

# Deutsche Bank democratizes development with Red Hat-based global platform

## Deutsche Bank

### Software and services

Red Hat® OpenShift®  
Container Platform

Red Hat Enterprise Linux®

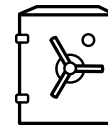
Red Hat Ansible® Tower

Red Hat Consulting

Red Hat Training

Red Hat Technical Account  
Managers (TAMs)

As a leading bank serving private, corporate, and fiduciary clients, Deutsche Bank has embraced digital transformation by standardizing and streamlining developer access to compute capacity and other application resources to reach markets more quickly. Its new Platform-as-a-Service (PaaS), Fabric, uses microservices and container capabilities of Red Hat OpenShift Container Platform, supported by Red Hat Enterprise Linux and managed using Red Hat Ansible Tower, to help DevOps teams work and collaborate efficiently, with on-demand resource access. With faster, more iterative production launches and more cost-effective resource use, the bank has set a new standard for rapid application development and deployment using the latest technologies.



### Financial services

Around **91,000** employees in  
**60** countries

*“What we’ve set out to do with Fabric and Red Hat OpenShift Container Platform is to democratize IT. We’ve given access to powerful technologies to every developer at the bank.”*

**Tom Gilbert**

Global head of cloud, application, and integration platforms,  
Deutsche Bank

### Benefits

- Cut end-to-end application development time from 6-9 months to 2-3 weeks
- Simplified DevOps collaboration with flexible integration and agile approach
- Optimized use and costs of datacenter and cloud capacity with microservices, containers, and cloudbursting



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*“In the digital transformation journey we’re on, there’s a lot of change. There’s a need to reach markets quickly. And to do that we need productive developers who are able to get ideas into production safely, in a day, every day.”*

**Tom Gilbert**

Global head of cloud, application, and integration platforms, Deutsche Bank

## **Platform complexity restricts efficient development**

As a leading financial services provider for private, corporate, and fiduciary clients, Deutsche Bank has embraced the positive trends of digital transformation. By challenging traditional business approaches, the bank sought to enhance digital customer experiences – a goal directly tied to enhancing its developer experience.

“We’re focusing on shortening our development cycles so we can get products in front of our customers more quickly,” said Tom Gilbert, global head of cloud, application, and integration platforms at Deutsche Bank. “A need for greater agility is directing the industry to microservices, containers, and public cloud, and shifting the focus from infrastructure to ideas.”

But restrictive infrastructure specialization made integration difficult and application development slow. Managing thousands of servers and databases hindered growth and adoption of more agile technology. Many operating systems were being used across multiple datacenters. “Application teams were running single applications on whole VMs [virtual machines],” said Emma Perkins, PaaS portfolio manager at Deutsche Bank.

The bank saw that a new, cloud-based approach was needed to support not only its current business, but also future data needs. “We perform millions of risk calculations daily. In two years, we’ll need to be doing billions of calculations each day. So the days of just buying servers to put in a datacenter has gone,” said Nick Boyle, program director for enterprise risk technology, Investment Banking, at Deutsche Bank.

Deutsche Bank also wanted to support a more innovative, DevOps approach to replace its traditional waterfall processes and keep pace with rapid, iterative digital innovation. To gain the scale and flexibility needed, the bank sought to establish a PaaS that would streamline development and management, reduce risk, and support more agile work across all of its business units.

## **Open source technology supports global application development**

To build its strategic as-a-Service platform, Deutsche Bank sought an open source solution. “Open source expands our possibilities. It’s a rich ecosystem with so much value to use and contribute back to, allowing us to work faster and focus on our business problems,” said Gilbert.

After years of success with Red Hat Enterprise Linux, the bank added Red Hat OpenShift Container Platform and Red Hat Ansible Tower to build Fabric, a containerized, microservices-based application development platform at the bank.

“Red Hat offered the combination of open source with vendor support, patching, and management – all of the things that we need in a regulated business,” said Gilbert. “The shift from virtual machines to containers, and traditional applications to microservices, is a big one. We needed a partner that could help us build our deployment capabilities and train our global developer base so we could get maximum value from our investment.”

Fabric runs on Red Hat Enterprise Linux in several datacenters and in the bank’s Microsoft Azure public cloud environment. Red Hat OpenShift Container Platform provides support for container- and microservices-based development, scaling compute and performance capacity from dedicated servers to cloud resources as needed. Both solutions are deployed and maintained using Red Hat Ansible Tower, a framework that automates and standardizes IT at enterprise scale.

*“Transformation goes beyond the infrastructure to the applications and capabilities you need and the way you work.”*

**Nick Boyle**

Program director of enterprise risk,  
technology, investment banking,  
Deutsche Bank

“From the start, we decided to make Fabric our global abstraction layer for infrastructure. We could write applications once and run them anywhere. We can now move applications between different regions and providers very quickly,” said Gilbert.

Deutsche Bank’s developers and infrastructure teams worked with Red Hat Consulting to deploy and learn about OpenShift. “We enjoyed working with them. They helped us educate thousands of developers worldwide on how to develop cloud-native applications, and they’ve helped our infrastructure teams get used to this new technology and integrate it into the bank’s platforms,” said Gilbert.

Fabric hosts systems and tools for every application development team at the bank, from the retail group’s application programming interfaces (APIs) to internal HR and employee survey systems. In addition, Fabric offers elastic, on-demand compute to support tasks like daily risk calculations, which require large volumes of resources across data processing, disaster recovery, and acceptance and performance testing.

