NGD Systems Newport line of Computational Storage Drives "CSDs":

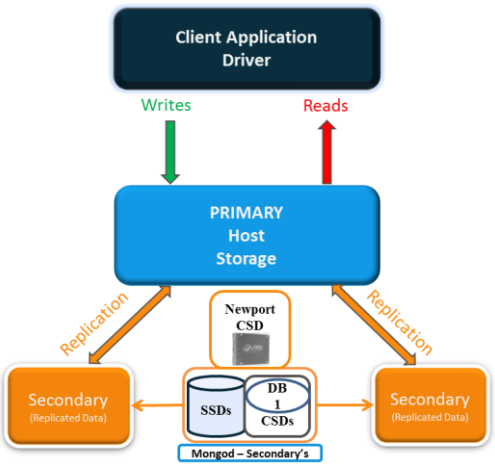
The most cost effective solution for delivering world class performance to your mongoDB Data Nodes

MongoDB was originally engineered to use inexpensive Storage Servers with HDDs at the heart of the cluster. This older HDD technology cannot keep pace with the demands of today's data intensive applications. Big Data, Analytics, IoT, and AI/ machine learning are just a few of the data hungry applications that need a higher level of performance.

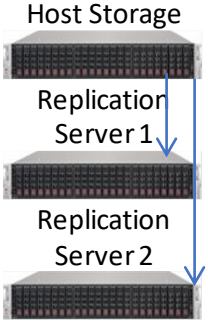
Replication

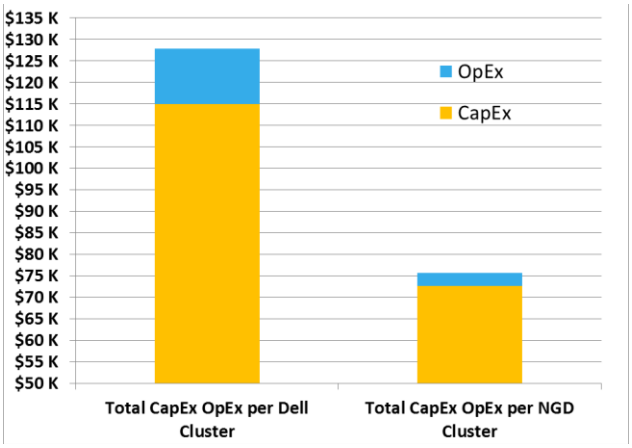
Using 2 CSDs for replication in the host server vs 3 separate servers

By creating multiple replication nodes using a single server you need far less resources for each cluster. You can also set up multiple replication sets per storage server to maximize your savings



Standard Configuration

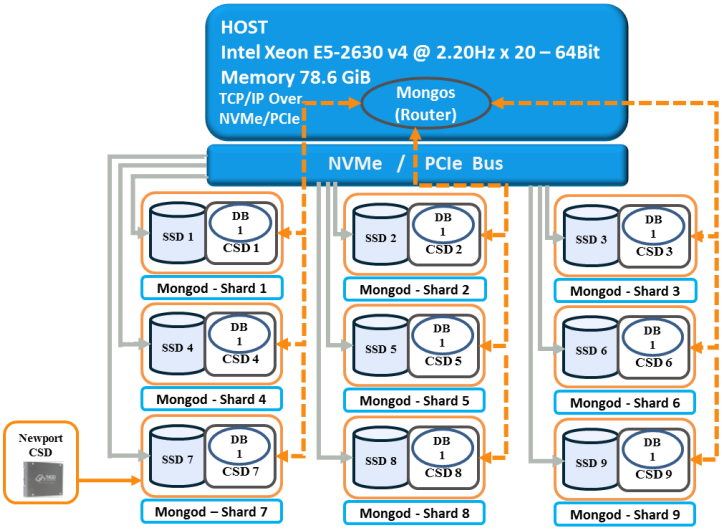




ROI quickly realized due to dramatic savings on Cap-Ex and Op-EX

Today the cost of high capacity solid state drives is available at ever lower price points, the configuration dynamics have changed, and you can now use high performance high capacity NVMe drives with 4 core ARM processors built in (CSDs).

