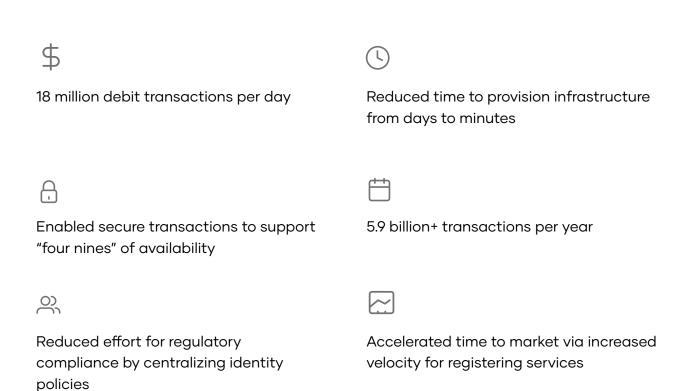# HashiCorp

Interac | CUSTOMER CASE STUDY

Powering the future
of payments

Interac uses HashiCorp solutions to help modernize its
infrastructure and enable billions of secure, irrevocable, near
real-time nationwide transactions each year

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About Interac

Interac empowers Canadians to transact digitally with confidence by providing payment and value exchange services. In helping to develop the future of money, data, and verification in Canada, security is the core of everything we do. Through our privacy, fraud mitigation, governance, and verification and authentication services, we help keep Canadian customers safe and secure when transacting. With nearly 300 financial institutions connected to our network, Canadians choose Interac products over 20 million times a day on average to exchange money. Interac champions workplace culture and corporate citizenship based on the principles of responsibility, diversity and inclusion. We are proud to be one of Canada's leading and most trusted financial brands.

18 million debit transactions per day

Reduced time to provision infrastructure from days to minutes

Enabled secure transactions to support "four nines" of availability

5.9 billion+ transactions per year

Reduced effort for regulatory compliance by centralizing identity policies

Accelerated time to market via increased velocity for registering services

The changing shape of the transactions landscape

Every day, millions of Canadian citizens and thousands of private businesses and government agencies rely on Interac to transfer and exchange money. The company's world-class debit payments system with broad-based reliability, security, and efficiency empowers Canadians to access and send funds whenever and from wherever they choose — more than 5.5 billion times per year.

Pushing for greater innovation in transaction solutions, the company is undergoing a transformation initiative to support its multi-year business strategy, which included developing a real-time payments infrastructure and modernizing existing products to help keep up with consumer demand.

"In our business, we're not just concerned with what we can do right now, but also with what's possible years down the road," says Greg Kliewer, Interac's AVP of Architecture and Strategy.

"Our multi-year strategy includes upgrades to our existing infrastructure, service delivery, and secrets management practices as well as the tools we use to manage them."

Challenges

Streamlining cloud and on-premises infrastructure deployment

Eliminating manual secrets management

Accelerating digital transformation initiatives and delivery of real-time, secure financial transactions

Complying with stringent security and data governance requirements

Revolutionary platforms require novel approaches

One of Interac's primary goals is to modernize its popular Interac® e-Transfer service, a secure and convenient way to send money in Canada using online banking, to align with the on-demand, instant transfers customers have come to expect. Operated through member banks and credit unions, Interac e-Transfer transactions are designed to be near real-time but can sometimes take up to 30 minutes to complete depending on the bank or credit union.

Launched in 2021, Interac e-Transfer for Business is an upgraded version of the retail Interac e-Transfer service that is ubiquitous in Canada consumer payments today. Interac e-Transfer for Business includes features such as real-time payment confirmation, account-based payments, a larger, $25,000 limit, and the availability to submit payments through a bulk payment file.

While Interac is busy working to update existing services, the company is also working with Payments Canada as the exchange solution provider for Payments Canada's Real-Time Rail (RTR) project. In delivering these services, Interac knew that upgrading its technology would be critical and would help support the ability to meet strict risk-management standards set by Payments Canada and authorities at the Bank of Canada.

The project simultaneously requires enhancing data security all the way down to the application layer and providing Interac the flexibility to manage both on-premise and cloud-based workloads using a consolidated industry-leading toolchain.

Seamless infrastructure automation enables easier, safer transactions

Eager to kick Interac's transformation into overdrive, Kliewer and his colleagues sought a scalable, end-to-end infrastructure automation solution capable of supporting everything a digitally enabled enterprise needs to compete: service discovery as part of a larger service mesh, infrastructure as code, hybrid-cloud orchestration, and automated secrets management to strengthen its security posture.

