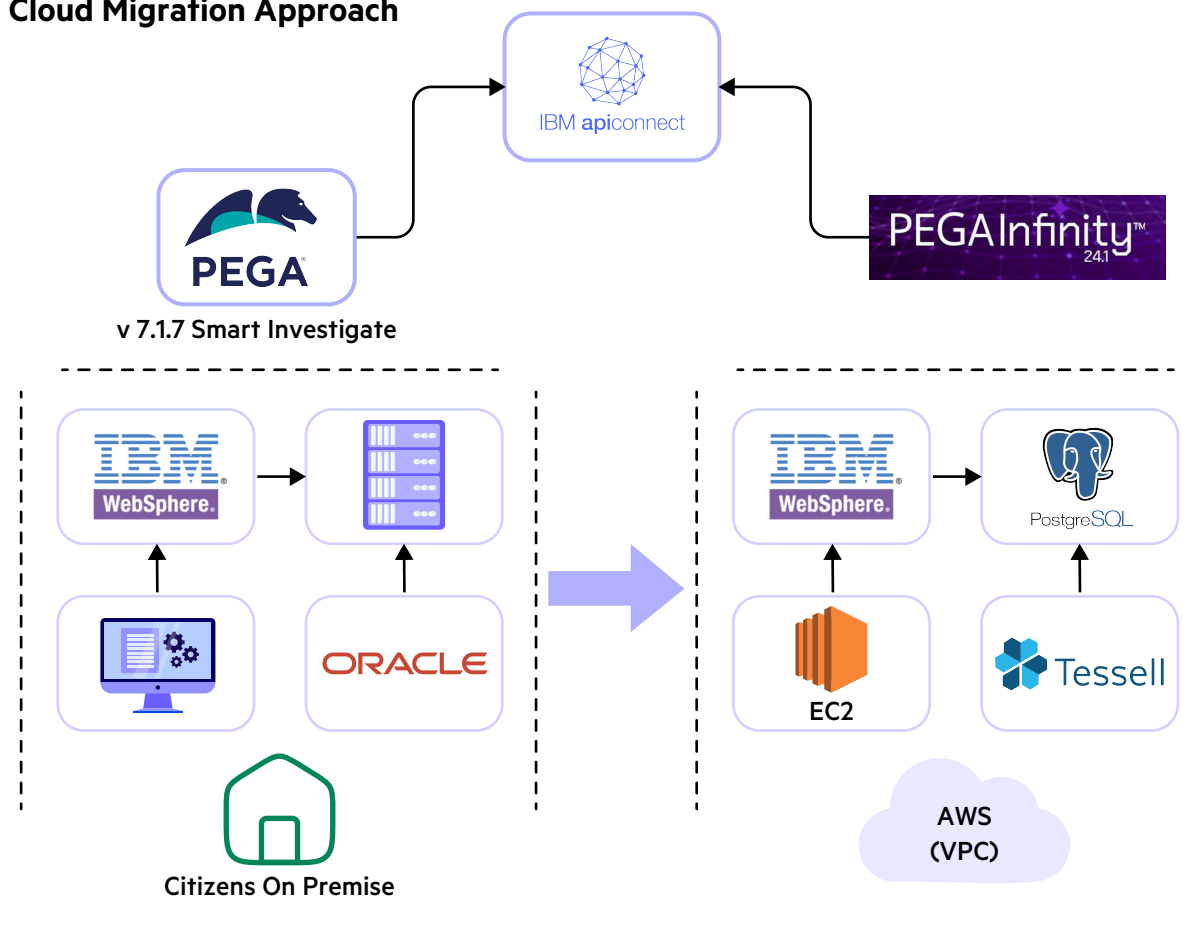
EvonSys delivered a coordinated modernization program combining a Pega platform upgrade with cloud migration, enabling the bank to transition from a legacy, on-premises architecture to a scalable, secure, and cloud-ready ecosystem. The program was executed through parallel upgrade and cloud onboarding tracks, minimizing disruption to critical payment investigation workflows.

Upgrade & Modernization Strategy

A stable QA on-premises environment aligned with production was identified as the baseline to initiate controlled upgrade activities. The existing technology stack was modernized to support the transition, including upgrades to Oracle database versions, Java, and legacy JDBC drivers.

