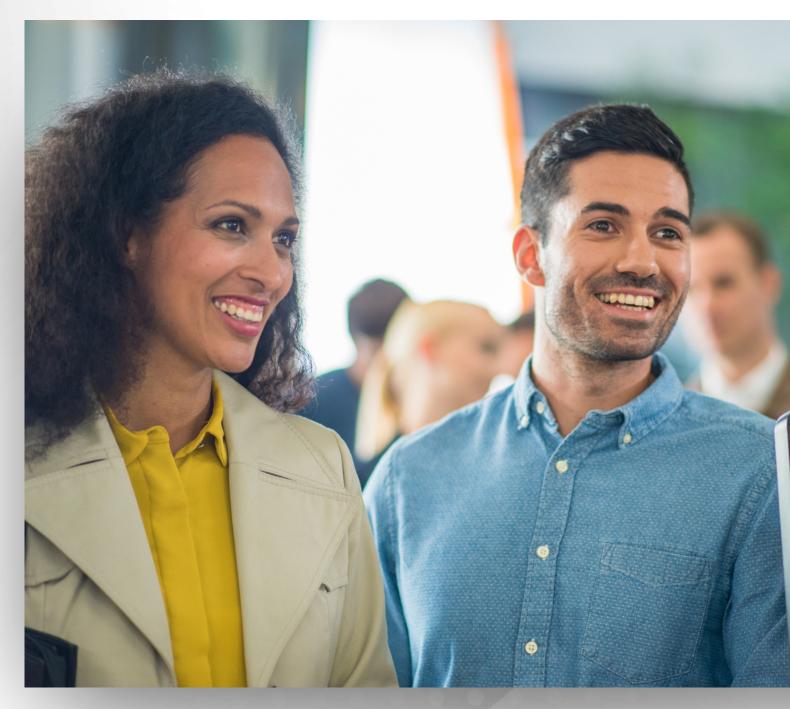
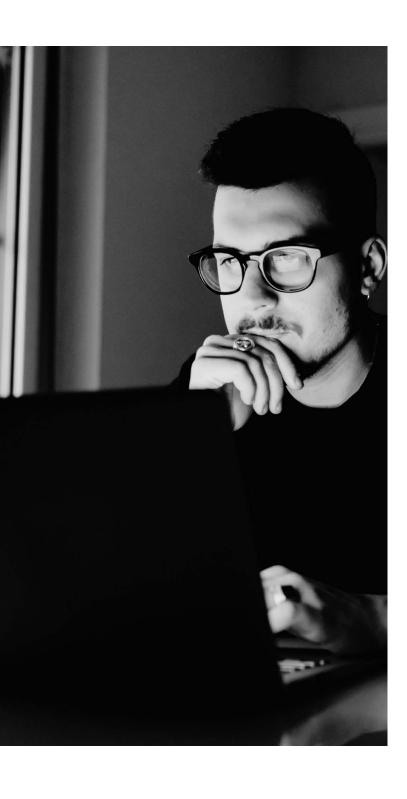
# crossvale

# Acquire and Retain the Next Generation of Banking Customers



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# Branch-to-digital transformation

Transition to a digital bank with Crossvale Next-Gen Banking Platform, powered by Red Hat

# Why seamless branch-to-digital transformation is critical

The financial services industry has experienced a seismic shift in recent years. Fintechs—technology-enabled financial services innovators—and forward-thinking traditional banks are providing financial products and payment options in a variety of nontraditional places, putting you in competition with the likes of Apple, PayPal, and even Amazon, Facebook, and Walmart—in addition to the bank across the street.

In response, many financial institutions have set out to offer comprehensive digital banking services, and the numbers are on their side. Surveys show that 50% of banking customers interact with their bank using mobile apps or websites at least once a week, and branch transactions have fallen off significantly as consumers become more comfortable banking online. As the availability of digital banking increases and cashless transactions become the norm, there's little need for consumers to visit a branch.

While banks may likely choose to retain a smaller number of strategically located branches to cater to customers who prefer in-person banking, modernizing to deliver digital banking services helps you appeal to a wide variety of customers and banking styles. Offering more and better digital experiences presents an opportunity to optimize physical locations and reduce the overhead costs of physical bank branches.

