



Improve ad success rates with Azul Zing®

Zing helps your systems optimize bidding, win more auctions and improve click-through rates

Slow Java Response Times Can Mean Missed Opportunities

Advertising on websites and digital devices is often placed through real time auctions. When an ad request is received, the server must determine quickly which ad to show and how much to bid – often in 50 milliseconds or less. A slower response time means a lost opportunity for a sale or click-through and lost revenue.

To make optimal decisions and maximize success rates the ad server also needs to have instant access to data on the ads, prices, user and app or site where the ad is to be placed.

Ad servers built in Java rely on an underlying Java Virtual Machine (JVM) to do memory management. With conventional JVMs, high ad request rates fill memory quickly and trigger garbage collection pauses that can cause missed bids. Since the length of the pause is proportional to the amount of data in memory, ad servers can only analyze a subset of potentially useful information in time to determine the ad and bid.

A common reaction is to try an off-heap cache to hold more data. However, caching is too slow given strict SLA requirements. The cross-process call to the cache takes too long.

Increase Success Rates and Revenue

The solution is the innovative JVM from Azul Systems, Zing. With Zing, your ad server can handle far more ad requests on fewer servers with better response times and utilize more information to optimize decision making.

Zing complies with the Java SE standard and is based on Oracle's HotSpot. It lowers average and maximum latency and delivers consistent response times (around 10 milliseconds) out of the box. Zing is also the only JVM that allows advertising systems to utilize up to 2 TB of in-memory data with pauseless operation. Best of all, you can switch to Zing without porting or coding changes.



BENEFITS OF AZUL ZING FOR JAVA-BASED ADVERTISING SERVERS

- **Meet strict response time SLAs** even under high ad request rates
- **Handle 2X more requests on the same hardware** while delivering better response times
- **Reduce average response times by 30% or more** win more auctions and improve revenue
- **Optimize ad selection and bidding** keep more information in the Java heap for faster, better decision-making that maximizes click-through rates and efficiency



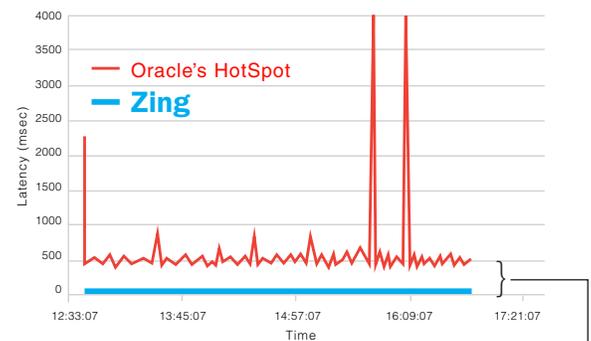
Solution: Azul Zing

Azul Zing is the best Java platform when consistent response times and better decision-making means more revenue. Zing allows your systems to win more auctions, improve click-through rates and handle more requests on existing hardware.

Azul Zing: The Best Java Infrastructure for Ad Servers

Zing is the only JVM that allows Java-based ad serving applications to utilize up to 2 TB of memory without performance penalty. Zing removes response time outliers and lowers average response rates to increase the number of opportunities your system can convert. With more data available in the heap, your ad server can make better decisions about bids and advertising creative to improve conversion rates. And, because Zing is compliant with the Java SE standard, you can achieve these performance improvements out of the box with no tuning or coding changes required.

Java Application Performance Comparison Under Heavy Load



*Zing delivers lower average response time;
1000x lower worst case response time*

Contact an Azul Java Performance specialist today:

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