Statistics

- **Data (single node, noncached)**

  - Mean: 12548998 nanoseconds
  - Standard deviation: 42408768 nanoseconds

- **Data (single node, cached/Panthera)**

  - Mean: 511185.3 nanoseconds
  - Standard deviation: 2572151 nanoseconds

- **Noncached/Panthera**: **95.9% improvement in latency with Panthera**, waiting time of noncached is 24.5 times higher than that of Panthera. There is also a **16 fold decrease in standard deviation with Panthera**.

- **Metadata (single node, noncached)**

  - Mean: 8445265 nanoseconds
  - Standard deviation: 14690532 nanoseconds

- **Metadata (single node, cached)**

  - Mean: 1055012 nanoseconds
  - Standard deviation: 1737020 nanoseconds

- **Metadata (multinode, noncached)**

  - Mean: 1638184 nanoseconds
  - Standard deviation: 43708.26 nanoseconds

- **Metadata (multinode, Panthera cached)**

  - Mean: 176868.7 nanoseconds
  - Standard deviation: 1196944 nanoseconds

- **Metadata - noncached/Panthera: 90.3% improvement with the Panthera metadata cache**. Panthera (developed during this project) decreases waiting time by a factor of 8. **Panthera reduces standard deviation by factor of 27 (!)**.