Microsoft

Sourced Group helps Canadian bank migrate business-critical Pega apps to Microsoft Azure

sourced
cloud at scale™

Challenge: A large Canadian bank needed to migrate its business-critical Pega apps from on-premise servers to the cloud

The bank uses Pega apps to optimize customer interactions, but hosting the apps on 250+ servers on-premises was causing capacity constraints, unnecessary complexity, and additional difficulty.

Solution: A secure, three-tier solution built on Microsoft Azure

Sourced Group helped the bank design a repeatable solution to enable quick and secure Pega app migrations to the Microsoft Azure cloud.

Results: Improved response time and flexibility, reduced cost and complexity

With Microsoft Azure, the bank can deploy new Pega platforms in hours rather than days, run large-batch computations, and achieve greater agility.

The financial services industry is one of the most highly regulated industries in the world. This can make it hard for banks to undergo any type of significant digital transformation because every step they take must be in strict compliance with local and federal regulations. Modernizing in this industry is tough, but with help from the right partner, it's not impossible.

Sourced Group, a Microsoft partner who holds multiple gold competencies in the Microsoft Partner Network including Cloud Platform and Data Analytics, has provided this type of support for banks for years. Servicing a wide range of industries—including financial services, public sector, healthcare, aviation, media, and telecommunications—Sourced is a rapidly growing consultancy with employees in Australia, Canada, Singapore, and Malaysia. The group focuses on helping their clients migrate to hyperscale cloud providers so they can modernize their operations, revitalize their offerings, and reimagine the way they do business.

One of their more long-standing engagements has been with a large bank in Canada. Years ago, when the bank began its cloud transformation journey, Sourced was brought on as a strategic advisor. Together, they began building and deploying an enterprise-grade Microsoft Azure platform intended to support the bank's entire application portfolio. The goal was to enable the application teams to benefit from the full library of Microsoft Azure services while maintaining the ability to strictly enforce security controls across the entire environment.

One of the more challenging applications to migrate to the cloud was Pega. Pegasystems—a leader in cloud software for customer engagement and operational excellence—offers business-aligned applications for sales, marketing, services, and management, connecting clients and management channels in real-time so they can share and react to new information with ease. Financial institutions use Pega for many of their business processes, and Pegasystems' expertise in digital process automation has made them a significant player in the financial services industry.

Here's the catch though: Pegasystems' keystone platform, Pega 7—which powered the bank's national and international operations—was hosted exclusively on-premises at the bank. Because this business-critical platform had touch points across many of the bank's key business operations such as online banking, mortgages, loans, and credit card campaigns, Sourced was confident that migrating it to the cloud would unlock numerous benefits for the bank's customers. What's more, hosting these applications on-premises was causing significant, widespread challenges for the bank such as:

1. **Severe capacity constraints.** Because the Pega environments were hosted across 250+ servers on-premises supporting a variety of business use cases, the bank was running into capacity limitations which prevented its customer-facing business units from bringing new products to market.
2. **Difficulty deploying new workloads.** Because Pega was deployed on shared infrastructure and shared databases, it was difficult to scale and deploy new workloads.
3. **Difficulty troubleshooting problems.** During workload contention, a lack of tooling and Pega's shared infrastructure made it difficult to troubleshoot and pinpoint the root causes of issues.
4. **Limited agility.** The complexity of the on-premises solution significantly slowed capacity increases which limited the bank's ability to expand its Pega footprint and remain agile.

In addition to these challenges, the bank needed to expand its Pega environment to meet a new business demand: deploying Next Best Action. This Pega application calculates client eligibility for offers, but to deploy it, the bank would need to run large-scale batch computations that were impossible with its current on-premises infrastructure. It knew they would need to leverage the power and scale of the cloud to calculate all the "what-if" scenarios required to enable this application.

