



CASE STUDY

Bloomberg's shift to open source Java

How Eclipse Temurin helps power global financial infrastructure

The challenge

Balancing open source innovation with enterprise-ready stability and security

Open source has become the driving force behind modern software development. For Bloomberg, a leading provider of news, research, data, analytics, and enterprise applications for finance, it's become an integral part of the company's business strategy.

The firm's [open source website](#) states: "We believe open source software is a key driver of innovation, not only within our business but across the global tech industry. Over the last two decades, Bloomberg has undergone a journey and cultural shift in becoming an 'open source-first' company. Today, our engineers are

actively engaged in the open source ecosystem as both users and contributors."

Part of Bloomberg's shift to becoming an open source-first organisation involved the adoption of Java to power many of its internal systems and product offerings. More than 1,000 software engineers at Bloomberg use Java regularly

to build in-house distributed systems and deploy and manage popular open source projects, including Apache Kafka, Apache Cassandra, Apache Solr, and Apache ZooKeeper, to name a few. Bloomberg also runs some of the world's largest on-premise installations of Solr, Kafka, and ZooKeeper clusters. Quality is crucial in this environment.

"As a supplier of financial infrastructure to investment and business professionals around the globe, we look to utilise software that is of the highest quality and stability, since our infrastructure needs to have the same reliability and stability that we deliver to our clients," explains Phil Vachon, Head of Infrastructure in the Office of the CTO at Bloomberg.

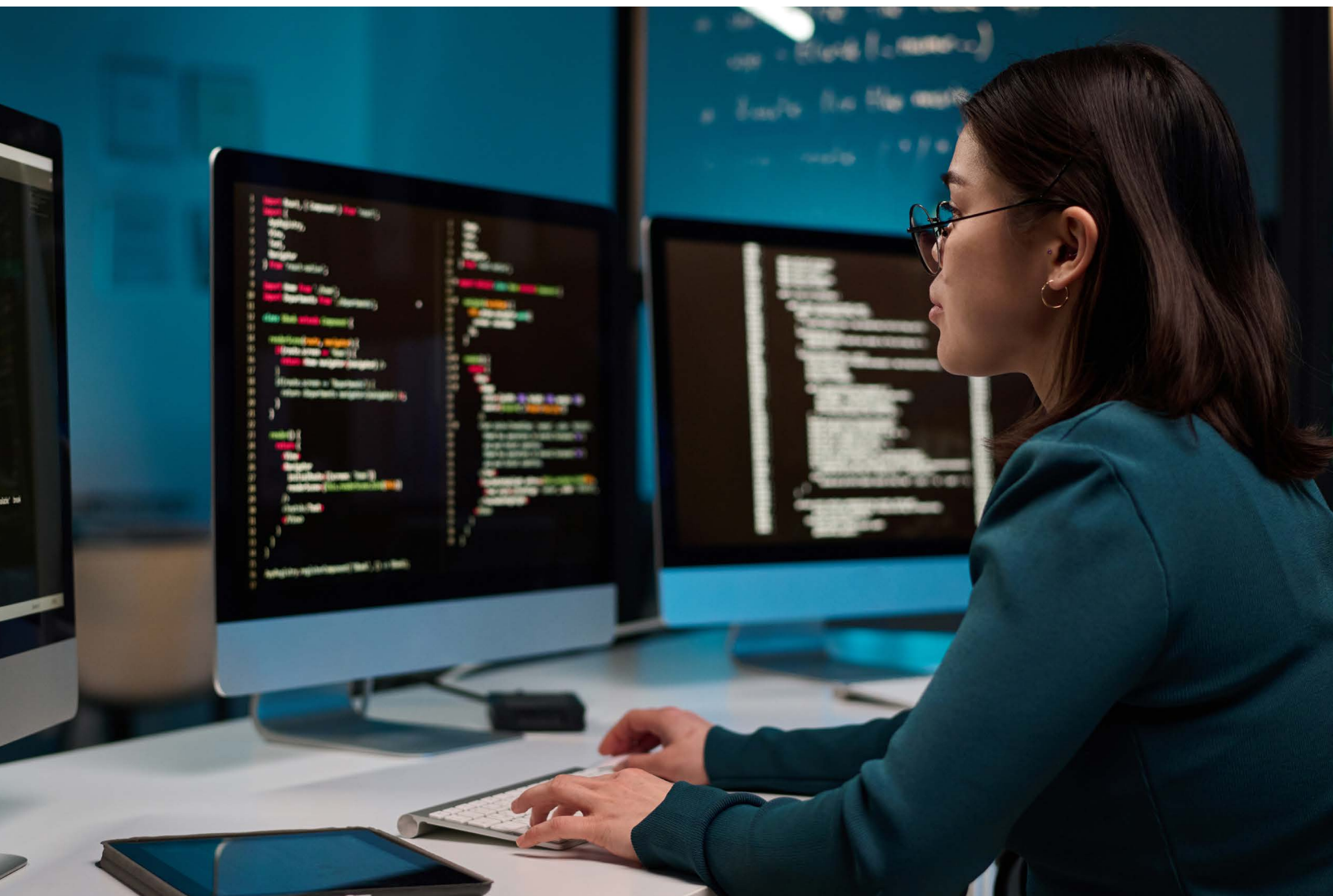
To support its ongoing work with open source Java, Bloomberg needed a Java Development Kit (JDK) that provided a standard JDK build and was certified as a Java SE runtime through the Technology Compatibility Kit (TCK). Bloomberg wanted a JDK that was released with an approved Open Source Initiative (OSI) license, and which would see timely release of new software, as well as fixes and patches.

