



**KINGS DISTRIBUTED SYSTEMS
INNOVATION
HIGHLIGHT**



COMPANY OVERVIEW

Kings Distributed Systems is a Canadian startup building an innovative platform for enterprise edge computing. Its technology is the first to seamlessly integrate decentralized hardware into a virtual compute network – regardless of underlying OS, network, or function. This fabric allows businesses to process vast amounts of data without sending it off-premises and incurring high compute, memory, and I/O costs in clouds like AWS. Leading applications of KDS's technology are found in healthcare and manufacturing, where it brings cloud-like capabilities to the local network without any capital expenditure. The company's ultimate goal is to become the web standard for distributed computing.

LOCATION: KINGSTON, ON

TECHNOLOGY



Network Applications

CLOUD COMPUTING CONTROL

There is a massive volume of data today that cannot be processed by the cloud for security and economic reasons. Edge computing may solve this challenge by processing this data closer to its source, but it has significant challenges that must be addressed. With current solutions, companies will need to spend tens of millions on infrastructure to get the computing power they need for edge applications. Worse, different communication protocols, hardware specifications, and computing engines will create 'walled gardens' across the edge landscape. There is a need for an interoperable platform that can ingest, process, and act on data across completely heterogeneous networks – all without triggering significant capital expenditure to upgrade legacy systems.

COST-EFFECTIVE CLOUD CAPABILITIES

KDS has built an edge computing platform called the Distributed Compute Protocol (DCP), which builds intelligent, interoperable networks from decentralized hardware. Unlike other edge solutions, DCP's unique technology virtualizes industrial PCs, PLCs, laptops, and anything with a microprocessor in addition to standard rack servers. This allows organizations to tap into vast amounts of computing power embedded in their networks, and repurpose it to support computationally-expensive applications. In this way, DCP is a way to build and scale edge architectures, create a uniform processing environment out of modern and legacy systems, and save organizations significant capital on infrastructure investments going forward.

UTILIZING METRICS FOR ENHANCED GPU

KDS leveraged CENGN's infrastructure to advance the functionality and performance of DCP in an enterprise-grade environment that mirrored the hardware in a real-world edge deployment. Through this project, KDS obtained performance metrics that helped them to enhance both their scheduling and compute metering functionalities, which will help more accurately price their software and carry out informed business planning. KDS also gathered insights into how they can incorporate Graphics Processing Unit (GPU) capabilities into their solution to complement their existing CPU support, enhancing the overall scope of workloads their technology can address.

“The performance numbers generated in this project greatly contribute to business planning, revenue projections, and improving the platform and its applications.”

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