What does 64MB block size mean?

The block size is the smallest unit of data that a file system can store. If you store a file that's 1k or 60Mb, it'll take up one block. Once you cross the 64Mb boundry, you need a second block.

If yes, what is the advantage of doing that?

HDFS is meant to handle large files. Lets say you have a 1000Mb file. With a 4k block size, you'd have to make 256,000 requests to get that file (1 request per block). In HDFS, those requests go across a network and come with a lot of overhead. Each request has to be processed by the Name Node to figure out where that block can be found. That's a lot of traffic! If you use 64Mb blocks, the number of requests goes down to 16, greatly reducing the cost of overhead and load on the Name Node.

HDFS's design was originally inspired by the design of the Google File System (GFS). Here are the two reasons for large block sizes as stated in the original GFS paper (note 1 on GFS terminology vs HDFS terminology: chunk = block, chunkserver = datanode, master = namenode; note 2: bold formatting is mine):

A large chunk size offers several important advantages. **First**, it reduces clients’ need to interact with the master because reads and writes on the same chunk require only one initial request to the master for chunk location information. The reduction is especially significant for our workloads because applications mostly read and write large files sequentially. [...] **Second**, since on a large chunk, a client is more likely to perform many operations on a given chunk, it can reduce network overhead by keeping a persistent TCP connection to the chunkserver over an extended period of time. Third, it reduces the size of the metadata stored on the master. This allows us to keep the metadata in memory, which in turn brings other advantages that we will discuss in Section 2.6.1.

How does Hadoop calculate block size?

The default **size** of the **HDFS block** is 128MB which you can configure as per your requirement. All **blocks** of the file are the same **size** except the last **block**, which can be either the same **size** or smaller. The files are split into 128 MB **blocks** and then stored into the **Hadoop** file system.