

Smarter genomics decoding

Smarter
technology
for all

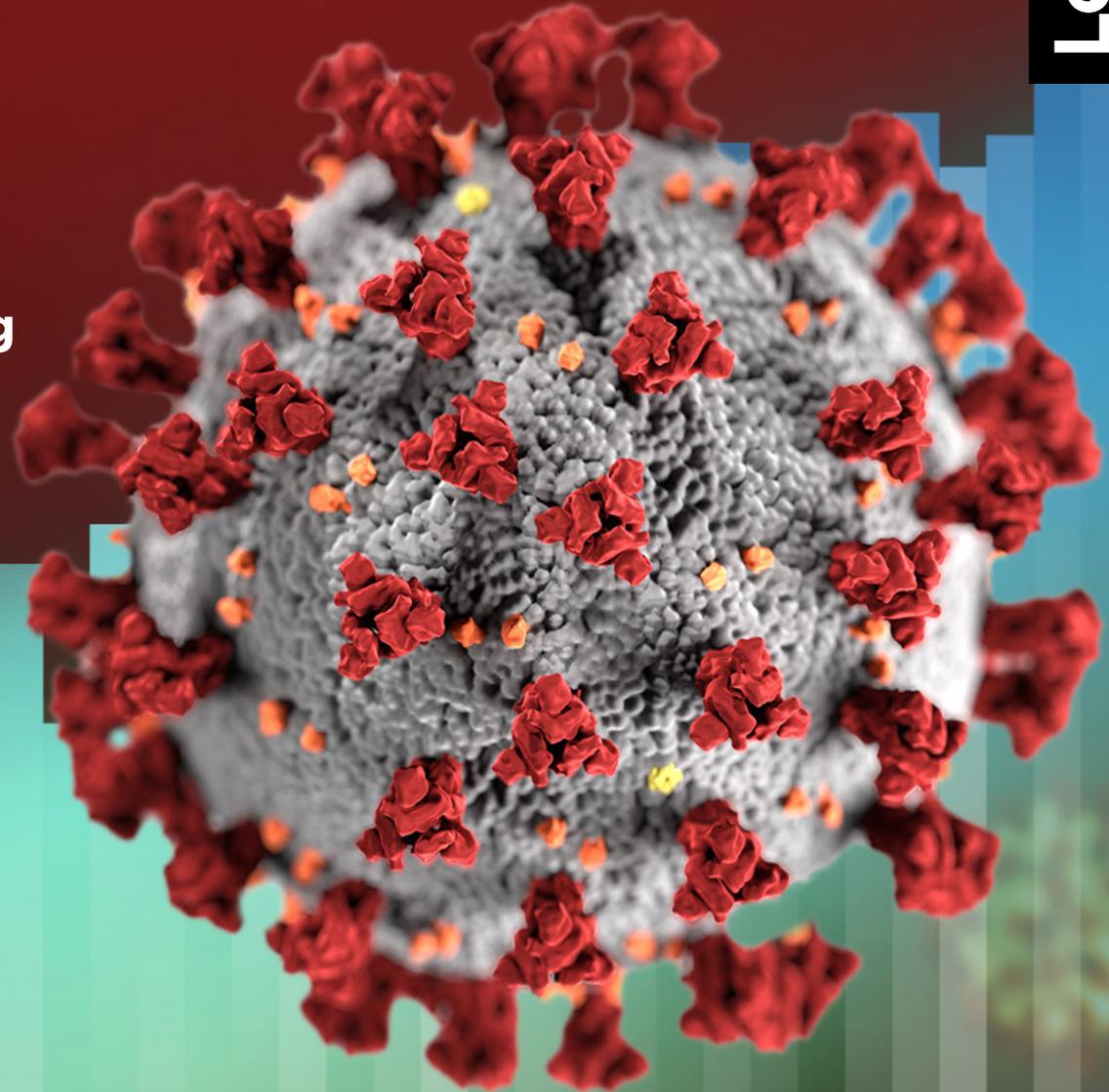
Lenovo

Lenovo High performance computing

Researchers are making life-saving discoveries faster with Lenovo's revolutionary genomics-optimized architecture, an Intel® Select Solution that enables omics analytics at unprecedented speed and efficiency.



Powered by Intel®





Helping more people, faster.

Lenovo's revolutionary Genomics Optimization and Scalability Tool (GOAST) is enabling researchers to analyze large volumes of data at unprecedented speed and efficiency—and at much lower costs than solutions relying on expensive accelerators and proprietary software.

