

# The smart store runs on Spectro Cloud and SNUC

See how your stores can shrug off WAN outages, embrace in-store AI for loss prevention and self-checkout — and scale to thousands of sites without breaking a sweat.

## Tough times for retail

No matter what category of retail you're in, you're facing the same headwinds.

Shoplifting incidents are up 93% and losses up 90% since 2019, according to the National Retail Federation.

Downtime for systems like POS causes direct revenue loss, yet WAN outages are a fact of life.

And with more processes and customer experiences hinging on in-store tech, it's now a real risk that the store manager is the most technical person on site.

What you need sounds simple, but it's tough to make happen:

- Transaction continuity — POS, SCO, and payment keep processing through outages.
- In-store AI horsepower for loss prevention, self-checkout, and shelf analytics.
- Zero-touch rollout so a new store comes online by unboxing and plugging in.
- One console managing every location identically — from 100 to 10,000+ stores.

## The new store reference architecture

Together, Spectro and SNUC have the answer. It starts with the hardware: a three-node Kubernetes cluster with all the power you need, but sized for the stockroom. Two rugged, fanless EE-2300 nodes carry every store workload with synchronous replication. A low-power witness breaks the tie during network partitions, delivering true HA without a third full server crowding the closet.

### Worker 1

#### Control plane + worker

- **Hardware:** SNUC EE-2300 — AMD Ryzen AI HX 370, up to 128 GB DDR5, up to 12 TB NVMe, 80 TOPS AI per node
- **Networking:** 2x 25 GbE SFPs + 2x 2.5 GbE + dedicated 1 GbE BMC
- **Store workloads:** POS, SCO vision, loss prevention, digital signage, inventory

### Worker 2

#### Control plane + worker

- **Hardware:** SNUC EE-2300 — identical configuration; synchronous replication partner
- **Networking:** 2x 25 GbE SFPs + 2x 2.5 GbE + dedicated 1 GbE BMC
- **Store workloads:** Active HA pair for automatic failover and no lost transactions

### Witness

#### Quorum tiebreaker

- **Hardware:** SNUC EE-1000 / compact NUC - OS disk only; fanless, palm-sized, fits behind the counter
- **Networking:** 2.5 GbE + dedicated 1 GbE BMC
- **Store workloads:** None — quorum only

## The Spectro Cloud + SNUC stack

The EE-2300 runs POS, SCO, and 80 TOPS of in-store AI for use cases like loss prevention, all on one box.

NANO-BMC completes the picture: it lets you recover any store remotely without dispatching a tech or interrupting trade.

The perfect partner for SNUC's compact, high-availability hardware? Spectro Cloud's Palette Edge management platform.

Palette provides the orchestration layer handling provisioning, policy enforcement, and zero-downtime OTA updates to thousands of stores (and plenty more besides).

## From headwinds to tailwinds

With this modern retail edge architecture running in your stores, you'll see a host of impacts on the metrics that matter most:

- **Downtime goes down.** Stores stay open even when the WAN doesn't. Point of sale keeps transacting locally — no more signs on the door during ISP outages.
- **Shrink goes down.** 80 TOPS per store runs computer vision on self-checkout, entrance gates, and backroom cameras — catching theft in real time.
- **Rollouts get faster.** Zero-touch provisioning means the store manager unboxes the device, plugs it in, and Palette takes it from there.
- **Truck rolls disappear.** OTA updates and NANO-BMC remote recovery eliminate the \$1,000+ field visit for firmware, OS, or app fixes, even when the node is powered off.

## Real retail results

At Spectro Cloud, we serve some of the world's biggest and most advanced retail chains, like Yum! Brands (and many more we can't name). Working with partners like SNUC, we've delivered measurable impact:



**10x faster store rollouts.** A Fortune 500 QSR chain using Palette now activates ten times more stores per year than before.



**\$4M+ in projected three-year OpEx savings.** The same chain used zero-touch provisioning and remote operations to avoid the \$1,000+ truck roll previously required for every site, contributing to more than \$4 million in projected OpEx savings over the next three years.



**10,000+ stores from one console.** One global restaurant had seen other platforms fail at scale. We showed them Palette managing 10,000 simulated Kubernetes clusters and 36,000 edge nodes from a single instance, with no performance degradation or instability. Nobody else came close.

Don't believe us? Take it from a customer directly.  
*"If you go to one of our locations, you can still take orders, you can still process payments... because our point of sale can work offline. The edge can work offline. Everything can sync up later."*

Ryan Good, Director of Reliability and Platform Engineering, Yum! Brands

### Take the next step

Schedule a 45-minute retail edge workshop — we'll map your store fleet to this reference design and model the rollout plan against your store modernization timeline.

Contact your Spectro Cloud account team or visit [spectrocloud.com/solutions/retail-edge](https://spectrocloud.com/solutions/retail-edge).