Migrating Pega to the Microsoft Azure cloud

Together, Sourced and the bank designed a plan for migrating its Pega applications to Microsoft Azure. Because Pega is a business-critical, highly-regulated three-tier application, the solution put in place would have to address all three tiers.

The first was the *web tier*. Here, Sourced and the bank used the Microsoft Azure Application Gateway which provided load balancing and facilitated a highly available architecture. This also enabled mutual authentication between clients and the gateway, and from the gateway to the application servers.

The next was the *application tier*. Here, Sourced implemented an auto-scaling application tier to meet daily workload requirements, allowing the bank to meet SLA requirements of 99.95 percent. This highly available and scalable architecture was also critical for deploying the Next Best Action application. For load balancing between the online banking platform and the application tier, Sourced leveraged Microsoft Azure Load Balancer and Microsoft Azure Application Gateway.

The last component was the *data tier*. Here, the bank leveraged Microsoft Azure SQL Managed Instance because of its 99.99 percent SLA, its security features, and because Pega supports Microsoft SQL for its persistence layer. Azure SQL Managed Instance also offered the strict network controls that the bank required through VNet isolation and private IP addresses. Because Pega was a critical workload, all data was backed up to prevent data loss and ensure business continuity in the case of a failover.

With this solution in place, the first migration was a success. However, Sourced knew that this was only the first step in the bank's cloud transformation journey—as its business needs grew, it would need to replicate this migration many more times.

Delivering a repeatable solution

With one successful Pega migration under their belt, the bank and Sourced immediately began planning for the future. They knew there would be more Pega migrations to come as the bank grew and its needs evolved, so they set out to build an automated deployment solution to generate repeatable, scalable, and secure environments, using the first migration as a template.

Sourced leveraged its experience in delivering Cloud at Scale™ solutions and knowledge of regulated environments to deliver a repeatable, end-to-end solution. They codified security, availability, and operational concerns into reusable components and templates so bank engineers could quickly deploy resources that met organizational controls and requirements.

Because security certificates are prevalent in this solution, Sourced automated the management of secret information with Microsoft Azure Key Vault. Limiting manual access to secrets, such as credentials and private keys, improved the security posture of the environment and reduced the risk of human error. But, as is the case with most new technology implementations, this required the bank to devise new business processes to manage them. Sourced worked closely with the bank's security teams to implement processes for managing these new secrets and with additional teams to build the cloud computing skills necessary to manage the bank's new Azure-based solutions.

Making an impact today and tomorrow

Sourced's scalable, repeatable Pega migration solution has helped the bank achieve greater flexibility and cost reductions while fundamentally changing the way in which it approaches implementing new technology. With this modernized approach to cloud migrations, the bank can now deploy a new Pega platform in hours rather than days.

Looking ahead, Sourced and the bank have big plans for the future:

1. Examine and update every Pega application within the bank's environment.
2. Stabilize to Pega 8.3 and explore additional modern hosting options such as Microsoft Azure Application Service and Microsoft Azure Kubernetes Service. By moving from IaaS to PaaS, the bank would simplify its architecture and unlock many operational benefits.
3. Eliminate 250+ on-premises servers to increase application isolation and environment reliability while introducing transparent billing.
4. Pursue other optimization opportunities to reduce costs via auto-scaling and Microsoft Azure Reserved VM Instances, allowing the bank to further strengthen its business case around a holistic move of Pega to the cloud.

Together, Sourced, the bank, and Microsoft Azure are paving the way for cloud modernization in the financial services industries.

sourced
cloud at scale™

"By partnering with Microsoft, we were able to not only address the flexibility and scalability challenges facing the bank's on-premise implementation of Pega Platform but also fundamentally modernize its approach to managing business critical applications. By instrumenting Microsoft Azure with principles that include DevOps, disposable infrastructure and Infrastructure as Code, our client has been able to realize compounding benefits well beyond a simple infrastructure re-platforming exercise."

— Pedram Sanayei, Principal Consultant, Sourced Group