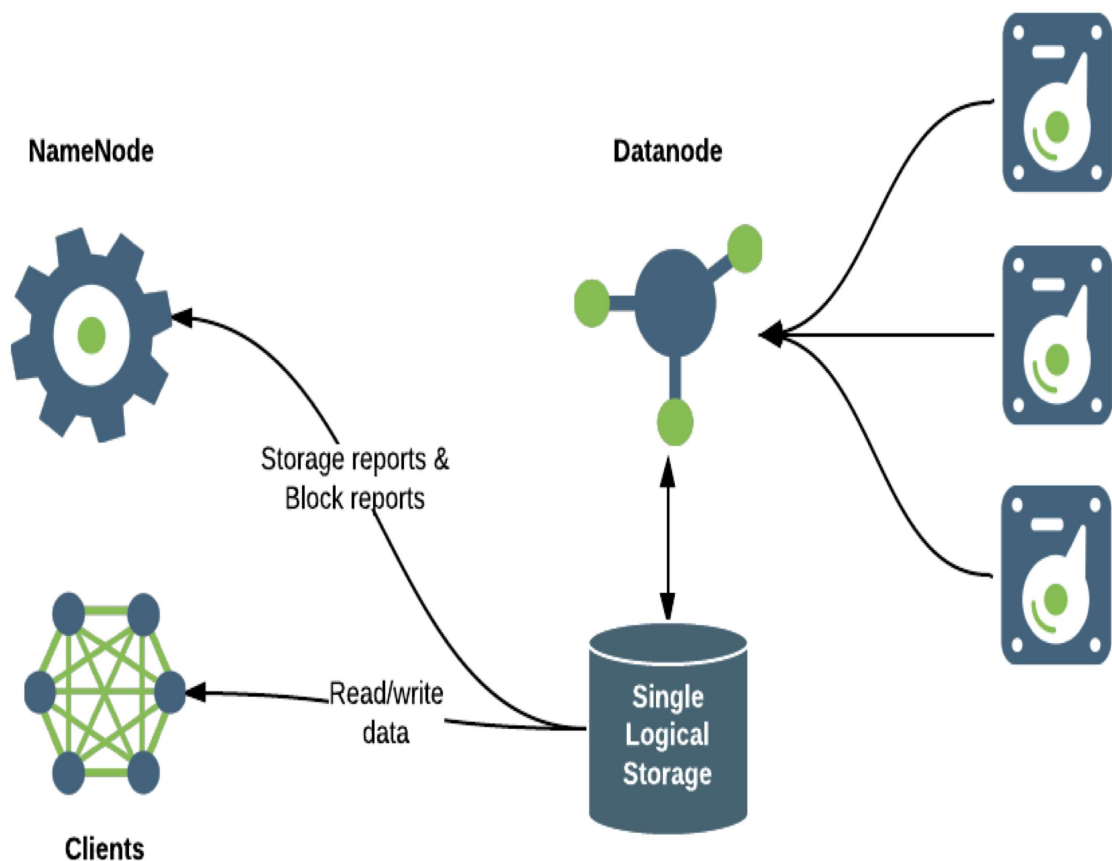# HDFS Storage Before and Now

Let's take a look at how HDFS has raised to this challenge and is now embracing all sorts of storage medium.

The old HDFS architecture assumed that all the storage is locally attached to the DataNode and there is no other way to access it, but to read it from the DataNode itself. The access model was rigid and it looked a lot like:

A DataNode presented itself as a single logical storage
(by Hortonworks, Inc., retrieved from hortonworks.com)

The new architecture still allows for that mode, but it also allows for essentially a pass-through where the client can read directly from certain types of storage mediums. This essentially allows for heterogenous storage federation data architecture that looks something like this:
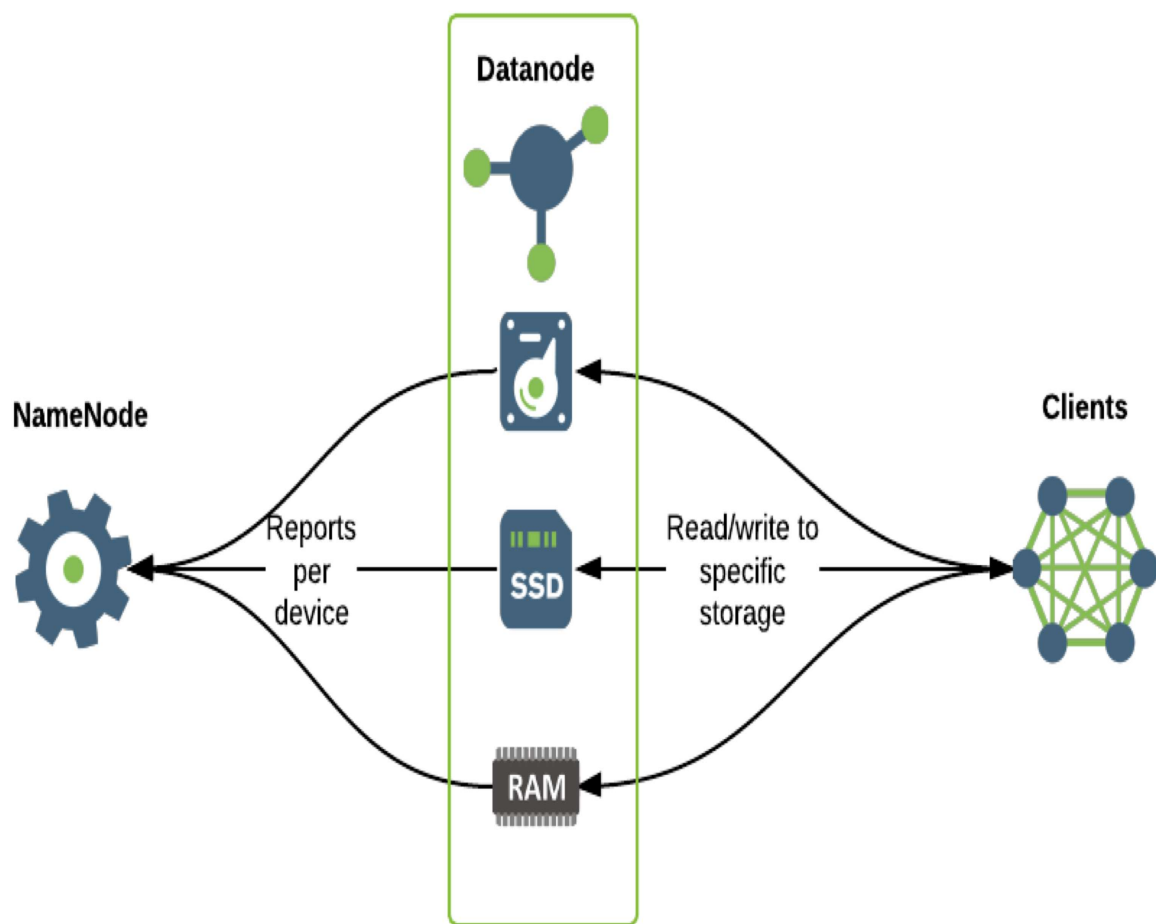
HDFS storage architecture - Now (by Hortonworks, Inc., retrieved from LinkedIn SlideShare)

This is, of course, a brand new frontier that is still not quite settled by the engineers working on HDFS. There is very active development happening that is sure to enable different Storage Types (RAM_DISK, SSD, DISK, ARCHIVE) and Storage Profiles (HOT, WARM, COLD, All_SSD, One_SSD, LAZY_PERSIST), all in support of seamless analytics.

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