SYNOPSYS®

SYNOPSYS | PROBLEM SOLVED

Synopsys accelerates the pace of innovation in the technology sector with a NetApp® AFF solution.

Fueling Tech Innovation with Digital Transformation

Today's era of smart technology is driven by the ever-increasing power of silicon chips. Innovations such as autonomous cars, smart watches, and voice-activated devices require chips with faster compute capacities and therefore generate more data than ever before. Synopsys delivers unmatched performance and reliability to chip manufacturers as they design and market the chips that drive tomorrow's innovations. The company's NetApp AFF solution keeps the engineering organization running faster so customers can speed their time to market.

30%
power and space savings

Scalability to handle
multiple petabytes
with millions of files

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"For 25 years, NetApp has given us the infrastructure needed to keep up with our constantly growing data centers."

Sriram Sitaraman
Group Director of Information Technology, Synopsys

Synopsys is the powerhouse company fueling the race to a more powerful silicon chip. The company provides chip manufacturers with electronic design automation (EDA) software and tools to speed the design and testing of the chips powering tomorrow's technological advances. Synopsys customers demand fast, reliable tools and software to keep them ahead of the pack. "Time to results and reliability are paramount to our customers," says Sriram Sitaraman, group director of information technology at Synopsys. "If we can't meet and exceed their requirements, they will go to the competition."

For chip manufacturers, innovative designs require iterative regression testing and millions of simulations to work out bugs and tune chip designs. Speed is critical to maximize testing windows before release. "Being able to process thousands of simulations in parallel helps accelerate our customers' time to market and increases their competitiveness," says Sitaraman. "But testing requires a large number of cores and an ecosystem to support it, and that means storage."

With more than 200,000 cores and over 50PB of networked storage, the engineering-driven Synopsys culture demands the spigot of compute and storage to be on at all times. "On any given day, Synopsys R&D teams are driving several million jobs," says Sitaraman. "The ability to quickly access data at low response times drives their ability to be successful." To effectively support the engineering team, the Synopsys IT organization looked at how it could maximize infrastructure utilization, manage costs, and provide flexibility to support any request it might get. To do that, the company began a digital transformation.

KEEPING SYNOPSYS IN THE UPPER-RIGHT QUADRANT

For 25 years, Synopsys has relied on NetApp for the major part of its storage infrastructure. "Each time we needed to progress in our data centers, NetApp has had an answer," says Sitaraman.

To support engineers' growing requirements, Synopsys again looked to NetApp and has started its migration to a NetApp all-flash solution for NFS. "The power and rack space results were easily measurable, and we expect to see about 30% savings in the data center, giving us capacity for more cores. We've accelerated engineering's development timelines and continue to improve the throughput for customers," says Sitaraman. "That type of speed and accuracy help us innovate faster and keep Synopsys products in the upper-right quadrant."

The smaller footprint of flash-based storage enabled Synopsys to free up valuable data center space. "We're migrating from many data centers to fewer corporate data centers, which saves us money and allows us to repurpose that space," explains Sitaraman. "And the savings from maintenance, power, and cooling are tremendous. With those savings, we can reinvest in network, access controls, and security."

NetApp ONTAP® capabilities are delivering compression and deduplication benefits as well. Synopsys is also taking advantage of FlexGroup volumes to help it scale out large volumes while retaining

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high performance. "FlexGroup helps us scale a NAS workload to multiple petabytes with millions of files," explains Sitaraman. "For the type of testing we do and the amount of data we ingest, it's a huge asset."

CLOUD: THE NEXT FRONTIER FOR CUSTOMER ACCELERATION

The NetApp infrastructure also helps ready Synopsys as the cloud matures. "While the cloud isn't ready for EDA-type workloads, we expect that to change in the future. NetApp's competency in the cloud makes us confident we have the right infrastructure when we are ready to make that migration," says Sitaraman. "For 25 years, NetApp has given us the infrastructure needed to keep up with our constantly growing data centers, and we expect that will be the same if and when we move to the cloud."

SOLUTION COMPONENTS

NETAPP PRODUCTS

NetApp all-flash solution

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