The time for reinventing how you deliver banking experiences is now. But modern banking experiences require modernizing your infrastructure so that it can support innovative new services across marketing, sales, and service.

33

Incumbents are poised to reassert themselves as the 'rightful owners of banking'— if they can find fintech-like offerings at reasonable prices.

Accenture

**86**%

of consumers want to make payments through digital channels.<sup>2</sup> 60%

of consumers want to open a bank account online.<sup>2</sup> **\$21.8** 

billion is the projected size of the digital banking market by 2030.<sup>2</sup>

<sup>&</sup>lt;sup>1</sup> Accenture, The banking experience reimagined, accessed September 2023.

<sup>&</sup>lt;sup>2</sup> Verified Market Research, <u>Digital Banking Market</u>, May 2023.



#### The impact of waiting compared to the benefits of modernizing now

While the momentum for digital-first banking has been building for years, the pandemic and its aftermath are compelling traditional banks to redefine how they interact with customers. Banks that don't innovate will be outpaced by those that do. Fortunately, today's conditions are ideal for rewriting the rules and positioning yourself for what's next in finance. Beyond cost savings and operational benefits, prioritizing digital banking gives customers the experience they are looking for while giving you the opportunity to offer new, differentiating products and services.

#### Technical and real estate debt impede innovation

Maintaining outdated IT systems and undertrafficked bank branches incurs needless costs, burning through resources that could be applied to innovation. Next-generation digital banking solutions are less costly to operate and enable digital services that increase revenues. Consolidating operations and closing underutilized branches helps you optimize expenses so you can focus on investing in technology that delivers enhanced digital banking experiences.

#### **High operational costs**

Older infrastructure simply isn't as efficient as next-generation infrastructure and costs more to operate. Next-generation IT solutions deliver more processing power, more efficiently. At the same time, digital banking services require significantly lower operating costs compared to in-person services. Closing or repurposing less popular bank branches cuts the costs of maintaining and staffing those physical locations.



#### Less agility and flexibility

Keeping up with the competition requires agile, flexible IT solutions that help you respond quickly to changing business needs and offer services to anyone with an internet connection. By the same token, rationalizing bank branches gives you more financial agility and flexibility to invest elsewhere or repurpose branches for value-added services.

#### **Reduced competitiveness**

Fintechs and traditional banks that are already offering digital banking services are more appealing to consumers. Delivering excellent customer experiences can set you apart in a crowded market. Beyond innovative digital apps and services, customers appreciate the lower fees, competitive interest rates, better credit card rewards, and 24/7 banking convenience that only digital banking can provide. At the same time, you can put a wealth of complementary products at your customers' fingertips, helping you expand your share of wallet with attractive offers for money market accounts, mortgages, auto loans, personal loans, and investment vehicles.

#### Increased security risks

Cyber-criminals are incredibly sophisticated and are constantly looking for new ways to steal valuable financial data. Modern IT provides a more secure approach to data risk and compliance requirements. Reducing the number of branches further reduces your attack surface.

#### The pillars of branch-to-digital transformation

Branch-to-digital transformation enables rapid onboarding of new customers within minutes using automation and self-service capabilities. This allows you to enhance customer engagement and provide seamless interactions across multiple channels. The transformation is underpinned by automation, hybrid cloud capabilities, and software development lifecycle (SDLC) modernization.

# Automation leads to strategic thinking at the speed of business

Automation is more than just the substitution of people with technology. It's a business value creator. Visionary banks view it as freeing people up to innovate and move apps, the business process, and the organization forward.

IT automation lets you use infrastructure-ascode to consistently deploy, manage, and scale infrastructure and workloads where they make the most sense—in your physical data center, private or public cloud, or at the network edge. You can build minimal-touch deployment processes that are integrated with full security measures. Custom automation can completely rebuild your ecosystem in minutes.

# Hybrid cloud gives IT the ability to run at the speed of business

Hybrid cloud—using a combination of onpremise, public, and private cloud resources—
makes it possible to scale business resources
on demand. This means you can right-size your
on-premise infrastructure to minimize costs and
benefit from pay-as-you-go consumption pricing.
With a hybrid cloud strategy built on open source
technologies, you can stay agile—no matter
the complexity or environment. With an open
approach, you can run your workloads wherever
you want. An open hybrid cloud strategy unites
interoperable infrastructure, app development,
and automation solutions to bring consistency in
any cloud, so you can align your technology choices
to your business strategies, wherever they lead.

