



CASE STUDY : A LEADING RETAILER

How a Leading Retailer Got Its Engineering Hours Back

A global retailer used NetBrain's "Triple Defense" methodology—pre-change, during-change, and post-change automation—to automate the validation work ahead of Cisco IOS upgrades and change management across a massive fleet of retail locations.



KEY RESULTS

1 to 8

devices/hour,
per-engineer
throughput, multiplied

0

failures since
implementation

\$2.14M

estimated ROI per year,
using NetBrain

IN THEIR WORDS

"If we didn't have NetBrain to automate that,
we wouldn't have finished this year."

– Senior Engineer

THE CHALLENGE

Their existing automation platform wasn't mature enough to handle IOS build-out

The retailer's existing automation platform wasn't mature enough to handle the IOS build-out, and the manual process was too slow. Engineers could only complete one device per hour. The scale of the problem was massive. Every upgrade moved through the same checklist of commands one terminal at a time, and if something went wrong mid-change, no system was watching to catch it. The team would find out when the first ticket came in the next morning.

THE SOLUTION

NetBrain replaced the immature automation platform for pre-upgrade validation

NetBrain replaced the immature automation platform for the pre-upgrade work, automating the hardest and most error-prone part of the process. Before each change, NetBrain now validates the current IOS version against the target (N-x validation), confirms the image file exists in flash, verifies storage availability, and runs an MD5 hash check on the image—across the full device fleet simultaneously. The workflow ends in a go/no-go determination driven by logic already embedded in the solution rather than an individual engineer's judgment. NetBrain does not perform the upgrade itself: when the pre-change task returns a go, a separate change is created to execute the boot statement.

HOW TRIPLE DEFENSE WORKS

The philosophy is simple: automated checks run before the change, during the change, and after the change. Pre-checks carry the heaviest load. Where a check fails, the workflow identifies the problem and provides guidance rather than acting on the device itself: if a device is short of flash storage, for example, NetBrain surfaces the condition and what needs to be done, and the cleanup stays an engineer's decision. When every check returns a go, a separate change is raised to execute the boot statement and carry out the upgrade. The workflow isn't a one-time migration tool: the retailer's operations team still runs it daily ahead of IOS upgrades, without a single failure since implementation.

BEFORE NETBRAIN

- Existing automation platform not mature enough for the IOS build-out
- Upgrades performed by hand: one device per engineer, per hour
- Large device fleet across all retail locations
- Frequent, fully manual password rotations

OPERATIONAL IMPACT

- **Engineer throughput multiplied** from 1 to 8 devices/hour
- **Zero failures** since implementation
- **Estimated ROI using NetBrain:** \$2.14M/year
- **Automated password runbook:** reviews target accounts, deploys new passwords on a rotation countdown, detects zombie accounts

These results are running in production at a leading retailer today.
Learn more at: <https://www.netbrain.com/>