Serialization

Json:

JMH version: 1.19
VM version: JDK 11.0.9.1, VM 11.0.9.1+1-Ubuntu-0ubuntu1.20.04
VM invoker: /usr/lib/jvm/java-11-openjdk-amd64/bin/java
VM options:
-javaagent:/snap/intellij-idea-ultimate/261/lib/idea_rt.jar=40677:/snap/intellij-idea-ultimate/261
/bin -Dfile.encoding=UTF-8
Warmup: 5 iterations, 1 s each
Measurement: 5 iterations, 1 s each
Timeout: 10 min per iteration
Threads: 1 thread, will synchronize iterations
Benchmark mode: Throughput, ops/time
Benchmark: json.JSONSerialization.serialize

Run progress: 0.00% complete, ETA 00:00:10
Fork: 1 of 1
Warmup Iteration   1: 1196295.828 ops/s
Warmup Iteration   2: 1562298.692 ops/s
Warmup Iteration   3: 1480947.222 ops/s
Warmup Iteration   4: 1731379.367 ops/s
Warmup Iteration   5: 1741023.945 ops/s
Iteration   1: 1742675.609 ops/s
Iteration   2: 1746833.243 ops/s
Iteration   3: 1743499.916 ops/s
Iteration   4: 1746386.108 ops/s
Iteration   5: 1746775.592 ops/s

Result "json.JSONSerialization.serialize":
  1745234.093 ±(99.9%) 7656.357 ops/s [Average]
  (min, avg, max) = (1742675.609, 1745234.093, 1746833.243), stdev = 1988.332
  CI (99.9%): [1737577.736, 1752890.450] (assumes normal distribution)

Run complete. Total time: 00:00:11

Benchmark   Mode Cnt   Score   Error Units
JSONSerialization.serialize thrpt   5 1745234.093 ± 7656.357 ops/s

Protobuf:

JMH version: 1.19
VM version: JDK 11.0.9.1, VM 11.0.9.1+1-Ubuntu-0ubuntu1.20.04
VM invoker: /usr/lib/jvm/java-11-openjdk-amd64/bin/java
VM options:
-javaagent:/snap/intellij-idea-ultimate/261/lib/idea_rt.jar=46349:/snap/intellij-idea-ultimate/261
/bin -Dfile.encoding=UTF-8
Warmup: 5 iterations, 1 s each
Measurement: 5 iterations, 1 s each
Timeout: 10 min per iteration
Threads: 1 thread, will synchronize iterations
Benchmark mode: Throughput, ops/time
Benchmark: protobuf.ProtobufSerialization.serialize

Run progress: 0.00% complete, ETA 00:00:10
Fork: 1 of 1
Warmup Iteration   1: 110195.188 ops/s
Warmup Iteration   2: 380090.404 ops/s
Warmup Iteration   3: 411156.800 ops/s
Warmup Iteration   4: 462072.551 ops/s
Warmup Iteration   5: 462114.083 ops/s
Iteration   1: 462132.835 ops/s
Iteration   2: 462135.703 ops/s
Iteration   3: 460792.289 ops/s
Iteration   4: 451371.687 ops/s
Iteration   5: 462501.435 ops/s

Result "protobuf.ProtobufSerialization.serialize":
  459786.790 ±(99.9%) 18287.073 ops/s [Average]
  (min, avg, max) = (451371.687, 459786.790, 462501.435), stdev = 4749.095
  CI (99.9%): [441499.717, 478073.862] (assumes normal distribution)

Run complete. Total time: 00:00:10

Benchmark   Mode Cnt   Score   Error Units
ProtobufSerialization.serialize thrpt 5 459786.790 ± 18287.073 ops/s

Deserialization

Json:

JMH version: 1.19
VM version: JDK 11.0.9.1, VM 11.0.9.1+1-Ubuntu-0ubuntu1.20.04
VM invoker: /usr/lib/jvm/java-11-openjdk-amd64/bin/java
VM options:
-javaagent:/snap/intellij-idea-ultimate/261/lib/idea_rt.jar=35925:/snap/intellij-idea-ultimate/261
/bin -Dfile.encoding=UTF-8
Warmup: 5 iterations, 1 s each
Measurement: 5 iterations, 1 s each
Timeout: 10 min per iteration
Threads: 1 thread, will synchronize iterations
Benchmark mode: Throughput, ops/time
Benchmark: json.JSONSerialization.serialize

Run progress: 0.00% complete, ETA 00:00:10
Fork: 1 of 1
Warmup Iteration   1: 1101386.311 ops/s
Warmup Iteration   2: 1442623.186 ops/s
Warmup Iteration   3: 1683574.378 ops/s
Warmup Iteration   4: 1741543.872 ops/s
Warmup Iteration   5: 1725744.748 ops/s
Iteration   1: 1732705.309 ops/s
Iteration   2: 1745548.773 ops/s
Iteration   3: 1749193.575 ops/s
Iteration   4: 1748339.019 ops/s
Iteration   5: 1746322.795 ops/s

Result "json.JSONSerialization.serialize":
  1744421.894 ±(99.9%) 25850.590 ops/s [Average]
  (min, avg, max) = (1732705.309, 1744421.894, 1749193.575), stdev = 6713.316
  CI (99.9%): [1718571.304, 1770272.485] (assumes normal distribution)

Run complete. Total time: 00:00:10

Benchmark   Mode Cnt   Score   Error Units
JSONSerialization.serialize thrpt   5 1744421.894 ± 25850.590 ops/s

Protobuf:

JMH version: 1.19
VM version: JDK 11.0.9.1, VM 11.0.9.1+1-Ubuntu-0ubuntu1.20.04
VM invoker: /usr/lib/jvm/java-11-openjdk-amd64/bin/java
VM options:
-javaagent:/snap/intellij-idea-ultimate/261/lib/idea_rt.jar=42073:/snap/intellij-idea-ultimate/261
/bin -Dfile.encoding=UTF-8
Warmup: 5 iterations, 1 s each
Measurement: 5 iterations, 1 s each
Timeout: 10 min per iteration
Threads: 1 thread, will synchronize iterations
Benchmark mode: Throughput, ops/time
Benchmark: protobuf.ProtobufDeserialization.deserialize

Run progress: 0.00% complete, ETA 00:00:10
Fork: 1 of 1
Warmup Iteration   1: 1631146.731 ops/s
Warmup Iteration   2: 2468407.285 ops/s
Warmup Iteration   3: 2763667.604 ops/s
Warmup Iteration   4: 2762845.464 ops/s
Warmup Iteration   5: 2756573.885 ops/s
Iteration   1: 2730352.560 ops/s
Iteration   2: 2418322.400 ops/s
Iteration   3: 2580095.258 ops/s
Iteration   4: 2737586.703 ops/s
Iteration   5: 2516904.934 ops/s

Result "protobuf.ProtobufDeserialization.deserialize":
  2596652.371 ±(99.9%) 531380.480 ops/s [Average]
  (min, avg, max) = (2418322.400, 2596652.371, 2737586.703), stdev = 137997.823
  CI (99.9%): [2065271.890, 3128032.851] (assumes normal distribution)

Run complete. Total time: 00:00:10

Benchmark   Mode Cnt   Score   Error Units
ProtobufDeserialization.deserialize thrpt   5 2596652.371 ± 531380.480 ops/s