



CREATING THE CONNECTED STORE

Learn how to begin your journey to digital first

An NCR white paper



The Path To Digital-First Retail Begins With A Software-Defined Store

Despite explosive growth in digital channels, 94% of all retail sales still occur inside the store.¹ But it's what's been happening inside that's been so disruptive: consumers expect the same kind of personalized, engaging and frictionless experiences in-store as they expect online.

The challenge we've heard from retailers is most store IT infrastructure just can't keep up — it's too complex, too patched, too expensive to maintain, too outdated. This leaves retailers in a quandary: they need more modern POS capabilities, but the costs to replace their hardware, software and peripherals are enormous. Most retailers simply can't invest in a complete IT overhaul; but can't stay relevant with their existing investments.

Adding digital engagement is an essential part of meeting the demand for modern, personal experiences. As the speed of change is only getting faster, it's important that retailers be able to respond just as quickly, and ready to scale for future growth.



¹ "Brick-and-Mortar vs. Ecommerce Stores: how to leverage the Best of Both," Business.com.

1. DOES YOUR POS INFRASTRUCTURE PREVENT INNOVATION?

If you're hampered by POS lanes that each have their own separate hardware, software and peripherals, it can feel almost impossible to upgrade the entire system to a modern, flexible, innovative platform.

Yet it's essential if you want to maintain loyalty and consumer engagement in the "anytime, anywhere" shopping environment of today.

So, when you think of your ability to meet today's demands and prepare for tomorrow's, is your store technology where you need it to be? Or are you feeling stuck by your own infrastructure?

IN THIS WHITE PAPER, WE'LL SHOW YOU:

- **What Retail POS Virtualization Is**
- **Why It Provides A Better Option For Modernizing Stores**
- **The Benefits And Business Case For Virtualizing Store Systems**
- **Why Not All Virtualization Systems Are The Same (There's A Big Difference)**

2. THE COSTS AND CHALLENGES OF KEEPING UP WITH CUSTOMER DEMANDS

In 2017, in-store retail sales grew by 4.7% — higher than the recent average of 2.5% annual growth since 2014.²

This is a great sign for traditional retailers; however, with the ease of mobile shopping and the speed at which retailers are adopting new technologies, consumers are beginning to expect more from the stores they shop.

There are a number of challenges facing retailers trying to use existing POS platforms to meet the demand — while trying to maintain hundreds if not thousands of lanes with devices, software and peripherals.

 **Physical retail is not dead — boring retail is."**

**– Steve Dennis,
Forbes Magazine**

² "Brick-and-Mortar Retail Growth Can Be Had with Savvy Innovation," ThinkSet Magazine, June, 2018.

CUSTOMERS WANT:



Hassle-free, easy shopping experiences



Meaningful engagement with retailers, and to feel special



Choice in how they buy and return their purchases



Personalized service and promotions anywhere they shop

RETAILER CHALLENGES IN ADDRESSING CUSTOMER NEEDS:

Legacy store systems can't keep up

With legacy IT systems, it can be difficult to address the changing demands of retail. Indeed, 60% of retail IT professionals admit their current infrastructure can't support end-to-end omni-channel experiences.³

They also struggle with the massive CapEx investments required to support a broad assortment of hardware, software and OS licenses that have to be maintained, supported and upgraded. Legacy systems aren't easily scalable, either, making it hard to grow your business.

IT maintenance and labor costs eat into budgets

With hardware, operating systems and applications on every POS lane, costs and man hours are multiplied by the hundreds or thousands.

Maintenance and configurations are expensive, particularly when there's a variety of endpoint hardware throughout your stores — and costs increase as your hardware gets older.

This often leads to IT budgets overwhelmingly directed towards maintenance instead of new systems or innovations.

Maintaining security compliance is complex

The cost of keeping systems up to date with industry security standards such as PCI compliance is expensive, not only in terms of the technology, but also for the activities related to compliance.

This consumes substantial portions of the typical retailer's IT and operational budgets. And when you multiply that by the number of devices in every store...well, you get the (very expensive) picture.

³ Research survey commissioned by Censuswide of Retail IT professionals across the US and UK, 2018.

3. SO HOW CAN YOU QUICKLY GET FROM WHERE YOU ARE TO WHERE YOU WANT TO GO — WITHOUT SPENDING YOURSELF OUT OF BUSINESS?

Simply staying the course, continuously upgrading your legacy IT systems with expensive patches and custom integration points, isn't a viable long-term strategy; it only adds to the complexity of future maintenance and upgrade costs (it can look pretty ugly in-store, too.)

