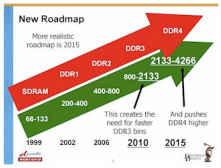
Currently, DDR3-SDRAM is the fastest type of memory on the market but it seems that JEDEC's efforts to increase performance while staying in the same electrical footprints may, in fact, yield a much more powerful memory than users might expect, even making speeds of over 2,500 MHz seem lackluster.



Apparently, the target effective clock speeds of DDR4 will have 2,133 MHz as the lower limit, which is already higher than most DDR3 products currently on sale.

It is the top-most limit that will truly turn heads, if what Bill Gervasi, vice president of engineering at US Modular and a member of the JEDEC board of directors, reportedly said is to be trusted.

Apparently, DDR4 will actually go as high as 4,266 MHz, and one can only imagine what type of overclocking fits and performance levels will be possible with such resources.

For those interested in a reminder, the target clocks of DDR2-SDRAM were 400 to 1,066 MHz, whereas those for DDR3-SDRAM are 1,066-2,133 MHz.

Some players on the memory front do, of course, already deal in memory of higher frequencies, but those products are both expensive and, sadly, impractical for common end-users.

DDR4, on the other hand, should be more than able to keep up with the advancements on the CPU front, especially considering the electrical footprints. To be more specific, DDR4 will have voltages of 1.1-1.2 V.

There is, unfortunately, an apparent drawback to the new memory, in the way that every memory channel in DDR4 memory sub-systems will support just one memory module.

It seems that developers decided to trade the current multi-drop bonus for point-to-point technology. This, however, will hamper system builders' ability to provide high-end systems with sufficient amounts of gigabytes.

Thus, DRAM makers will have to use multi-layer techniques to boost the capacities of the

memory chips themselves. The other solution is for special switches to be installed on mainboards, to let multiple modules work on the same channel.

The first samples of DDR4-SDRAM will start to ship next year, but mass production will only start in 2015.

Source