

Zulu Mission Control and Zulu Flight Recorder

Ultra-low-overhead production-friendly Java profiling coupled with powerful troubleshooting technology, fully integrated with Azul Systems Zulu Enterprise builds of OpenJDK 8 and OpenJDK 11.

Provide your team with 100% open source, top-tier profiling and monitoring tools backed by Azul Systems.



The challenge: troubleshooting Java applications during development and production

Proving that the Java application you have developed is reliable and has good stable performance, reasonable memory, CPU, I/O and other native resource usage is never an easy task. There are many tools available from different vendors to help Java developers accomplish this, but they can impact the performance of the application being tested, even generating results that are unreliable or false.

Introducing Zulu Mission Control and Zulu Flight Recorder

Azul Systems has brought ultra-low-overhead Java profiling and analysis tools to Zulu Enterprise builds of OpenJDK 8 and OpenJDK 11. The impact on application runtime performance is extremely low (<=2%), making it practical to use these tools in production for both trouble-shooting and debugging.

Zulu Mission Control is responsible for visual representation of the data from the current execution of the JVM in real time. Zulu Mission Controls displays all the fine-grained information of the JVM execution process and helps to analyze this data. It allow you to see what happened during moments of peak processing or memory usage, how many threads are running in the application, their migration between the possible states, which Java classes are being executed, etc. making it easy to understand where resources are primarily being consumed.

As noted in the screen shot of the top-level menu on the left, Zulu Mission Control is designed to deliver comprehensive, easy-to-understand visual summaries of Java applications while they are running in production. Every aspect of the running configuration is also tracked – from memory size and utilization to Garbage Collection activity and issues with memory or CPU resource pressure to deep insights into the behavior of the C1 and C2 JIT compilers responsible for generating optimized runtime code. When needed, with Zulu Mission Control you can view application performance thread by thread.

Zulu Flight Recorder is included with all Zulu Enterprise builds of OpenJDK 8 (8u202 and later) and all versions of OpenJDK 11. Flight Recorder saves all the fine-grained information of the JVM execution during a specified period of time to a separate log file. It enables collection of key performance data from production systems via simple commands to a running local or remote JVM that has Flight Recorder enabled. Flight Recorder was designed to be a very lightweight system tool, making it practical for either intermittent or continuous use in production.

Flight Recorder log files can be shared with remotely-located development teams for in-depth analysis without the need for physical presence on the site for additional data collection.



BENEFITS OF ZULU MISSION CONTROL

- Coherent data representation allows for data cross-referencing and filtering of the events
- Reduces cost of operation and maintenance and reduces business interruption
- Custom API for application-specific events
- Improves systems stability and efficiency
- Extremely low overhead makes practical data collection in production possible
- Accelerates development cycles by providing essential performance data
- Multi-platform desktop support
 - Windows
 - Linux
 - macOS