# SDLC modernization delivers applications at the speed of business

Customers are sophisticated, discerning, and constantly looking for new and innovative services and experiences. Modernizing SDLC helps developers keep pace with demand, with the ability to create, deploy, and update applications at speed.

Adopting a cloud-native development model improves the agility, speed, and flexibility of development teams. Cloud-native development provides the flexibility and agility to build and run applications more securely on any cloud, and it supports well-known development best practices like continuous integration and delivery (CI/CD), DevSecOps, and continuous testing and monitoring.





# How the Crossvale Next-Gen Banking Platform with Red Hat can help

Transitioning from traditional branches to digital channels can be challenging, but the Crossvale Next-Gen Banking Platform, powered by Red Hat technologies, eases this process.

#### **Automation: Red Hat Ansible Automation Platform**

Red Hat provides advanced automation solutions, such as Red Hat® Ansible® Automation Platform, to help you modernize and digitally transform quickly and effectively. Red Hat Ansible Automation Platform can help you create a consistent foundation for automation and improve existing processes to support digital initiatives. It features an easy-to-use engine that automates provisioning, configuration management, application deployment, and service orchestration across on-premise and cloud environments.

Ansible Automation Platform helps you adopt innovative application platforms with less risk by:

- Scaling applications to meet unpredictable demand so you can innovate with confidence and deliver the best possible customer experience.
- Converting resource configuration and provisioning, using continuous monitoring, reporting, and remediation capabilities to help maintain compliance with corporate and regulatory policies.
- Using DevOps practices and CI/CD capabilities to build and deliver applications that enhance digital interactions with your customers.

#### **Hybrid cloud: Red Hat OpenShift**

A hybrid cloud architecture protects and uses existing investments while providing the foundation for modernization. By building a consistent architecture throughout the enterprise and the various cloud environments that are

available both now and in the future, you can start to shift processing and applications away from heavy upfront capital spending and toward operational expenditure. In addition, you can scale rapidly, increasing or decreasing compute capacity to respond more quickly to market shifts or customer demands.

Red Hat OpenShift® is a unified platform for building, modernizing, and deploying hybrid cloud applications, based on containers, at scale. Red Hat OpenShift is ready to be installed on top of your current environment. You can install Red Hat OpenShift once and consume Kubernetes as a service, anywhere your organization runs. In addition, dozens of available Crossvale accelerators operate within OpenShift and instantly link to popular banking products like TSYS, Black Knight, FIS, and Temenos, so you can meet your goals faster.



#### Software development lifecycle modernization: Red Hat OpenShift with GitOps

Red Hat OpenShift gives developers the tools they need to rapidly create modern, cloudnative applications with a single and consistent development model across the entire software development lifecycle. It offers self-service capabilities so that developers can provision their own resources without waiting for IT. With Red Hat OpenShift, developers can work smarter and faster with a complete set of services for bringing apps to market on your choice of infrastructure.

However, there's no single tool that converts a development pipeline to DevOps. By implementing a GitOps framework, updates and changes are pushed through declarative code, automating infrastructure and deployment requirements and CI/CD. Red Hat OpenShift GitOps is an operator that provides a workflow to integrate Git repositories, CI/CD tools, and Kubernetes to realize faster, more secure, scalable software development, without compromising quality. OpenShift GitOps lets developers build and integrate declarative Git-driven CD workflows directly into their application development platform. Together, Red Hat OpenShift and OpenShift GitOps help developers:

- Apply consistency across cluster and deployment lifecycles.
- Consolidate administration and management of applications across on-premise and cloud environments.
- Check the state of clusters making application constraints known early.
- · Roll back code changes across clusters.
- · Roll out new changes submitted via Git.



# Acquire and retain the next generation of customers with next-generation banking

Crossvale Next-Gen Banking Platform, powered by Red Hat

#### The banking landscape is changing

Today's banking consumers are both more generous and more discerning. On the one hand, people are sharing more information about themselves than ever. On the other hand, they expect exceptional service in return.

