**MongoDB Concurrency Issues:**

In mongodb, we can use the following techniques to store the large objects:

1. GridFS ( no size limit)
2. As Binary data in the document in a collection ( Limit in Mongodb 3.0.2 is 16 MB)

Also, there are two engines, from mongodb 3.0 onwards which can be used as core Mongodb engines. Please find the number of locks wait for each of the use case.

The test data being used here is as follows:

1. 5 MB JPG file.
2. 10 different threads uploading 10 pics in each thread ( 10 ms delay for CPU spinning in each of the file upload )

Test performed on 4 GB RAM machine with CPU Core 2 Duo 2.66 GHZ

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| GRIDFS | Native mongodb engine | WiredTiger Engine |
| Before | "acquireWaitCount" : {  "w" : NumberLong(1),  "R" : NumberLong(2)  },  "timeAcquiringMicros" : {  "w" : NumberLong(50),  "R" : NumberLong(328116)  } | "Database" : {  "acquireCount" : {  "r" : NumberLong(8),  "W" : NumberLong(2)  }  },c |
| After | "acquireWaitCount" : {  "r" : NumberLong(95),  "w" : NumberLong(595),  "W" : NumberLong(147)  },  "timeAcquiringMicros" : {  "r" : NumberLong(17649556),  "w" : NumberLong(24765445),  "W" : NumberLong(11680579)  }c | "Database" : {  "acquireCount" : {  "r" : NumberLong(262),  "w" : NumberLong(2200),  "W" : NumberLong(154)  },  "acquireWaitCount" : {  "r" : NumberLong(85),  "w" : NumberLong(857),  "W" : NumberLong(147)  },  "timeAcquiringMicros" : {  "r" : NumberLong(45778829),  "w" : NumberLong(143771961),  "W" : NumberLong(50636354)  }  }, |
| Time taken | 20 s | 31 s |

|  |  |  |
| --- | --- | --- |
| Binary Format | Native mongodb engine | WiredTiger Engine |
| Before | "Database" : {  "acquireCount" : {  "r" : NumberLong(40),  "W" : NumberLong(2)  }  },  "Collection" : {  "acquireCount" : {  "R" : NumberLong(37)  }  },c | "Database" : {  "acquireCount" : {  "r" : NumberLong(40),  "W" : NumberLong(2)  }  },  "Collection" : {  "acquireCount" : {  "R" : NumberLong(37)  }  }, |
| After | "Database" : {  "acquireCount" : {  "r" : NumberLong(169),  "w" : NumberLong(100),  "W" : NumberLong(3)  },  "acquireWaitCount" : {  "w" : NumberLong(15)  },  "timeAcquiringMicros" : {  "w" : NumberLong(30254221)  }  },  "Collection" : {  "acquireCount" : {  "R" : NumberLong(172),  "W" : NumberLong(100)  },  "acquireWaitCount" : {  "R" : NumberLong(4),  "W" : NumberLong(98)  },  "timeAcquiringMicros" : {  "R" : NumberLong(126634650),  "W" : NumberLong(2339742250)  }  }, | "Database" : {  "acquireCount" : {  "r" : NumberLong(38),  "w" : NumberLong(100),  "W" : NumberLong(3)  }  },  "Collection" : {  "acquireCount" : {  "r" : NumberLong(35),  "w" : NumberLong(100)  }  } |
| Time taken | 25 s | 26 s |