Anatomy of GraalVM Enterprise

**GraalVM Enterprise** – a high-performance JDK that speeds up the performance of Java and JVM-based applications, lowers application latency, improves peak throughput by reducing garbage collection time, and comes with 24x7 Oracle support.

**AOT MODE**
(AHEAD-OF-TIME)

GraalVM Native Image utility performs AOT compilation to generate fast, self-contained native executables ideal for microservices.

The same GraalVM compiler generates binaries with only the classes, methods, and dependent libraries needed to run the program.

PGO (Profile Guided Optimization), only available with GraalVM Enterprise, collects profiling data to create more efficient code.

GraalVM Native Image utility outputs a native executable that starts up fast and requires less memory due to no runtime compilation.

**JIT MODE**
(JUST-IN-TIME)

JIT execution mode generates optimized machine code with better peak performance ideal for long-running applications.

The interpreter executes bytecode with no compilation.

Client compiler for quick response with minimal code optimization.

The GraalVM compiler applies aggressive optimizations to speed up performance and minimize garbage without code changes.

**Benefits**

- Up to 100x faster helps scaling
- Up to 5x smaller memory easier to containerize
- Up to 50% faster throughput
- 24x7 support for reliability
- Reduce cloud operations cost or free up compute resources from faster performance and lower memory usage

Learn more [https://www.oracle.com/graalvm](https://www.oracle.com/graalvm)