NGD has the highest capacity 2.5in NVMe drives available on the market today; they can be used as an ultra-fast low power storage device or enable the processers and take full advantage of the flexibility and power of Computational Storage



Sharding

mongoDB can take advantage of spreading data across multiple drives giving the ability to use the efficiency and performance of parallel dynamics. You can have as many shards per server as there are available drive slots. For example, 32 8TB CSDs in a 1U server will give you up to 32 shards with an additional 128 processors for added capabilities like creating a node from each CSD

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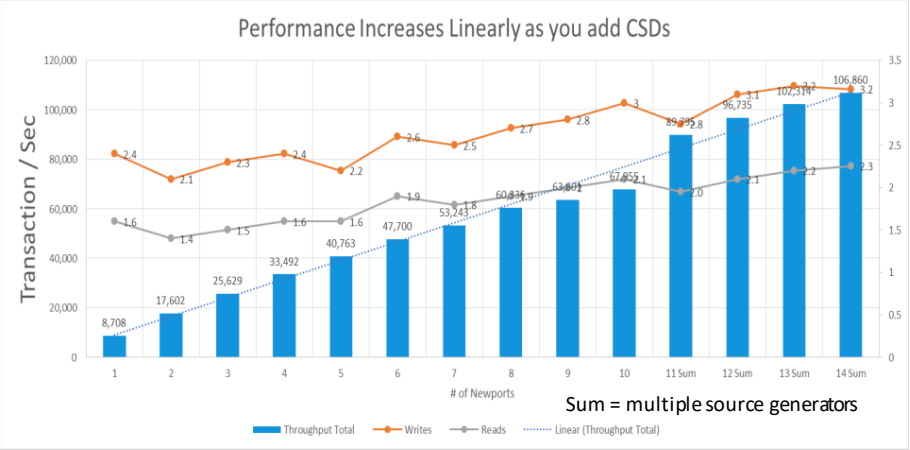
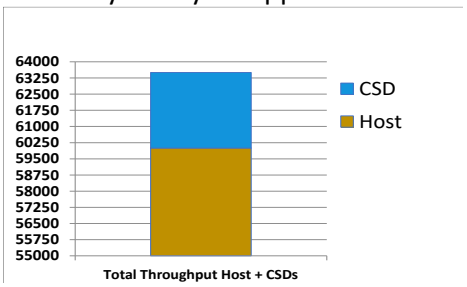
Use Case Brief with NGD Computational Storage



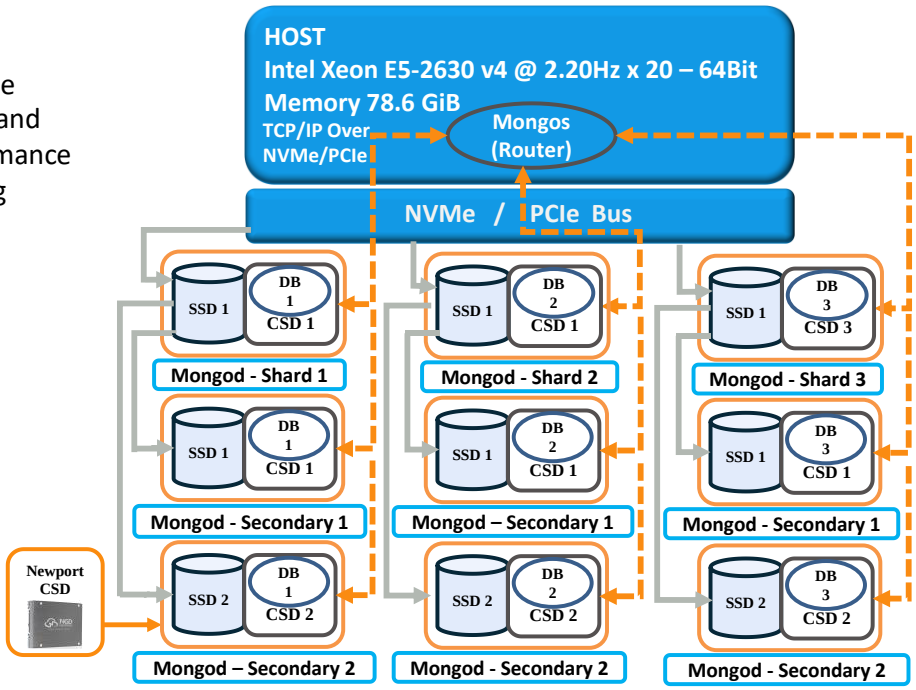
Performance and Scalability

You gain performance linearly as you add Capacity with CSDs, Performance, Cost Savings and more Efficiency from your applications



Sharding and Replication

Using a single storage Server with multiple shards will reduce data center foot print and overall cost while providing more performance per host and less latency while replicating



Sharding and Replication are "best practice" configurations used to improve performance and data security. Until now these functions required the use of 2 storage servers for each replica set and at least one (or more) servers per Shard with CSDs this is no longer the case and one or both can be configured into a single server.

If Fault tolerance is required, adding a second host can resolve that scenario and still provide a better overall TCO.

To learn more, please reach out to Info@NGDSystems.com

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