“When we need to burst to cloud compute for various calculations, it’s available for us immediately. We’re only charged for the compute capacity that we use, when we use it,” said Boyle.

After two years, the platform is now running more than 3,100 projects in more than 15 environments, with 6,000 active monthly users. Releases every two weeks incorporate customer and user feedback to adjust features and performance.

Its successful creation of a DevOps-ready, container-based, global development platform earned Deutsche Bank a 2019 Red Hat Innovation Award.

## **New technology and approaches save time and money**

### **Faster resource access speeds service time to market**

Fabric offers global, standardized compute and other development resources across infrastructure providers through APIs to help Deutsche Bank’s developers work more efficiently. Developers can create their own container images and make them available in the platform. Instead of 6-9 months, applications now go from proof of concept (POC) to production in 2-3 weeks. Red Hat Ansible Tower automates provisioning, testing, and other routine tasks, saving the company months of engineering work and mitigating risk of errors during upgrades and maintenance.

“A team working on a retail banking application was given a requested instance within 40 minutes. With our old technology, it would have taken months,” said Perkins. “With Fabric, it now takes just weeks. It’s a PaaS solution for the bank, by the bank, and developers love that freedom and community of change.”

For external Fabric users, these changes mean the bank offers capabilities more quickly, and the bank’s customers see innovative banking service improvements faster. “Our retail clients can create mobile application accounts on the same day that they request them – something our previous technology couldn’t easily support,” said Gilbert. “We’re starting to open up more APIs to support real-time payment processing, where historically they may have been batch file transfers.”

### **Agile and DevOps practices simplify collaboration**

To support its digital transformation, Deutsche Bank has embraced DevOps and Scaled Agile Framework (SAFe) approaches to developing at scale – supported by the flexibility of Ansible Tower and OpenShift Container Platform.

“Transformation goes beyond the infrastructure and applications to the capabilities you need and the way you work,” said Boyle. “With SAFe and DevOps, we’ve embedded standards from the start to ensure stability, supportability, and maintenance up front with best practices.”

Integration and scalability are key to expanding these collaborative processes and taking advantage of the best ideas and code. “Instead of a hosted platform, microservices let us use elastic cloud resources to scale on demand,” said Boyle. “With Ansible and OpenShift, whether it’s a management report or a piece of data, once a service exists, we just need to expose it to other functions and applications for it to be reused.”

To keep these collaborative systems secure, Red Hat helps Deutsche Bank deploy the latest patches and updates to protect its Red Hat infrastructure from threats and vulnerabilities.

“When vulnerabilities do occur, they get patched very quickly and in the background, which is one of the reasons we’re big advocates for PaaS adoption,” said Boyle. “Using microservices also helps us flexibly support and maintain production services, removing single points of failure in end-to-end flows. And Red Hat Enterprise Linux gives us a supported, common foundation across our on-premise and cloud providers.”

### **Containers and cloud help teams do more with less**

Streamlining resource access has helped Deutsche Bank optimize its use of datacenter and cloud capacity, saving time, money, and resources.

“Fabric allows us to host multiple instances on the same cluster, and we no longer constrain workloads to a single cluster or bare metal. So just because we’ve gone on IBM first doesn’t mean that we can’t then burst to cloud or move a workload to another location that better suits a region or a workload. We’re able to consolidate and reuse compute across our full technology landscape, without adding VMs as we grow,” said Perkins.

Dense, container- and microservices-based infrastructure not only requires fewer staff to manage but also less hardware to run than VM-based infrastructure. By adopting cloud compute and running more workloads per physical server, Deutsche Bank anticipates saving millions of euros year over year.

“We’re running a global platform that’s supporting thousands of applications with a single operating model and a large number of workloads on a small portion of infrastructure,” said Gilbert. “It’s efficient from both a utilization and cost point of view.”

## Expanding possibilities with community-powered innovation

Deutsche Bank plans to continue its strategic journey by expanding its cloud environment and resources to further accommodate developer choice. The bank plans to deploy Fabric to clouds from more providers and is evaluating database solutions for big data cloud support.

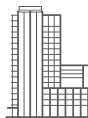
“We’ve never provided capabilities across so many infrastructure providers or helped developers actually develop the platform we’re providing. All of this happened because we started using Red Hat OpenShift Container Platform,” said Perkins. “It’s setting us apart from competitors, because we’re able to make changes quickly, effectively, and efficiently.”

The bank also anticipates that new, unexpected benefits will come from its developer community as more of them take advantage of Fabric and its capabilities. “What we’ve set out to do with Fabric and OpenShift is to democratize IT. We’ve given access to powerful technologies to every developer at the bank,” said Gilbert.

## About Deutsche Bank AG

Deutsche Bank provides commercial and investment banking, retail banking, transaction banking, and asset and wealth management products and services to corporations, governments, institutional investors, small and medium-sized businesses, and private individuals. Deutsche Bank is Germany’s leading bank, with a strong position in Europe and a significant presence in the Americas and Asia Pacific.

## 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.



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**North America**  
1 888 REDHAT1  
www.redhat.com

**Europe, Middle East,  
and Africa**  
00800 7334 2835  
europe@redhat.com

**Asia Pacific**  
+65 6490 4200  
apac@redhat.com

**Latin America**  
+54 11 4329 7300  
info-latam@redhat.com