"In an open source environment, we needed to ensure the JDKs that our applications relied on were always available and reliable."

Daniel Scanteianu

Software Engineer at Bloomberg, co-chair of Java and the JVM Guild, contributor to the Eclipse Adoptium Project and member of the Secure Development team in the Adoptium Working Group

"To meet our goal of being open source-first in our use of Java, we needed a way to access the innovative advancements happening in the Java ecosystem without limiting either the reliability of our software or our ability to build commercial solutions," explains Scanteianu.



The solution

Java-oriented reliability and quality
with Eclipse Temurin

Bloomberg found the open source reliability and flexibility it needed in Eclipse Temurin, the OpenJDK distribution of the Eclipse Foundation's Adoptium Working Group.

Adoptium hosts high-quality, TCK-certified runtimes and associated technologies across the Java ecosystem. Eclipse Temurin is the open source Java SE build based upon OpenJDK. Temurin is available for a wide range of platforms and Java SE versions.

In 2018, Bloomberg switched from its JDK 8 binaries and standardised its Java Virtual Machine (JVM) on Eclipse Temurin. A few years later, in 2022, the company [joined the Adoptium Working Group](#). Temurin's work in secure software development and certifying its JDKs with the TCK gave Bloomberg the confidence to trust Temurin's OpenJDK builds to support both internal and external applications. The depth and breadth of Java integration in Bloomberg's internal and external processes made this transition – mostly done manually – a massive, but worthwhile undertaking.

Temurin's support from key industry leaders and its governance under the Eclipse Foundation were crucial factors in Bloomberg's choice. As a truly open source option, Bloomberg could count on Temurin being completely vendor neutral, and remaining so into the future. And Temurin's efforts to secure its software supply chain gave Bloomberg the confidence to rely on the technology, backed by the transparency of its Software Bill of Materials (SBOMs). This enhanced transparency into the components and dependencies of the software has enabled Bloomberg to proactively manage vulnerabilities and mitigate potential risks.

“We now use Temurin as our JDK within our datacenters to run managed technology platforms, including open source technologies, such as Kafka, ZooKeeper, Cassandra, and Solr, that many of our products depend on for their functionality.”

Andrey Rybka

Head of Platform Architecture & Security in
the Office of the CTO at Bloomberg

“We rely on the standard features of the OpenJDK, including improvements in garbage collection and threading, for performance and scalability. Active insight into software performance is vital. An OpenJDK instrumentation like Java Flight Recorder provides diagnostic and profiling data about actively running Java applications with virtually no performance overhead,” explains Rybka.