Customer expectations have expanded to include types of services traditional banks may not be equipped to provide. A new generation of customers expects banks to behave like technology companies, providing ubiquitous access to services, cutting-edge functionality, and a consistent experience across platforms. And a new generation of technology-enabled financial services innovators—known as fintechs—are ready to swoop in and give it to them.

#### The future of banking will look very different

Fintechs are fundamentally changing the financial services landscape. Financial products and payment options are popping up in a

variety of nontraditional places, from large telecommunications and IT companies to social media platforms and small retailers.

Yesterday, you were competing with the bank across the street. Today, you're competing with Apple, PayPal, and even Amazon, Facebook, and Walmart. Enterprise-wide innovation is required to compete with digital disruptors whose presence is seeping into virtually every corner of the financial services market and into the virtual reality space of the metaverse. And it's all happening at a breakneck pace.

But if you're a traditional bank, you may be constrained by legacy investments, applications, and operational models—not to mention multiple compliance requirements. You could benefit from a well-planned modernization framework to guide your transformation from where you are today to where you need to be tomorrow.

**55**%

of millennials are likely to make a purchase directly through a social media platform.<sup>1</sup> **36**%

of all consumers are highly interested in using a digital bank in the next year.<sup>2</sup> **73**%

of Gen Z consumers said they would be willing to make a purchase in the metaverse.<sup>3</sup>

<sup>&</sup>lt;sup>1</sup> FIS, Not So Fast, Gen Z: Millennials Lead the US for Fintech Adoption, FIS Research Shows, November 2022.

<sup>&</sup>lt;sup>2</sup> PYMNTS, <u>The Data Point: 57% of Millennials and Bridge Millennials Drawn to Digital Banks</u>, September 2022

<sup>&</sup>lt;sup>3</sup> FIS, Not So Fast, Gen Z: Millennials Lead the US for Fintech Adoption, FIS Research Shows, November 2022.

#### 5 reasons why acting now is critical

Modernization and digital transformation can be challenging for internal IT teams, who are occupied with managing day-to-day operations and maintaining legacy equipment. Many banking organizations find it difficult to foresee the challenges associated with a new technology, so planning becomes bogged down. However, the risks of delaying modernization are high.

1.

#### Overcoming technical debt

Maintaining outdated systems is costly and time-consuming, taking away resources that could be applied to innovation. Next-generation solutions offer higher performance with better efficiency and simplified operations.

3.

#### Increasing agility and flexibility

Legacy infrastructure was built for the IT needs of yesterday. The pace of innovation required to keep up with the competition demands agile, flexible solutions that help you respond quickly to changing business needs.

2.

#### **Reducing operational costs**

Older infrastructure simply isn't as efficient as next-generation infrastructure. Next-generation solutions are built to handle workloads that require more processing power while lowering power consumption to help you meet sustainability goals.

4.

#### **Enhancing competitiveness**

Fintechs and traditional banks that are already using the latest technologies are more appealing to consumers. Failing to deliver the services consumers want puts you behind the competition, and every day you delay makes it harder to catch up.

5.

#### Reducing security and compliance risks

Cyber-criminals are incredibly sophisticated and are constantly looking for new ways to steal valuable financial data. Modernization provides a more secure approach to data risk and compliance requirements.



#### The Crossvale Next-Gen Banking Platform with Red Hat OpenShift

It's clear that you need a modern toolbox for banking innovation. The Crossvale Next-Gen Banking Platform takes a top-down approach to modernization, using the Crossvale Modernization Framework and Red Hat technologies such as Red Hat® OpenShift® to help you modernize for the digital era.

#### **Enhanced customer experiences**

Banks can enhance every customer interaction with real-time, personalized experiences. Red Hat's modern customer engagement hub, running on Red Hat OpenShift, uses decisioning and integrated artificial intelligence (AI) models to fine-tune each customer's experience for every interaction, in real time. By using an application programming interface (API)-first methodology, Crossvale ensures easy integration with your existing banking systems while providing a unified view of customer data across multiple channels.

#### **Seamless branch-to-digital transformation**

Transitioning from traditional branches to more digital channels can be challenging, but the Crossvale Next-Gen Banking Platform eases this process. It enables rapid onboarding of new customers within minutes using automation and self-service capabilities. This allows you to maintain customer engagement and facilitate seamless interactions across multiple channels.

