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Samsung announces the next generation of 3D vertical NAND memory technology-- including the first 1-Terabit (Tb) V-NAND chip and a NGSFF (Next Generation Small Form Factor) SSD.

As the name suggests, V-NAND stacks memory cells on top of each other, allowing for more density than equivalents built on a single, 2D plane. The result also promises more speed and reliability, as well as less chance of breakdowns. The technology finds applications anywhere from smartphones to datacentres, and has already found its way in a consumer product, specifically 256 gigabit consumer SSDs.

The aforementioned 1Tb V-NAND chip was first mentioned back in 2013, during the unveiling of the technology itself. It launches next year, and will enable the creation of 2TB of memory on a single V-NAND package stacking 16 1Tb dies, making what Samsung claims is "one of the most important memory advances of the past decade."

Meanwhile the company is also sampling a first 16TB NGSFF SSD. Aimed at 1U rack servers, it measures 30.5 x 110 x 1.38mm, and promises to increase system storage capacity by up to x4. A Samsung demonstration packs 36 16TB NGSFF SSDs in a 1U rack, creating a 576TB system able to process up to 10 million random IOPS.

Another products shown off by Samsung are the first Z-SSD enterprise product-- the SZ985, featuring "ultra-low latency and high performance"-- and what it calls Key Value SSD, a new means for processing complex data sets enabling SSDs to scale-up (vertically) and scale-out (horizontally) in performance and capacity.

“Our new, highly advanced V-NAND technologies will offer smarter solutions for greater value by providing high data processing speeds, increased system scalability and ultra-low latency for today’s most demanding cloud-based applications,” Samsung adds. “We will continue to pioneer flash innovation by leveraging our expertise in advanced 3D-NAND memory technology to significantly enhance the way in which information-rich data is processed."

Go Samsung Introduces Far-Reaching V-NAND Memory Solutions