"What we really wanted was a best-of-breed service discovery solution and a comprehensive set of common tools that could create consistency across our internal teams and our external partners," Kliewer says. "HashiCorp Terraform, Consul, and Vault enable us to realize our company-wide microservices adoption goal while providing the tools, support, and infrastructure we need to build products in a secure, scalable environment."

Specifically, Terraform and Consul combine to form the foundation of an efficient self-service infrastructure and service mesh environment that dramatically improves the company's ability to roll out new products, services, and features quickly and securely.

Terraform's easy-to-learn HCL language along with a Cloud Development Kit (CDK) for familiar programming languages accelerates infrastructure as code adoption, and a private registry allows the experts to compose the infrastructure, validate it, test it, and then be able to publish the results for the rest of the organization to use. These workflows and the extensibility of Terraform to work with all types of infrastructure enable multiple Interac teams to collaborate more closely and reuse code to simplify and standardize deployments of different aspects of products and services.

Meanwhile, Consul helps Interac eliminate time-consuming manual service connections by automatically discovering and securely connecting services developed across on-premises virtual machines, as well as in multiple private and public cloud environments from a central registry. Now, Interac teams can function completely autonomously, leveraging Consul's self-service capabilities and a real-time directory of running services to deploy a service mesh for efficient and secure application deployment.

"Simultaneously developing a wide range of new products for a host of new markets while enhancing existing ones can easily add unnecessary complexity and time to the process," Kliewer says. "Consul and Terraform help to automate many of the most time-consuming and difficult elements of those processes and are key pieces to our service mesh puzzle."

As the future backbone of Canada's financial transactions system, security and compliance are paramount to the success of any rollout. HashiCorp Vault is designed to deliver automated secrets management as a service, replacing previously inefficient processes.

According to Kliewer, Interac's reputation as one of the most trusted financial brands in the country has been built largely on the company's well-documented emphasis on and dedication to safeguarding sensitive information using the latest technology and best practices.

"HashiCorp Vault is an integral part of our security posture because it helps to eliminate the possibility of mistakes in our secrets management that otherwise could occur because of even the smallest error," he says. "With our goals of achieving ISO270001 certification and maintaining the reputation we've worked so hard to build over the years, the value of HashiCorp Vault as a service across the organization to aid in transforming how we handle cryptographic material and app-level passwords is important."

Solving tomorrow's payments problems today

When creating the platform that will eventually support a national payments system, step-by-step benchmarks are hard to come by. The platform needs to be able to handle billions of fast, data-rich payments — giving government and businesses of all sizes the ability to move meaningful sums of money instantly and with certainty.

But Kliewer notes that consolidating and centralizing the infrastructure and secrets tool set made a sizable impact on teams' daily activities. "Automating deployment with HashiCorp Terraform creates marked increases in overall efficiency as well as our deployment frequency and the general velocity of our operations," he says. "When you factor in the enhanced service discovery with HashiCorp Consul's automated authentication and authorization and how HashiCorp Vault greatly reduces the time our security teams used to spend logging in and out of various systems to manage secrets, the return on investment just in productivity is impressive."

Modernizing its IT environment with HashiCorp solutions is a key step for Interac to achieve its ambitious future objectives and maintain the company's perch atop the Canadian financial technology market. "HashiCorp has helped us fundamentally transform and mature our IT operations while improving our delivery timelines, productivity, and ability to meet the strictest compliance regulations," Kliewer says. "Everything we do now is designed to be more seamless, more efficient, and more secure. It's exactly what we need to get where we ultimately want to go."

Outcomes

Consolidated and standardized toolkits for dozens of internal teams

Improved service discovery and securely connected applications through authentication and authorization

Enhanced collaboration and built-in security by incorporating a security-first approach to development cycles

Automated secrets management to minimize burden of managing individual access to critical secrets material

Accelerated time to market of Interac's products/services

Enhanced service discovery and securely connected applications through authentication and authorization

Solution

Interac uses HashiCorp Vault, Consul, and Terraform to help implement infrastructure and connect microservices in a containerized development environment, while automating secrets management for enhanced security across the enterprise.

Interac Partner

Greg Kliewer
AVP of Architecture
and Strategy,
Interac

Greg Kliewer is the Assistant Vice President of Architecture and Strategy at Interac. A seasoned IT executive and practitioner, Greg spent more than two decades prior to joining Interac in various roles spanning systems and solutions architecture, integration, and security strategy for high-profile domestic and multinational organizations. A graduate of the University of Toronto and Georgian College, Greg currently resides in the Greater Toronto area.