#### Improved operational efficiency

Give developers the tools they need to rapidly create modern, cloud-native applications.

Red Hat OpenShift provides a single, consistent development model across the entire software

development lifecycle. Self-service capabilities mean that developers no longer have to rely on—and wait for—operations to deploy infrastructure. Crossvale accelerators operate within OpenShift and instantly link to popular banking products like TSYS, Black Knight, FIS, and Temenos, so you can meet your goals faster.

#### **Compliance readiness**

Banks need to maintain compliance with a variety of regulations. Compliance activities cost financial services institutions \$274 billion worldwide last year, with double-digit increases every year since 2020. With 40% of the costs contributed by labor, inefficiencies created by manual processes hit the budget hard.<sup>4</sup> The Crossvale Next-Gen Banking Platform offers a flexible architecture that can adapt to changing compliance regulations, so you stay compliant without compromising operational efficiency. Crossvale provides a standardized validation approach that supports process compliance and minimizes the risk of noncompliance penalties.

<sup>&</sup>lt;sup>4</sup> Lexis Nexis, <u>Explore the True Cost of Financial Crime Compliance Worldwide</u>, accessed September 2023.

#### **Red Hat OpenShift**

Red Hat OpenShift is a unified platform for building, modernizing, and deploying applications at scale. Developers can work smarter and faster with a complete set of services for bringing apps to market on your choice of infrastructure. Red Hat OpenShift is designed to make deploying and managing container platforms more straightforward, and it's ready to be installed on top of your current environment. You can install Red Hat OpenShift once and consume Kubernetes as a service, anywhere your organization runs.

#### **Crossvale Next-Gen Banking Platform**

Crossvale provides a modern, open platform that lets you continue to use existing investments while enhancing functionality and customer experience. Our managed services can supplement your team, taking the place of highly specialized professionals who are hard to find and retain. Our team maintains your environment with optimal performance, scalability, and security, allowing you to focus on delivering the innovative banking services your customers demand.



#### See what our customers have achieved

#### Core transformation at a leading Pacific region bank

100% uptime | Public/private APIs | 30 seconds to SEV 1 resolution time<sup>5</sup>

#### Core banking migration

- Cloud-native microservices integration with new core banking platform and third-party channel applications
- Channel migration planning and support

#### · Infrastructure modernization

- Cloud and container adoption program
- Streamlined deployments: continuous integration/continuous delivery (CI/CD) integration with IT service management (ITSM)
- Managed service with 24x7x365 support and maintenance

#### Application modernization

- Online credit card origination
- Cloud-native frameworks
- Rapid prototyping-to-production cycles

#### API integration with core banking and external services

70+ application channels | 120+ backend and external systems | 35 million daily service requests | < 200 ms response time | 60% reduction in deployment time

#### Modern services layer

- Infrastructure for re-use
- Shorter development timeframes
- Unified security model
- Consistent data model
- Consolidated view of data
- Innovation for increased return on investment (ROI)



# Enhance customer experiences with next-generation banking

Innovate to stay ahead with Crossvale Next-Gen Banking Platform, powered by Red Hat

Customer preferences are changing, impacting every aspect of banking—from teller interactions to the technology landscape. Customers today expect fast, frictionless, and personalized financial interactions. Many of them now use smartphones for nearly everything and prefer mobile banking apps. In fact, 45.5% of Americans use mobile banking as their primary method of account access, and 79.3% of millennials say they're interested in digital banking.<sup>1</sup>

At the same time, new financial products and payment options from fintechs and traditional players alike are flooding the market and fundamentally changing the financial services landscape. Today, banks are competing with Apple, PayPal, and even Amazon, Facebook, and Walmart. And at any given time, 15% of consumers are open to a new banking relationship and another 20% are actively looking to switch banks.<sup>2</sup> Your ability to differentiate your services has never been more critical.

