# CYBG PLC unifies digital banking platform with Red Hat Openshift

CYBG PLC, parent group of Clydesdale Bank, Yorkshire Bank, Virgin Money, and digital banking service B, wanted to expand and standardise its digital banking offer to stay competitive against market leaders and new disruptors. To gain the scalability and agility demanded by customers, CYBG united three of its brands' services on its Operational Platform based on Red Hat OpenShift Container Platform. With its Operational Platform, CYBG has established a more efficient, customer-focused business to build long-term growth.

### Software

Red Hat® OpenShift® Container Platform

Red Hat Consulting

Glasgow, Scotland ●

**Headquarters**
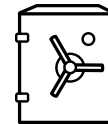
**Banking**

**159** branches
**~6,500** employees
**+£1 billion** 2018 revenue

"*With Red Hat OpenShift, we've improved our IT efficiency, reliability, security, and reusability.*"

**Denis Blackwood**
Head of IT services, CYBG PLC

### Benefits

• Gained responsive scalability to grow digital banking platform from 40,000 to more than 1 million customers in less than 12 months

• Increased IT efficiency by automating repetitive tasks and optimizing hardware resource use

• Established solid foundation for future innovation with open source IT experts

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## Embracing digital banking to challenge established competitors

CYBG PLC is the parent group of Clydesdale Bank, Yorkshire Bank, Virgin Money, and digital banking service B. With a goal to disrupt the status quo in the banking industry, the group aims to capture market share as payment, mortgage, and lending markets evolve. To achieve this ongoing market leadership, CYBG needed to launch new, innovative digital services faster than its competition.

"We want to establish our position as a digital bank and grow our retail customer base through digital services," said Denis Blackwood, head of IT services at CYBG PLC. "Shifting to digital services will reduce the time needed to implement changes and reduce our operating costs."

For several years, CYBG has run internet and mobile banking services for its Yorkshire Bank, Clydesdale Bank, and B brands to complement traditional branch services. Over the last three years, CYBG has seen adoption rates of these digital services increase from around 20% to around 40% as they become increasingly popular with its customer base. In response, the group launched a digital investment program based a common platform it developed, iB, to unify services for the two banks.

To continue its successful digital growth, CYBG wanted to establish standardized services and features across its brands—while also gaining the flexibility to let each brand create custom services to respond to unique customer needs. In addition, it sought to speed delivery with an open, common approach to creating, managing, and delivering services.

"In the current climate, you're not going to see a bank differentiate itself on interest rates," said Blackwood. "Differentiation will come from not only delivering a consistent, omnichannel service, but finding where we can add value."

## Creating a common platform for digital services

CYBG initially looked to microservices as the foundation of its B mobile digital brand, using a blend of microservices-based and traditional platform technologies. However, while this ad hoc approach was effective for the initial launch of its iB platform, scaling it efficiently across CYBG's brands posed several challenges.

"When you split big applications into small applications, suddenly you have a lot of dependencies to manage," said Steven O'Day, technology consultant, Platform Engineering, at CYBG PLC. "You have to manage every configuration and change—things that traditionally would have been done once for a single, large application."

To gain the desired agility for all of its brands, CYBG decided to migrate to Red Hat OpenShift Container Platform after completing a proof of concept (POC) and pilot project. OpenShift Container Platform lets the group's teams easily and quickly, build, develop, and deploy applications in nearly any infrastructure, whether on-premise or in the cloud.

"Open source is a big thing for us. We want to be technology-agnostic. The focus in the open source community on elements working together is really important. We want to be able to interchange components and tools without affecting performance," said O'Day. "Red Hat's engagement with the open source community, and the speed with which OpenShift grows and develops, fits our strategy."

CYBG engaged Red Hat Consulting and Red Hat Support to assist with architecture design and implementation. After a successful implementation, CYBG now runs all of its digital banking operations on their Operational Platform, which has Red Hat OpenShift Container Platform at its core.