Bloomberg is also making use of the broader ecosystem of open source projects at the Eclipse Foundation.

“It’s important that we can analyse the performance of our Java systems to better understand how we can further improve that performance,” Scantineau says. “We rely on Java tooling like Eclipse Mission Control and Eclipse MAT for JVM analysis. [Jakarta EE](#) is a foundational part of many of the core Java libraries we use, especially after our migration from javax.* → jakarta.* RDF4J provides a suite of very useful tooling for semantic web technologies. And we are very invested in running on up-to-date LTS builds that include security patches and other critical features. The Adoptium team’s timely releases of Temurin builds helps us meet our goals in this area.”

The impact

Strengthening infrastructure, reducing costs,
and leading open source innovation

By adopting Eclipse Temurin and [joining the Adoptium Working Group](#) as an Enterprise Member, Bloomberg has tapped into a diverse and innovative ecosystem of open source solutions. With the predictable development framework and stable [licensing](#) terms of the GPL-2.0 with the Classpath exception provided by the Eclipse Foundation, Bloomberg's adoption of Temurin and its deeper engagement in Adoptium have reinforced its commitment to becoming an open source-first company, while also strengthening its business operations.

"The benefits from moving to an open source solution, as well as a guarantee of stable license terms provided by an OSI-approved license, made it a very easy decision to switch to Temurin."

Andrey Rybka

Head of Platform Architecture & Security in
the Office of the CTO at Bloomberg

"Bloomberg has been continually increasing its investment and participation in the open source ecosystem, and we see these investments constantly paying off" says Rybka.

By adopting Temurin, Bloomberg has been better able to attract and retain top-tier talent and deliver stable, modern infrastructure solutions. Being a part of the greater open source ecosystem has given the company the support of a global community dedicated to using and improving open source solutions. The company's commitment to open source has also provided an avenue for Bloomberg engineers to become leaders in open source communities developing technology used worldwide.

"Bloomberg's focus on open source provides the foundation for its infrastructure and drives our ability to innovate for customers," adds Rybka. "By moving through the whole process, from consumption to community participation, project contribution, and now as a leader in open source, Bloomberg can ensure Temurin continues to be available as a free, open source, enterprise-grade OpenJDK platform for both our internal use and for the wider tech community."

Vachon adds that Bloomberg continues to hire world-class Java developers and provide them with the ability to help contribute to and influence the open source community through its Adoptium Working Group membership, among others.

"Our long track record of embracing open source is an investment in the future of these technologies. Our goal: to keep the open source ecosystem secure, resilient, and healthy as more and more users and companies rely on open source to keep their systems running," Vachon says. "Temurin's ongoing investment in secure, timely builds has made it very easy to keep choosing it as our preferred JDK."

Learn more about [Eclipse Temurin](#) and the [Adoptium Working Group](#) to see how they can help your business.



Get involved in the Adoptium Working Group

The Adoptium Working Group promotes and supports high-quality runtimes and associated technology for use across the Java ecosystem. Our vision is to meet the needs of Eclipse and the broader Java community by providing runtimes for Java-based applications. We embrace existing standards and a wide variety of hardware and cloud platforms.

[Learn more about Adoptium membership.](#)

Bloomberg

Engineering

About Bloomberg

Bloomberg is a global leader in business and financial information, delivering trusted data, news, and insights that bring transparency, efficiency, and fairness to markets. The company helps connect influential communities across the global financial ecosystem via reliable technology solutions that enable our customers to make more informed decisions and foster better collaboration. For more information, visit Bloomberg.com/company or [request a demo](#).



The Eclipse Foundation provides our global community of individuals and organisations with a business-friendly environment for open source software collaboration and innovation. We host the Eclipse IDE, Adoptium, Software Defined Vehicle, Jakarta EE, and over **420+** high-impact open source [projects](#).

Headquartered in Brussels, Belgium, the Eclipse Foundation is an international non-profit association supported by **300+** [members](#), including industry leaders who value open source as a key enabler for their business strategies. To learn more, follow us on [X](#), [LinkedIn](#), or visit eclipse.org.





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