



NVIDIA GPU_s FOR ACCELERATED ANALYTICS INDUSTRY SPOTLIGHT: RETAIL

The Internet of Things (IOT) has continued to drive the explosion of data, from devices to sensors, in stores and on clothes in the case of wearable RF-ID tags, shelf beacons, smart carts, smart hangers, smart location-sensing WiFi, and smart context-aware mobile apps. Retailers use data to draw conclusions, improve processes and automate supply chain. Legacy retail IT systems were simply not designed to handle this volume and complexity of concurrent data. Modern environments generate up to thousands of simultaneous requests from multiple data sources. Real-time streaming and interactivity with sub-second responses are expected.

Advantages of GPU-Accelerated Solutions

GPUs have massively parallel architectures, with dramatic boosts in memory bandwidth, power efficiency, and compute relative to x86 CPUs. GPU accelerated solutions provide retailers predictive supply, demand, and pricing forecast simulations that evolve over time, based on competitive and public market data. These solutions are aimed at increasing revenue at the margin and reducing operating costs on the critical path which can add up to millions. Retailers use GPU computing to shorten data processing times for analytics tasks and reduce operating costs in the supply chain, warehouses, and ad placement. Uncovering patterns that can reveal new insights in sub-seconds. The move to accelerated computing allows them to save on operational costs, data center costs and time to market.

Industry Challenges

Complex legacy data architectures with brittle data integration and processes are slowing retailers down. More specifically traditional legacy approaches:

- > Are not designed to handle current volumes of data (terabytes in memory)
- > Are not designed to handle concurrency (thousands of simultaneous requests with sub-second response time)
- > Use inefficient code from a decade ago too expensive to deploy in cloud
- > Leverage traditional data warehouses which are too expensive
- > Slow time to insights and hinders analysts' creativity and productivity

Retail Industry Accelerated Analytics Use Cases

Ad-tech Track and visualize real-time ad clicks to gauge performance levels in a closed optimization loop, improving advertising effectiveness.	Optimization & Planogram Visualize and correlate product replenishment level within certain regions based on culture, optimizing product placement on the shelf and in stores.	Customers 360 Gather, analyze, and visualize IoT data to understand customer preferences, connecting customers with the products they prefer visually.
Logistics Visualize and analyze sales history to assess geographic product demand to project inventory and store locations.	Pricing optimization Allowing collaboration with suppliers for supply chain efficiency by sharing real-time data for product shipments.	Real-Time Supply Chain Correlating data from point of sale (POS) systems, social media, weather forecasts, and wearable devices to track inventory in real-time.

Get Started With NVIDIA

NVIDIA ISV Analytics Partners' solutions—running on NVIDIA® Tesla® based systems, NVIDIA DGX™ Systems and on GPU-accelerated cloud platform—allow retailers leverage the massive computational power to derive insights from vast volumes of complex and streaming data in milliseconds when managing inventory SKU proliferation, tracking buyer preference, integrating supply chain between partners, placing targeted advertisement, and preventing overstock inventories.

TESLA SERVERS IN EVERY SHAPE AND SIZE		DGX SYSTEMS AI TOOLS FOR INSTANT PRODUCTIVITY		CLOUD EVERYWHERE	
					

Find Out More

NVIDIA Accelerated Analytics - Helping customers effectively analyze, visualize, and unleash the power of AI to transform their digital business into an AI enterprise.

Website: www.nvidia.com/analytics

Partner Webpage: www.nvidia.com/dgx-apps

Twitter: [@NvidiaAI](https://twitter.com/NvidiaAI)

Blog: blogs.nvidia.com

