



# POWERING INTELLIGENT, REAL-TIME RETAIL WITH AMD

## THE COMPUTE BACKBONE OF INTELLIGENT COMMERCE

Retail is being redefined by intelligence – delivered in real time.

Margins are tighter. Labor shortages persist. Supply chains remain volatile. Consumers expect seamless, personalized experiences across every channel. At the same time, AI is transforming how retailers forecast demand, prevent loss, optimize pricing, and engage customers.

Retailers that lead in this environment are not simply deploying AI tools. They are rebuilding their compute foundation to support AI economically, securely, and at scale – from store floor to cloud core.

AMD powers the infrastructure enabling AI-driven retail – delivering scalable performance, efficiency, and built-in security features across the broad retail continuum.

## RETAIL AT AN INFLECTION POINT

Retail leaders face converging structural pressures:

- Margin compression with increased customer expectations
- Persistent workforce shortages across stores and distribution centers
- Supply chain volatility and inventory risk
- Escalating organized retail crime
- Rising energy costs and sustainability scrutiny
- Increasing regulatory and data privacy complexity

AI offers competitive advantages – but only if infrastructure can support it efficiently and cost-effectively.

Scaling AI across hundreds of stores, multiple fulfillment centers, and hybrid cloud environments demands a compute architecture designed for performance, consolidation, and economic sustainability.

## ONE ARCHITECTURE FOR MODERN RETAIL - FROM STORE FLOOR TO CLOUD CORE

Retail AI spans environments – and each has distinct performance and latency requirements:

### CLOUD & CORE SYSTEMS

AI model training, merchandising analytics, ERP and data systems integration, demand forecasting, financial planning.

### DISTRIBUTION & LOGISTICS

Route optimization, robotics and automation, warehouse intelligence, inventory allocation.

### STORE EDGE

Computer vision, autonomous checkout, loss prevention, dynamic promotions, localized promotions.

### WORKFORCE ENDPOINTS

Secure, manageable devices for store associates and corporate teams. AMD delivers a consistent compute architecture across all of it – enabling retailers to scale intelligence without architectural fragmentation.

## TURNING COMPUTE INTO COMPETITIVE ADVANTAGE

AMD helps retailers translate infrastructure modernization into measurable outcomes:

### LOW COST-PER-INFERENCE

Efficiently run AI inference workloads on CPU-based infrastructure while optimizing GPU usage for large-scale model training.

### INFRASTRUCTURE CONSOLIDATION

Do more with less infrastructure. High core density can consolidate workloads, reduce hardware footprint, and unlock performance for modern retail applications.

### ENERGY EFFICIENCY AT SCALE

Strong performance per watt can lower power and cooling requirements, so you can get more performance without needing to update power and cooling – supporting ESG initiatives while helping reduce operating expense.

### FASTER INSIGHTS, BETTER DECISIONS

Accelerate forecasting, pricing optimization, and inventory intelligence and empower front line staff to help reduce markdowns and improve margins.

### BUILT-IN DATA PROTECTIONS

Silicon-level security features help protect customer and transaction data across hybrid retail environments.

## A PORTFOLIO BUILT FOR INTELLIGENT COMMERCE

AMD provides a unified portfolio designed to power retail AI from edge to cloud.

### DATA CENTER & CLOUD

AMD EPYC™ server CPUs deliver high core density and memory bandwidth to support:

- Large-scale AI inference
- Virtualization and ERP consolidation
- Data analytics and forecasting

When paired with AMD Instinct™ GPUs, retailers can accelerate large-model training and advanced AI workloads – optimizing overall system performance and GPU ROI.

### EDGE & DISTRIBUTION

EPYC CPUs in embedded platforms enable real-time AI inference in stores and warehouses – supporting low-latency use cases such as autonomous checkout, inventory visibility, and loss prevention.

### WORKFORCE ENDPOINTS

AMD Ryzen™ PRO CPU-based platforms provide enterprise-grade security features, manageability, and performance for retail teams – from store associates to corporate leadership.

*Together, AMD enables a unified architecture designed for scalable, AI-driven retail operations.*



## SECURITY AT THE SILICON LEVEL

Retailers manage highly sensitive customer, payment, and operational data. Security cannot be an afterthought.

AMD EPYC™ server CPUs feature AMD Infinity Guard<sup>1</sup>, including:

- Secure boot
- Memory encryption
- Secure Encrypted Virtualization (SEV)
- Hardware-rooted isolation

These capabilities help protect data across data centers, cloud environments, and edge deployments – supporting compliance with evolving payment methods and regulatory requirements.

## A TRUSTED ECOSYSTEM FOR RETAIL INNOVATION

AMD collaborates across a broad retail ecosystem, including:

- Leading OEM partners
- Major cloud providers
- Retail-focused AI solution vendors
- ISVs specializing in loss prevention, personalization, analytics, and computer vision

Compatibility with widely adopted AI frameworks and enterprise platforms allows retailers to deploy AMD technology-based solutions without disruptive rework – accelerating time to value.

## BUILD THE INTELLIGENT RETAIL ENTERPRISE WITH AMD

AI is redefining commerce. Retailers need infrastructure that is scalable, secure, and economically sustainable.

AMD provides the compute backbone for intelligent retail – enabling organizations to:

- Modernize legacy systems
- Personalize customer engagement at scale
- Protect sensitive data
- Reduce operational costs
- Improve energy efficiency
- Scale AI with confidence

**Retail runs on intelligence. Intelligence runs on AMD.**

**Learn more at [amd.com/en/solutions/retail-and-ecommerce](https://amd.com/en/solutions/retail-and-ecommerce) or speak to your AMD Sales Representative.**

1. GD-183A: AMD Infinity Guard features vary by EPYC™ Processor generations and/or series. Infinity Guard security features must be enabled by server OEMs and/or Cloud Service Providers to operate. Check with your OEM or provider to confirm support of these features. Learn more about Infinity Guard at <http://www.amd.com/en/products/processors/server/epyc/infinity-guard.html>.