Delivering excellent customer experiences is a prime way to differentiate your bank and stand out in the market. Industry analysts say banks that lead in customer satisfaction also lead in success metrics, including higher total shareholder return, increased growth, and decreased costs. Analysts also see a correlation between customer satisfaction and customer share of wallet, with satisfied customers saying they plan to use more products from their preferred banks. These satisfied customers are also six times more likely to remain with their bank than dissatisfied customers.<sup>1</sup>

Enterprise-wide technological innovation is required to deliver customer experiences that compete with both digital disruptors and long-standing incumbents in the financial services market. Using data to drive better customer experiences is a game changer, and delighting customers with speedy, accurate responses and timely recommendations is an essential capability. If you're able to act on the right information, at the right time, with the right customer, you can deliver the excellent customer experiences that attract and retain customers and increase your share of wallet.

15%

of consumers are open to a new banking relationship.<sup>2</sup>

20%

of consumers are actively looking to switch banks.<sup>2</sup>

**6**X

increase in likelihood of satisfied customers to remain with their bank.<sup>1</sup>

<sup>&</sup>lt;sup>1</sup> Bennett R, <u>Digital banking trends in 2023</u>, Bankrate, March 2023.

<sup>&</sup>lt;sup>2</sup> Chheda S, Goldstein J, Natriello T, Schiff R, <u>Five ways to drive experience-led growth in banking</u>, McKinsey & Company, May 2023.



#### Why it's challenging for IT teams to deliver on customer experience

The banking lines of business are counting on IT to deliver capabilities that help enhance customer experiences. But it's not as easy as flipping a switch. It requires careful evaluation of solutions that can help you overcome some of the most common issues standing in the way of customer experience initiatives.

# Existing systems are not event-driven and responsive in real time

The ability to activate and personalize experiences based on real-time streaming data, including social media, behavioral, financial, and geospatial information, is a customer experience game changer. For example, a bank can act quickly on valuable insights gained by using social media feeds to track public sentiment. Or a financial firm could track real-time stock market feeds and contact clients immediately if their portfolios need to be rebalanced. IT needs to support the ability for marketing to collect and immediately analyze this data for improved customer experiences.

#### **Databases are isolated**

Unlocking value from business data at the point of need is a key requirement to improve the customer experience. But isolated databases impede creation of 360-degree customer profiles that help exceed customer expectations. Most banks use different systems for marketing, operations, customer databases, product and service databases, and more. Many of these systems are siloed, so the data can't be easily shared. IT is challenged to integrate data across multiple apps and systems, extract data from different formats and back-end systems, and incorporate real-time data streams.

#### Architectures are monolithic

Older legacy systems are based on monolithic architectures designed to be self-contained. Components are interconnected and interdependent. As such, these systems are difficult to modify. The rigidity of monolithic systems makes it hard to scale resources, deploy across multicloud environments, and innovate by integrating new microservices. IT needs to find a way to modernize and incorporate new technologies, while respecting legacy investments.

# Intelligence from commercial off-the-shelf offerings is limited

While most commercial off-the-shelf (COTS) customer experience systems use predictive analytics to determine relevant customer offers, they are limited by the intelligence designed into them. And while many banks employ data scientists to generate artificial intelligence (AI) models, COTS customer engagement systems typically lack the ability to integrate these models, limiting your ability to personalize and continually improve customer offers. IT needs customer experience solutions that integrate with existing systems and add value with intelligence.

#### How Crossvale and Red Hat can help

You need to deliver solutions that support real-time, personalized customer experiences across marketing, customer service, fraud, and business operations teams. A modern customer engagement hub (CEH) can provide these capabilities, applying decisioning and integrated Al models to react to events in real time, fine-tuning each customer's experience for every interaction with the bank.

As an IT leader in your organization, you can help business leaders enhance every customer interaction with real-time, personalized experiences. The Crossvale Next-Gen Banking Platform, powered by Red Hat, is a catalyst for digital transformation, supporting delivery of seamless and personalized mobile customer experiences that align with the expectations of the next generation of consumers. By using open source technologies, you can quickly take ownership of customer engagement architectures for faster innovation, greater competitive differentiation, improved digital customer retention, and increased customer onboarding speed.



#### **Technical details**

#### **Crossvale Next-Gen Banking Platform**

The Crossvale Next-Gen Banking Platform transforms banks with the ability to become API first. It integrates with new and legacy back-end and front-end systems to deliver experiences such as mobile banking, business-to-business (B2B) integrations, and automated compliance, powered by Red Hat® OpenShift®. The implementation includes services, tools, and technologies that help you support acquiring and retaining customers while driving operational efficiency and maintaining strict compliance.

