



# What can Azul do for my Java project?



To many enterprise Java developers, the JVM you use is a given—you run your application on the Java environment that works with your app server and OS. If the app runs into trouble, you look within your organization for a JVM specialist, re-tune the JVM, and, in most cases, hope for the best. That's how Java developers have been (mostly) successful for over 10 years.

Nobody disputes the power and flexibility of Java; it is the enterprise standard worldwide for a reason. However, over time the needs of businesses have changed, and that standard Java platform you've always used may not be the best choice anymore. Azul Systems, the only company 100% focused on Java and the JVM, has created new options for web-scale/low latency apps, open source Java and embedded systems to accelerate development and ensure smooth operation.

## Azul Zing®: A better JVM with better metrics

Some new applications need to use lots of data or achieve very high throughput without performance glitches. 'Standard' Java platforms can't handle the requirements of many big data, low latency or web-scale apps. The reasons are twofold—Java's memory management, which is arguably both the best and the worst thing about the language, and Java's need to "warm up" to optimize performance.

Java's memory management allows developers to ignore a huge class of potential programming errors that keep users of other languages up nights, or that can show up months or even years later in supposedly clean production code. But there's a downside to the garbage collection (GC) technology that makes Java developers so productive: performance issues at scale.

In most Java platforms, the memory management waits in the background until a threshold is reached, then GC leaps into action. It freezes the application to reclaim space held by unused "dead" objects. Even a moderate-sized Java heap of a few gigabytes of memory can produce several seconds of delay due to garbage collection.

## Eliminates stalls and jitter

Azul's Zing doesn't merely hide application freezes or reduce their occurrence; it eliminates them completely. Zing offers the only true concurrent memory manager, one that permits the GC and the application to run at the same time. Zing provides transactional applications with predictable response and high throughput, makes low latency processing in Java a practical reality and allows all applications to benefit from large in-memory datasets.

## Slashes warm up time

Java's warm-up issue is due to a different aspect of the language. Java was designed to start up quickly, then improve performance over time based upon actual usage. The JVM's just-in-time (JIT) compilers depend upon profile data that describes which parts of the application are called the most (the "hot" code). JIT compilation allows the JVM to optimize performance, but it takes time.

ReadyNow!™ technology included in Zing slashes warm up time and gives developers more control over the compiler. With ReadyNow!, optimized profiles can be saved and reused across runs, and developers gain compiler APIs, configuration directives, policy controls and improvements to "unreached" code handling.

### WHAT DO AZUL PRODUCTS MEAN FOR DEVELOPERS?

- Choose the JVM option that fits the needs of your project
- More flexibility on Java upgrade timing
- Affordable, world-class support
- Certified compliance with the Java SE Specification using the Java Community Technology Compatibility Kit (Java TCK)
- Zing: for consistent Java performance under any conditions
- Zulu: open source Java with long lifespan production support
- Zulu Embedded: Custom OpenJDK builds with flexible support pricing



Embedded/IoT	Desktop & Laptop	Workstation	Server-Workgroup	Server-Core IT	Server-Critical
<ul style="list-style-type: none"> <li>• JRE Profiles</li> <li>• x86 32 and 64</li> <li>• Arm 32 and 64</li> <li>• MIPS</li> <li>• PowerPC</li> </ul>	<ul style="list-style-type: none"> <li>• Client</li> <li>• Front Ends</li> <li>• GUIs</li> <li>• IDEs</li> </ul>	<ul style="list-style-type: none"> <li>• Modeling</li> <li>• Science</li> <li>• Geographic/GIS</li> </ul>	<ul style="list-style-type: none"> <li>• Web</li> <li>• Wiki</li> </ul>	<ul style="list-style-type: none"> <li>• Transactional</li> <li>• Analytical</li> <li>• Big Data</li> <li>• Search</li> </ul>	<ul style="list-style-type: none"> <li>• Strict SLAs</li> <li>• Low Latency</li> <li>• M2M</li> <li>• IMC</li> </ul>

## Azul Zulu®: Open Source Java with Affordable Support

Java remains an everyday workhorse for business applications. Azul Zulu provides an excellent option to run JVM-powered applications of all types, from server to desktop. Zulu is the only fully supported multi-platform build of OpenJDK™ available—100% open source and certified Java SE 11, 8, and 7 compatible. Backed by affordable, world-class support from Azul Systems, Zulu is a great option for companies that need more business flexibility.

The Zulu community edition is free to download, use, and redistribute. Simply download a free copy of Zulu, develop with the JDK and test your application with its included JRE runtime. When ready read to go into production, contact Azul sales to discuss options with the Zulu Enterprise professional support offerings and JRE-only packaging.

## Zulu Embedded: Embedded Apps and the Internet of Things

Java is becoming increasingly popular for embedded applications and the Internet of Things (IoT). More of these projects now use standard components and

need to interface with enterprise apps built in Java. Azul's Zulu Embedded allows you to specify a custom package for your Zulu build, including 32- or 64-bit, operating system, hardware, footprint, and installer.

Zulu Embedded offers flexible pricing strategies, certified test results using the full OpenJDK TCK suite, and long lifespan support of at least ten years after each major Java SE release. Each build comes with Premium support provided by Azul's world-class support team. Zulu Embedded will help you speed time to market, increase developer and product design productivity, and reduce material cost for your product at any volume.

## Find Out More

Zing overview  
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