The Pega platform was upgraded from version 7.x to Pega Infinity, followed by the Smart Investigate framework upgrade. Post-upgrade, the application underwent comprehensive validation, including sanity testing, issue remediation, and retrofit activities to address compatibility gaps introduced by the version transition.

Cloud Migration Approach



Cloud onboarding activities were initiated in parallel, including provisioning of AWS EC2 infrastructure and PostgreSQL database services.

The diagram below highlights the transition from the legacy on-premises architecture to the target cloud environment, including key infrastructure and application components.

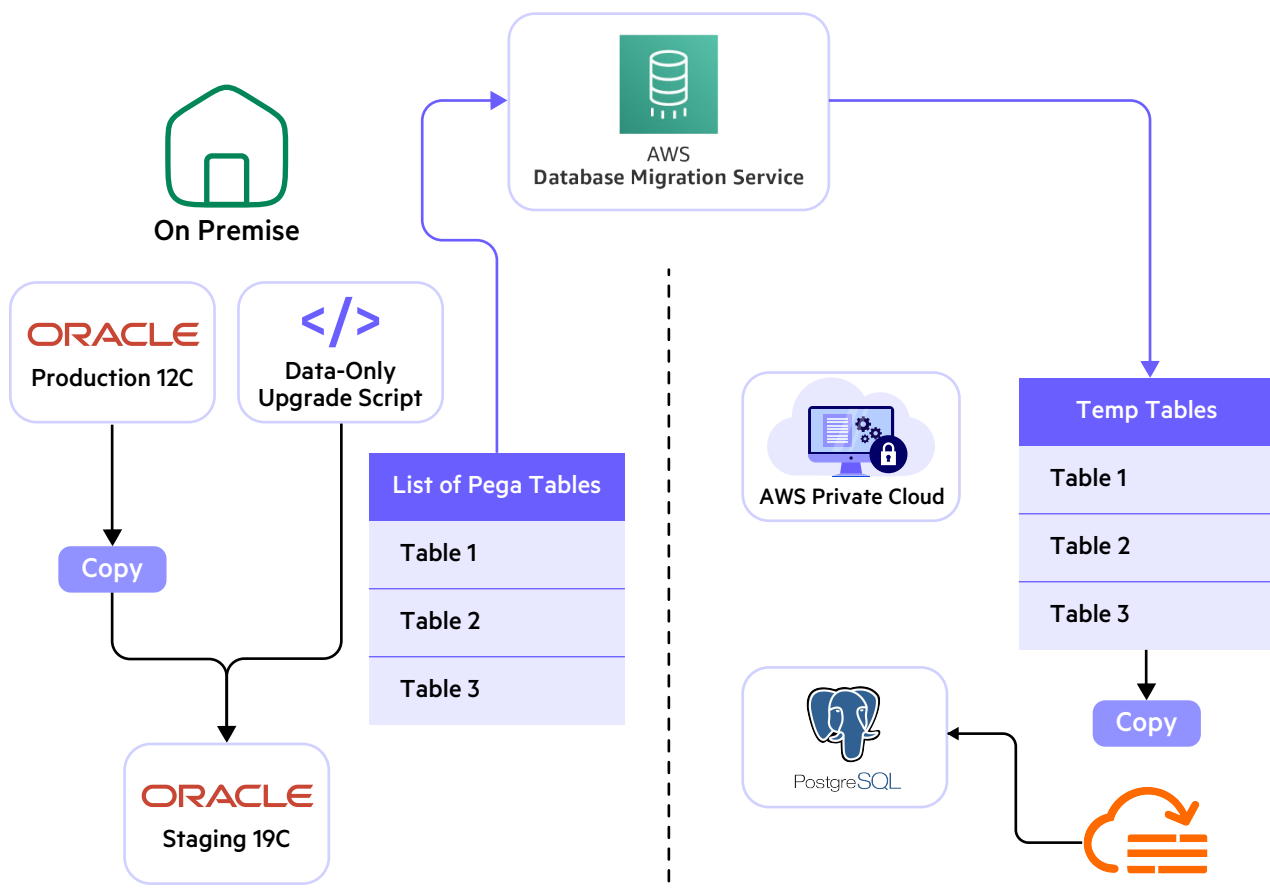
Once the upgraded application reached sufficient functional stability, a clean installation of Pega was performed in the cloud environment, and the application rule base was migrated using RAP packages.

