The Kinetica Advantage

Kinetica is built on five pillars of success.

Unparalleled Speed
Dramatically accelerate analysis with advanced parallel computing

- In-memory GPU architecture with advanced GPU abstraction technology
- SQL queries to process and analyze billions of rows in microseconds
- Simpler data preparation through distributed ingestion and extraction without the need to index

Streaming Data Analysis
Ingest and process data at the same time to get instant results

- Run SQL queries on streaming and geospatial data
- Continuously collect, analyze, and integrate streaming data with historical data
- All-in-one solution to ingest, compute, visualize, and egress data

Visual Foresight
Instantly translate temporal, geospatial, and streaming data into visuals that reveal patterns and opportunities

- In-memory, distributed image processing and rendering
- Interactive visual discovery optimized for temporal and geospatial analysis
- Integrated visual dashboard

Streamlined Machine Learning
Train models faster and predict more accurately with integrated machine learning workflows

- Seamlessly integrate pre-existing code with highly scalable solution
- Simultaneously process & manage BI and AI workloads
- Integrate workflows with open source machine learning libraries

Best-in-Class Innovation Ecosystem
Kinetica partners with leaders in every category to deliver continuous cutting-edge innovation

- Innovate with leaders in GPUs, hardware, cloud, machine learning, and visualization
- Integrate into most data infrastructures
- Deploy on industry-standard hardware and scale linearly

Unleash GPU power and enable enterprises to move with unprecedented agility for the Extreme Data Economy.

Satisfy AI and deep learning demands with the impressive combination of best-in-class cloud infrastructure and customizable GPU processing with IBM's POWER9™.

IBM's first POWER9 server, the Power System AC922, runs a version of the POWER9 chip tuned for Linux, with the four-way multithreading variant SMT4. POWER9 chips with SMT4 can offer up to 24 cores, though the chips in the AC922 top out at 22 cores. The fastest POWER9 in the AC922 runs at 3.3GHz. Kinetica's insight engine performs 1.8 times faster on POWER9 than it did on POWER8 for advanced analytics.

The AC922 leverages IBM's new POWER9 processor with a myriad of modern connectivity capabilities, yielding up to 5.6x1 the data movement over the antiquated PCIe Gen3 buses found in x86. IBM Power Systems deliver the only architecture enabling NVIDIA® NVLink™ between CPUs and GPUs, unlocking new potential for accelerated computing.

The POWER9 family is the first processor line to support a range of new I/O technologies, including PCI-Express 4.0 and NVLink 2.0. PCIe 4 provides bandwidth of up to 16 gigatransfers per second, twice that of PCIe 3, which Intel uses. NVLink 2.0 enables bandwidth of up to 25Gbps for NVIDIA GPUs, the coprocessors of choice for artificial intelligence and accelerated workloads such as those handled by the Kinetica insight engine that is powering business in motion.

Power AC922 HPC Server
POWER9 and NVLink2

- 2 POWER9 CPUs and up to 4 "Volta" NVLink 2.0 GPUs in a versatile 2U Linux server
- PCIe Gen4 bus has double I/O bandwidth vs. PCIe Gen3
- CPU (Turbo)/GPU (Boost) enabled for improved data center efficiency and performance to be maintained at high levels

High-Level System Overview

- 2-socket, 2U packaging
- 40 P9 processor cores
- 4 NVIDIA Volta 2.0 GPUs
- 1 TB memory (16x - 64GB DIMMs)
- 4 PCIe Gen4 slots
- 2x SFF (HDD/SSD), SATA, Up to 7.7 TB storage
- Supports 1.6TB and 3.2TB NVMe adapters
- Redundant hot swap power supplies

For more information on Kinetica and GPU-accelerated databases, visit kinetica.com