GOAST, an Intel® Select Solution, is an easy-to-use, plug-and-play, scalable offering that utilizes specially tuned hardware to accelerate the open source Genomics Analytics Toolkit (GATK) software suite from the [Broad Institute](#) that scientists know and trust.

The impact of GOAST innovation is staggering. Typical environments run GATK workloads in 60 to 150 hours per human genome. GOAST cuts that time to under an hour per genome, accelerating analytics up to 167X.

Before GOAST, this level of performance was found only in costly GPU-based infrastructures. But GOAST does it all with standard off-the-shelf (OTS) components, and at about 50% of the cost. Lenovo is the only partner who delivers this degree of performance in a cost-effective, open source, CPU-based solution.

With GOAST's revolutionary speed and accessibility, genomics researchers in life sciences, precision medicine, and infectious diseases can understand their data faster, make discoveries sooner, and, most importantly, save more lives.

“ I can't think of a better example of using technology to solve one of humanity's greatest challenges than one where a multidisciplinary team of scientists, clinicians, and engineers have come together to pool their combined brainpower to lower technology barriers to bring the performance levels of the few and make it accessible to the many.”

Mileidy Giraldo, Ph.D.

Global Lead, Life Sciences,
Lenovo HPC & AI



Smarter breakthroughs for scientists.

Faster, deeper insights

GOAST enables you to run genomics analytics at speed-ups up to 167X compared to typical environments. So you can analyze more data, find answers faster, and make breakthroughs sooner.

Easy to set up and use

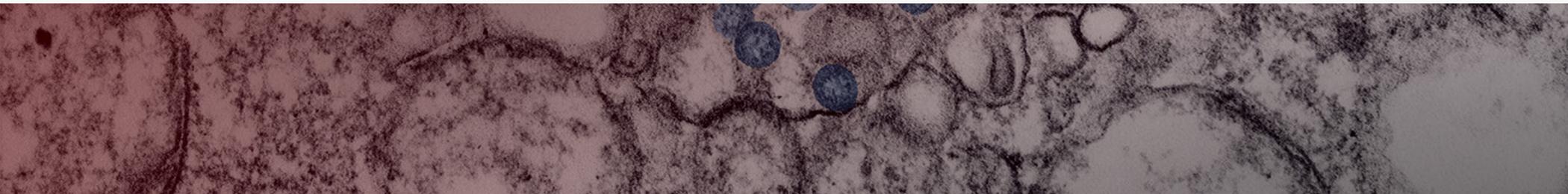
GOAST leverages specially tuned hardware and pre-configured, pre-installed GATK software, so you get a turnkey setup that delivers results from day one.

More productive labs, less lag

GOAST improves lab productivity by allowing you to process more genomes concurrently. This means higher throughputs, shorter execution times, and more time for the work that matters.

Revolutionary performance, reduced costs

GOAST delivers GPU-level performance at CPU-level costs. This means accelerated analytics at 50% of the price of solutions relying on expensive accelerators and proprietary software.



“It’s so exciting to be at the cutting-edge of work accelerating the path to discovery by empowering researchers to process high-throughput omics data at GPU-level speeds but at CPU-level cost.”

Mileidy Giraldo, Ph.D.

Global Lead, Life Sciences,
Lenovo HPC & AI



Costs that won't break the bank for IT managers.

Simple and easy to use

Lenovo GOAST is as easy to use as a plug-and-play system. GOAST delivers accelerated execution speeds, higher job throughput, and we train your users to run it themselves.

Fast, efficient results

GOAST is built on reliable, high-performance Lenovo ThinkSystem servers. Our validated genomics optimizations on Lenovo servers accelerate the GATK software that your scientists know and trust, reducing execution time to under an hour.

Scalable and affordable

Lenovo uses the trusted opensource tools your scientists are accustomed to using. We tune them specifically to maximize the use of a CPU-based architecture. This is all done with off-the-shelf components—no GPUs or FPGAs of any kind—and costs 50% lower than other solutions requiring GPUs and proprietary software licenses.

Business-grade support

Most organizations lack the time, resources and high performance computing expertise required to optimize their genomics infrastructure. With GOAST, our R&D group has already done the work for you. So you can access a turnkey, pre-optimized setup that delivers results from day one. And your users can focus on their next breakthrough.

“ The tech revolution of accessible innovation is here, be it for basic research, infectious disease, or precision medicine.”

Mileidy Giraldo, Ph.D.

Global Lead, Life Sciences,
Lenovo HPC & AI

Accelerating the discoveries that matter most.

Ready to get technical? Read our technical white paper for a closer look at the GOAST architecture, its operating specs, and how it's powering breakthroughs for those on the frontlines of COVID-19 research.

[See Technical White Paper](#)



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