Anticipated DDR5 standard is forecasted for 2018

April 2 2017, by Nancy Owano

(Tech Xplore)—The JEDEC DDR5 standard is under development. Announced last month by the JEDEC Solid State Technology Association, this is a move to be watched on publication some time next year.

JEDEC is a body developing standards for the microelectronics sector. *Ars Technica* referred to JEDEC as an organization in charge of defining new standards for computer memory.

DDR5 stands for Double Data Rate 5 and it has been widely anticipated. The association said that development of the DDR5 standard was "moving forward rapidly."

"JEDEC never stands still and is constantly working with the entire memory ecosystem to define next generation memory technologies," said a presenter's notes for a presentation at the upcoming JEDEC event in June.

The standards body aims to publish the design for DDR5 sometime in 2018; chip and motherboard makers, noted Agam Shah of the IDG News Service, will have to build in support for the new DDR5 memory. Meantime, the announcement said that industry users will have the opportunity to learn more about the standard at JEDEC's Server Forum event in Santa Clara on June 19.

One of the June 19 talks will be on "Next Gen Memory Driving Server Performance & Growth." The event notes said, "Next Generation Memory will be critical to meeting future server performance requirements. We continue to experience high levels of demand growth and increased diversification within the server market, driving the need for more advanced technologies."

There will also be talks focused on NVDIMM-P as a protocol for storage class memory.

What's the big deal about DDR5? The answer is that DDR5 RAM will double the speed of DDR4. The "memory will offer improved performance with greater power efficiency." They said it is greater as compared with previous generation DRAM technologies.

Rob Williams gave this some numbers, in *Hot Hardware*: "The current highest clock JEDEC allows before "overclocking" takes over is DDR4-2400, with timings ranging from 15~18 for the CAS latency, as well as tRCD, and tRP. If DDR5 is to be "twice as fast", that could imply that we could end up seeing DDR5-4800, or perhaps a safer 4266 (twice the standard 2133MHz)."

Shah, IDG News Service, said, "Typical DDR5 DIMMs [dual in-line memory module] will have twice the gigabyte capacity of DDR4 DIMMs."

Also, according to the news release, expect "a more user-friendly interface for server and client platforms."

Moving forward, the news release said JEDEC plans to host in-depth technical workshops on the DDR5 and further details will be available on the JEDEC website later this year.

Commenting on the announcement of DDR5 as a memory standard, *bit-tech* said the announcement "should surprise nobody."

What did that mean? Gareth Halfacree wrote "to nobody's surprise, DDR5 will be to DDR4 what DDR4 was to DDR3 and so on back through the standards until DDR gives way to the original single data rate RAM of the olden days."

Still, the new standard has been getting considerable attention. Wayne Manion in *The Tech Report* said, "Given the trend of increasing core counts and the difficulty and expense of adding additional memory channels to motherboards, DIMM bandwidth seems set to become more important in the future."

Shah said, "There could be a demand for DDR5 partly because applications like databases are moving to in-memory processing." He said some companies were doubling memory capacity in servers at fast rates to handle those applications."

Clearing any confusion, Andrew Cunningham in *Ars Technica* said, "DDR5 has no relation to GDDR5, a separate decade-old memory standard used for graphics cards and game consoles."

In the bigger picture, said Cunningham, "RAM isn't going anywhere in the near future, but if you look ahead a few years, you can see a potentially RAM-free future looming."

As for how JEDEC works, volunteers representing nearly 300 member companies work together in 50 JEDEC committees. Standards generated by the committees are accepted throughout the world. JEDEC standards are available for free download from the JEDEC website.

  More information: www.jedec.org/news/pressreleas … ds-under-development

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