



# Zing® is the best JVM for Healthcare Applications

Java-based healthcare applications can achieve high performance and take advantage of large in-memory datasets using advanced JVM technology from Azul Systems

## Java-based Healthcare Applications Need High Reliability and Consistency

Java-based applications are critical to many healthcare operations. As more organizations deploy electronic medical records, practice management systems and performance-intensive imaging and analytical systems, Java performance and reliability become more critical. Long pause times, poor scalability and out-of-memory errors can't be tolerated when patient outcomes are at stake.

Conventional Java Virtual Machines (JVMs) were never designed for the needs of high performance imaging systems or records systems that are accessed by thousands of practitioners and support staff. They are limited in the amount of in-memory data they can use without slowing down, stalling or even crashing. Also, traditional JVMs can't allow application instances to grow and shrink elastically to handle unpredictable loads. Deploying the wrong JVM can cause healthcare applications to crash or perform poorly, delaying diagnoses, frustrating healthcare practitioners and reducing potential efficiencies from automated systems.

### Mission Critical Applications Rely on Java

Healthcare organizations are continuing to invest heavily in critical applications based on Java. These systems include electronic health record systems, remote patient monitoring, practice management, imaging and a variety of proprietary

applications. These systems, in turn, rely on the capabilities of their underlying JVM.

In the past, limitations of the JVM have kept some Java healthcare applications from reaching their full potential for scalability and performance. This is due to the necessity of the JVM to 'garbage collect', that is, clean up items the application has stored in memory that it no longer needs and clear blocks of memory that can be used for new items. Nearly all commercial JVMs require application processing to pause while it garbage collects. This causes inconsistent response times and 'jitter' that leads to long user wait times, delayed diagnoses and lots of wasted time spent trying to tune these pauses away. It also makes Java impractical for many applications.

### Introducing Zing

Azul Zing is a Java supercharger that transforms apps to business real time. Now Java apps can scale to high levels of performance with unprecedented response time consistency and meet your most demanding SLAs—without application changes or even recompilation. Zing allows your applications to handle far more users and transactions on existing infrastructure. It is a game-changing innovation that opens up opportunities for new application capabilities, time-saving automation and real-time diagnostic systems not practical with other Java software platforms.



## BENEFITS OF AZUL ZING FOR HEALTHCARE APPLICATIONS

- Get more from existing systems handle 2 – 3X more users and transactions on existing infrastructure
- Keep more data in memory improve performance of imaging, electronic medical records, analytics and Big Data systems
- Speed time to market eliminate most tuning and deliver features faster
- Deliver consistent response times even during peak loads



## Zing is the Best JVM for Healthcare Applications.

Zing provides better performance, reliability and scalability than other JVMs. Healthcare organizations can improve efficiency, ensure reliability of high performance imaging and records systems and lower IT costs by choosing Zing.

### Benefits

With Zing, healthcare applications can hold more information in memory with consistently fast response times, even under peak loads. Zing complies with the Java SE standard, is easy to deploy and requires no changes to your application – not even recompilation. Zing also can reduce your IT costs, allowing you to leverage the power of commodity x86 servers and squeeze more performance from your existing infrastructure.

Zing is more than just another JVM. It also includes Zing Vision, a production monitoring and management platform. The Zing Vision tool reduces production issue resolution time by monitoring a fully instrumented JVM to help pinpoint issues on running systems.

### Zing: The Best JVM for Healthcare Applications

Zing supports your ability to use technology to improve efficiency, provide better patient care and reduce IT costs. You will be able to serve more users, processing and transactions on your existing infrastructure and deliver consistent response times, even under heavy loads.

### Get Started Today

Your healthcare organization relies more and more on the performance of mission-critical Java applications for daily operations and better patient care. With a robust, scalable Java infrastructure based on Zing, you'll be able to support more usage of these systems and deliver better performance than is possible with any other JVM.

## ZING IN HEALTHCARE

### Problem:

An electronic health record system needed to hold lots of information in memory for high performance, but kept experiencing out-of-memory errors and crashing.

### Solution: Deploy Zing

- Eliminates out-of-memory errors and crashes
- Holds more data in-memory without needing to add and manage additional cache subsystems
- Simplifies deployment with fewer, larger JVM instances
- Improves overall performance and stability

To get started,  
contact us:

**Email** [info@azulsystems.com](mailto:info@azulsystems.com)

**Phone** +1.650.230.6500

[www.azulsystems.com/solutions/healthcare](http://www.azulsystems.com/solutions/healthcare)

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