The platform's value lies in Crossvale accelerators, ready-made solutions that cover 80% of what you need to customize the platform for your needs. These accelerators integrate from day one and operate within OpenShift. They easily link to popular banking products like TSYS, Black Knight, FIS, and Temenos, using industry-leading connections. These pre-built integrations shorten and simplify the lengthy and laborious task of building custom development from months to hours, so you can achieve your goals faster.



#### **Crossvale Next-Gen Banking Platform flexibility**

Customization	Pre-built					
Networking infrastructure Business continuity goals Dashboards and	Standards Architecture Communications	Platform Internal network Cache		Data models Processes IT service management (ITSM)	GitOps Templates DevOps	Dashboards Storage Business continuity
key performance indicators (KPIs)	performance		Atomics		Orchestrators	
Create your own services New statements of record (SORs) New channels Specific APIs Advanced services AI models Testing and approvals App needs	<ul> <li>FIS IBS (deposits, loans, customer)</li> <li>FIS Systematics (RM, IM, ST)</li> <li>TSYS (consumer, commercial, TIPS, TISO)</li> <li>Black Knight (file and SOAP WS)</li> <li>Genesis IVR</li> <li>Salesforce</li> <li>HubSpot</li> <li>Twitter</li> <li>etc.</li> </ul>		<ul> <li>getCardAuthorization (TSYS)</li> <li>addCardAuthorization (TSYS)</li> <li>getCardAuthorization (FDR)</li> <li>addCardAuthorization (FDR)</li> <li>getMiscAccount (IBS)</li> <li>getAccount (IBS)</li> <li>getCustomerProfile (IBS)</li> <li>getCustomer (RM)</li> <li>getCustomerRelationship (RM)</li> <li>getDeposits (IM)</li> <li>etc.</li> </ul>		<ul> <li>cardAuthorization (GET, POST)</li> <li>account (GET, POST, PUT)</li> <li>customer (GET, POST, PUT)</li> <li>card (GET, POST, PUT)</li> <li>syncCard</li> <li>cashAdvance</li> <li>customerAddress</li> <li>Alerts</li> <li>EventDispatcher</li> <li>Notes</li> <li>etc.</li> </ul>	

#### Red Hat OpenShift with Red Hat Engagement Hub

#### Open source innovation helps modernize customer engagement

Meeting customer expectations for engaging, personalized service in every encounter requires a customer engagement hub that can keep pace with changing demands and incorporate new technologies. Red Hat's modern, open source CEH solution allows this flexibility and provides several essential capabilities.

#### Integrated self-learning AI models with decisioning logic

Banks have access to more in-depth data about their customers than ever before. If properly analyzed, the data will help identify customers' pain points, buying habits, and past interactions with agents to deliver highly personalized service. Self-learning AI can help the bank achieve these benefits but suffers from a lack of transparency and explainability. A more accepted approach is to use AI in tandem with decision models to provide control and transparency to stakeholders while allowing data scientists to continually improve the predictions. This approach keeps responses to the customer in the hands of a collaboratively authored repository of decisions and orchestrated flows.

Red Hat CEH uses self-learning AI and machine learning (ML) predictive models, which evolve over time to better identify customer preferences based on events and real-time data. Self-learning AI/ML models with decisioning can be used to optimize marketing campaigns and personalize every customer interaction, through any channel.

Open source innovation provides a standardsbased way to integrate AI models, freeing you from the restriction of using a single vendor's AI/ML solution. Banks can use AI models from in-house data scientists or any vendor to quickly integrate, test, deploy, and track customer offers.

#### **Optimization for real-time data**

Developing a CEH that reacts to real-time events requires an event-driven architecture. Streaming data requires a high-performance, scalable data event processing architecture with advanced fault tolerance and data durability. With Red Hat CEH, you can quickly use proven open source technologies, such as Apache Kafka, to respond to real-time events and use in-memory caching of next available offers to deliver later, at the point of need.

#### Scalability

A customer engagement architecture needs to deliver consistent and contextual customer experiences regardless of technical challenges such as deployment, usage, or peak loads. Any solution must be able to run anywhere—on premise, cloud, or hybrid cloud—meaning it must be designed as decoupled services or microservices deployed using containers within robust Kubernetes-based platforms.

