

# Parameters used in a vmdk

## How to calculate the disk-geometry

There are several reasons why you want to calculate the disk-geometry manually:

- change the adapter-type of an existing vmdk
- create a vmdk description for a dd-file
- create a vmdk description for a img-file like used by Starwind
- create a vmdk description for a \*-flat.vmdk when the original description is lost

For all cases we first need the nominal size of the disk in sectors.  
Look up the size of the image-file in bytes.

**<size of image in bytes> / 512 = <size in sectors>**

Next decide which type of geometry you want : IDE or SCSI

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### SCSI

For SCSI-disks the typical geometry is \* cylinders x 255 heads x 63 sectors

```
ddb.geometry.cylinders = *  
ddb.geometry.heads = "255"  
ddb.geometry.sectors = "63"
```

To get the number of cylinders calculate

**<size in sectors> / 16065 = <number of cylinders>**

When the vmdk uses adapertype buslogic or lsilogic this formula is valid for all disks larger than 1 Gb

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### IDE

For IDE-disks the typical geometry is \* cylinders x 16 heads x 63 sectors

```
ddb.geometry.cylinders = *  
ddb.geometry.heads = "16"  
ddb.geometry.sectors = "63"
```

To get the number of cylinders calculate

**<size in sectors> / 1008 = <number of cylinders>**

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### IDE larger 8 GB

When the vmdk uses adapertype ide the maximum value for <number of cylinders> is 16383.  
So for all disks larger than that - 8Gb - you can use this geometry

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**ddb.geometry.cylinders = "16383"**

**ddb.geometry.heads = "16"**

**ddb.geometry.sectors = "63"**

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