



## Maximizing efficiency for DNA sequencing with the CG2500 server

### NEEDS AND CHALLENGES

- ▶ **Dense data processing:** An efficient system for lab research professionals to handle and analyze large volumes of genetic data requiring precise synchronization for raw sequencing data, genome mapping, and variant analysis.
- ▶ **Support for multiple specialized I/O cards:** Scalability and resource optimization to enable simultaneous computations required by bioinformatics applications.
- ▶ **Compact footprint:** A compact server that can fit into small spaces without compromising performance.
- ▶ **Secure system management:** The system must ensure that the data and software are intact and have not been tampered with, maintaining the integrity of the sequencing process and accuracy of the results.
- ▶ **Support for demanding conditions:** Equipment that can be installed in an area with limited airflow and space within lab settings that might influence the reliability of operations.
- ▶ **Low-noise operation:** A low-noise server that operates within a safe noise level, ensuring that lab professionals can work close to the equipment without risking their hearing.
- ▶ **Long product lifecycle:** Given the evolving nature of genomic research, server must have a long lifecycle, providing extended support and compatibility for future bioinformatics tools and updates.

### BENEFITS OF THE CG2500

- ▶ **High-performance data processing:** Advanced server-class processors and enhanced memory capacity allow bleeding edge add-on I/O cards such as GPUs and FPGAs.
- ▶ **Highly integrated flexible platform:** Support for multiple add-on I/O cards such as GPUs and FPGAs to enable parallelization and synchronization of critical data.
- ▶ **Small form factor:** 2RU with a short depth of 20" and 19" wide chassis built for medical lab settings where space is limited.
- ▶ **Advanced cybersecurity measures:** Features like secure boot, TPM, and encryption capabilities ensure the protection of data throughout the sequencing process, maintaining the confidentiality and integrity of sensitive information.
- ▶ **Built for lab environments:** The server's ability to operate within a wide temperature range and resist environmental fluctuations ensures reliable performance even in less-than-ideal lab conditions.
- ▶ **Low-noise design:** The CG2500's fan management and thermal solution are designed to meet low-noise requirements for lab environments.
- ▶ **Extended server life:** The server's long manufacturing availability (7 to 10 years) and BOM control ensure product stability, supporting ongoing research and future advancements in DNA sequencing.