Development activities were progressively transitioned to the cloud environment, aligning with the bank's target operating model and enabling a cloud-first development approach.

Data Migration Strategy

A structured data migration approach was implemented using staged environments and controlled cutover planning.

The data migration flow shown below outlines the staged migration approach, including data movement, validation, and final cutover to the cloud platform. Production data was migrated in phases to ensure data integrity, continuity, and minimal disruption to business operations during the transition.



Application & Deployment Modernization

The legacy EAR-based deployment model, which relied on EJB and MDB containers for JMS listeners on WebSphere Application Server, was modernized to align with Pega Infinity's supported WAR-based deployment model. MDB-based listeners were converted to JMS-based implementations compatible with the updated architecture, ensuring improved scalability and maintainability.

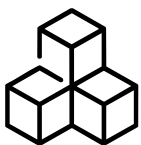
Deployment & Readiness

Dedicated QA and testing environments were prepared to validate application functionality, integrations, and performance on the modernized stack. Final production readiness activities, including deployment validation and environment stabilization, were completed to ensure a seamless transition to live operations.

EvonSys modernized the entire tech stack and redesigned the deployment model, enabling the bank to move from a legacy EAR-based setup to a secure, cloud-ready WAR deployment.

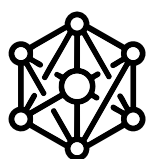
Key Innovations Introduced

EvonSys implemented several solutions to ensure compatibility, stability, and cloud readiness:



Compatibility POCs

Validated Pega Infinity 24 on WebSphere, PostgreSQL, and JMS through targeted proof-of-concepts.



Modernized Authentication & Listeners

Replaced EJB-based SSO with SAML 2.0 OKTA SSO and converted MDB listeners to Pega JMS listeners.



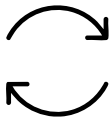
Optimized Upgrade & Migration Approach

Switched from Oracle-based upgrade migration to a fresh cloud installation with code and seed data moved via RAP.



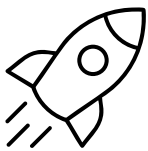
Structured Data Migration Framework

Set up staging on Oracle 19c, used AWS DMS, and applied class-based and datetime-based data segregation and chunking.



Iterative Migration for Large Databases

Used multiple migration cycles, moving work items early and finalizing assignments and related data in the last cutover.



Cloud Startup Stabilization

Resolved EC2 hibernation issues by clearing Kafka folders and resetting streaming tables to ensure reliable Pega startup.

Business Outcome

The modernization process delivered clear operational, security, and long-term strategic benefits for the client.

10-Month Delivery

Completed the full transformation from discovery stage to business handover in 10 months, enabling faster adoption of a modernized platform.

Fully Modernized Platform

Upgraded to the latest Pega tech stack, improving performance, stability, and maintainability.



Security Compliance Achieved

Strengthened security posture and aligned the platform with the bank's latest compliance standards.

Enhanced User Productivity and Operational Efficiency

Added targeted feature enhancements that boosted user efficiency and streamlined operations.

EvonSys brought deep Constellation and mobile experience, helping the firm modernize TOE in months while maintaining the integrity of its existing platform.

Client Testimonial



Over the past three months, the EvonSys team's dedication and expertise have delivered outstanding results in the Pega CFG WireFX cloud migration, completing the program with zero incidents. Every team member fulfilled their responsibilities with precision, allowing us to execute each phase of the build, deployment, integration, testing, and UAT smoothly and efficiently. Our business users can now fully benefit from the latest technology and improved business capabilities.

The team consistently went above and beyond, often working weekends and extended hours to resolve issues and ensure uninterrupted progress. This initiative reflects the team's commitment to excellence and their drive to deliver superior business solutions. My sincere thanks to everyone for their exceptional effort and dedication.

- Vice President



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