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**Steven O'Day**
Technology consultant,
Platform Engineering, CYBG PLC

## Gaining business agility while reducing costs

### Flexible scalability

A key benefit of having Red Hat OpenShift Container Platform at the core of CYBG's digital operations is to provide a greater ability to scale. For example, the iB digital banking platform initially supported 40,000 daily customer logins. Since CYBG unified digital operations using OpenShift Container Platform, iB can now support more than 1 million daily customer logins.

"While OpenShift is often targeted at development, we wanted to take advantage of its capabilities in a production environment," said O'Day. "We built the platform so that a single node could be scaled out as a cluster. We can then confirm that this scaling approach is working before using it in our production environment."

These changes have led to a shift in deployment strategy. "Traditional banking IT tends to be large, and it either works entirely or you have to fix it. Now, we have a platform and microservices that allow us to be more data-focused and agile," said Derek Alexander, Platform Engineering Lead at CYBG.

### Efficient development

With Red Hat OpenShift, CYBG's development teams can focus on creating new, valuable features and capabilities for the business, rather than provisioning and maintaining complex IT environments.

Expanded automation and better orchestration through Red Hat OpenShift also help make CYBG's IT work more efficient. It can create and delete environments for development projects as needed. As a result, developers can now access an OpenShift environment within five minutes, compared to three weeks of waiting with the previous environment.

"Red Hat OpenShift allows us to more densely pack environments on the same amount of hardware," said O'Day. "We're not repeating work, and we no longer keep unnecessary nonproduction environments. Developers can also move their projects into the next environment much more quickly, so we can move proofs of concept into production faster."

With these development improvements, CYBG has established a more efficient, dynamic IT environment that helps the group lead the UK banking sector in technology innovation. "We're already starting to see a significant shift in the efficiency and productivity of IT, and these improvements will create significant savings in time and effort for the bank," said Blackwood.

### Expert open source IT guidance

Working with Red Hat Consulting during design and implementation helped CYBG's teams gain insight from open source and enterprise IT experts to take advantage of best practices for ongoing success.

"Red Hat's expertise helped narrow the gap between vision and reality," said O'Day. "We had a Red Hat engineer ratify what we were doing and confirm that we were planning correctly and our work would be supported. That engagement helped us understand what we wanted to do and how we were going to build what we envisioned."

## Bringing digital banking advantages to more systems

After its initial evaluations and production deployment, CYBG anticipates continued benefits from its migration to Red Hat OpenShift, for both internal teams and external customers.

"We have the momentum to move toward our goal of establishing an IT ecosystem where every change is tightly managed through automated processes. We're also in the process of building internal framework libraries to extend component and code reusability," said O'Day.

CYBG plans to use its efficiency and agility in digital banking to improve customer experiences by launching new services faster and meeting unique service demands. "We want to be able to understand what every individual customer is trying to do with our services and whether they achieved the right outcome," said Blackwood. "More importantly, we want to be able to meet those needs as they happen."

To support these efforts, CYBG plans to have migrated 80% of its systems to its Operational Platform by 2020.

"This initiative has really all been about trying to deliver more, at less time and cost," said Blackwood. "With Red Hat OpenShift, we've improved our IT efficiency, reliability, security, and reusability."

## About CYBG PLC

CYBG PLC is a proud, independent banking group with over 175 years of heritage through our Clydesdale Bank, Yorkshire Bank, Virgin Money, and B brands. Together, our established and trusted brands offer a full range of financial products and services to help people and businesses grow. Big enough to matter, small enough to care, we have a strong personal customer base and a business banking capability through a UK-wide network.

**About Red Hat**

Red Hat is the world's leading provider of enterprise open source software solutions, using a community-powered approach to deliver reliable and high-performing Linux, hybrid cloud, container, and Kubernetes technologies. Red Hat helps customers integrate new and existing IT applications, develop cloud-native applications, standardize on our industry-leading operating system, and automate, secure, and manage complex environments. Award-winning support, training, and consulting services make Red Hat a trusted adviser to the Fortune 500. As a strategic partner to cloud providers, system integrators, application vendors, customers, and open source communities, Red Hat can help organizations prepare for the digital future.