Red Hat's CEH solution runs on Red Hat OpenShift, a Kubernetes-based platform. It provides the ability to scale and autoscale, delivering an exceptional customer experience regardless of its physical deployment or usage. Red Hat CEH goes beyond simply providing an architecture. Red Hat offers a repeatable framework based on real-world deployments using cloud-native technologies such as Kubernetes, microservices, and containers running on Red Hat OpenShift for hybrid, multicloud, and on-premise deployments.

#### **Continuous innovation**

An open architecture gives you the flexibility to add new features and AI models and evolve the system to meet new requirements over time. Red Hat CEH uses open standards, containers, and microservices, and is built to deliver innovative features that improve each customer engagement.





## Conclusion

#### Putting it all together: The Crossvale Modernization Framework

Modernizing your business can be complicated. There is no one-size-fits-all solution—either for creating or maintaining your modernized IT environment. For banks, modernization is about changing to a model where technology is a value center, not a cost center. But it's not always easy to do this alone. Crossvale provides a straightforward way to reduce the complexity of modernization, by partnering with you for the journey.

Crossvale's Enterprise Modernization Journeys are focused on a top-down approach, using our Modernization Reference Architecture. We have found that the three strategic initiatives outlined above—automation, hybrid cloud, and SDLC—are driving banking modernization. We provide an expert framework to:

- Learn: What's your big vision?
- **Understand:** Where are you today?
- Assess: What are your capability gaps?
- Design: Prioritize your projects using Crossvale's Modernization Reference Architecture

- **Implement:** Using your chosen implementation path
- Maintain: We support what we build
- Grow: Partner for continuing success

#### You don't have to go it alone

Modernization that creates business value is complex. It requires a modern technology toolbox for innovation along with agility and expertise. But you don't have to go it alone. The Next-Gen Banking Platform from Crossvale helps you overcome the challenges of acquiring and retaining the next generation of customers. By embracing modern Red Hat technologies to enhance customer experiences, improve operational efficiency, and maintain compliance, Crossvale and Red Hat equip you with the tools and services you need to succeed in the digital banking era.



#### How Crossvale adds value: consulting and services

Selecting the right technology partner—especially one that embraces open source—can accelerate CEH implementation, empower your bank to make changes quickly, and contribute to continuous modernization. We differentiate ourselves from other vendors in the market through our expertise and our holistic, integrated, and comprehensive approach to banking modernization.

Unlike core banking vendors who offer expensive and proprietary solutions, we provide a modern, open platform based on Red Hat technologies that allows you to continue using your existing investments while enhancing functionality.

Our managed services can supplement your team, taking the place of highly specialized professionals who are hard to find and retain. Our team maintains your environment with optimal performance, scalability, and security, allowing you to focus on supporting the innovative banking services customers demand.

#### Our services include:

- Analysis and planning: Conduct a comprehensive analysis, gather requirements, and define project goals and objectives.
- Solution design and architecture: Design the solution architecture, select appropriate technologies, and create a detailed solution design document.
- Development and integration: Develop and integrate the solutions using an agile methodology, continuously testing and integrating components.
- Deployment and go-live: Deploy the solutions in a phased approach, to ensure a smooth transition to production.



### Learn More

The Next-Gen Banking Platform from Crossvale empowers banks to overcome the challenges of acquiring and retaining the next generation of consumers. Our open source approach helps you adapt to changing market dynamics, shifting customer demands and expectations, and the need to constantly incorporate new technologies. Built on Red Hat technologies and delivered, customized, and supported by Crossvale, the Next-Gen Banking Platform allows you to build a CEH for your bank's unique requirements.

#### When you're ready to rethink modernization, think Crossvale

Transitioning toward a more digital future requires modern technologies that support innovation along with agility and expertise. The Next-Gen Banking Platform from Crossvale, powered by Red Hat, helps you overcome the challenges of delivering digital experiences aimed at a new generation of customers.

By embracing modern Red Hat technologies, Crossvale and Red Hat equip you with the tools and services you need to succeed in the digital banking era.

Contact us to schedule a personalized consultation and discover how our Next-Gen Banking Platform empowers your bank to thrive in the evolving banking industry.

Visit banking.crossvale.com