And the "rip and replace" option is often too cost-prohibitive. In addition to the risks this carries, there are negative impacts to the business such as big shifts in the shopping experience that could adversely affect some customers, and additional associate training.

THE FALSE CHOICE FORWARD



KEEP PATCHING

- Continue upgrading legacy systems and patches
- Accept you'll always be behind technology trends
- Expenses will continue to grow over time



JUMP TO THE CLOUD

- Existing infrastructure may not support the move to the cloud
- Modern applications require local (store-level) data
- Latency is often too high
- Connectivity can be unreliable



RIP & REPLACE

- Not a realistic option for most traditional retailers
- You risk spending yourself out of business
- Significant business impact to customers and associates with such a significant change

4. GET THE FREEDOM TO EMBRACE THE FUTURE WITH VIRTUALIZATION

Let's face it, retailers struggle with the enormous physical footprint of their store system infrastructure. But, with virtualization you can break the dependence between existing hardware like the POS terminal, and the software that runs on it.

This is huge — now you can move toward new solutions without having to worry about hardware end-of-life and compliance. You're free to move with the speed of change and go where your customers need you to go. That means enabling a store evolution that blends the digital and physical to create memorable experiences that drive loyalty. It's all possible with a modern system that delivers immediate cost savings while providing an agile platform for long-term innovation and growth.



Security & Control

POS Peripherals like touchscreens, cash drawers and scanners can stay in place while software applications are maintained securely across the store network.

Reduces the cost associated with maintaining store systems, and yields greater control.



Total Cost of Ownership

Extends the life of your existing store system hardware investments.

Enables the provisioning, management and updating of thousands of store devices at once.

Significantly consolidates server requirements, which drives enormous cost savings.



Customer Service

Creates a scalable and integrated IT ecosystem that helps deliver connected shopping experiences.

Turns devices into multi-purpose solutions to make associates more able to address customer demands.



Speed of Innovation

Separates store software from installed hardware so that older hardware no longer slows down the ability to innovate.

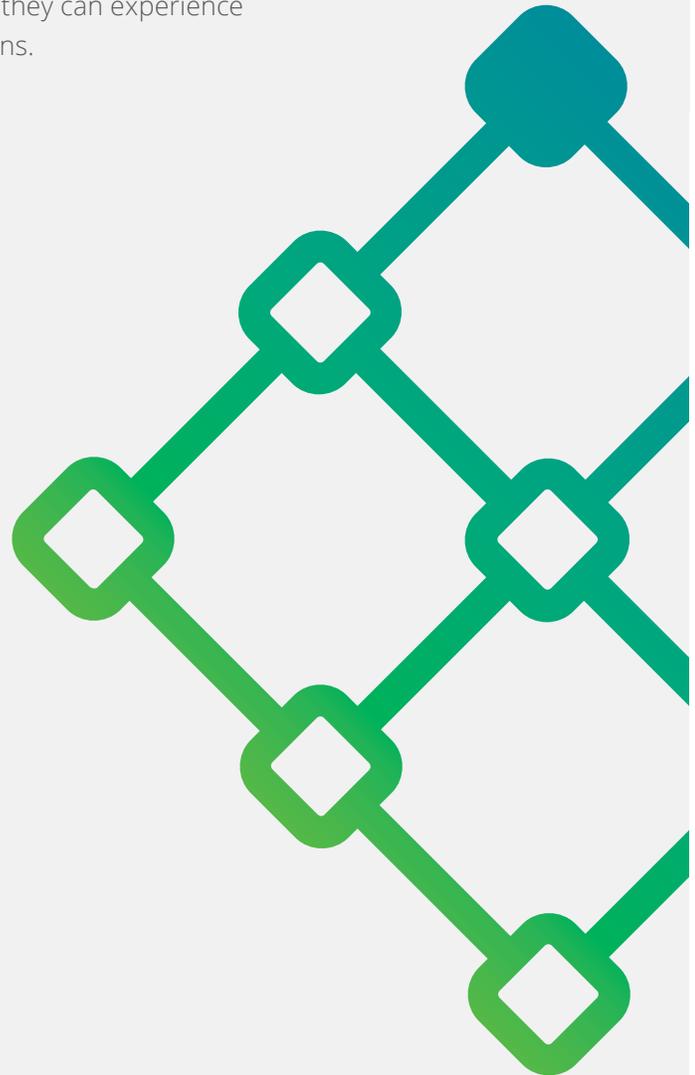
Allows you to add cloud services and mobile applications to enhance existing systems.

5. DON'T FORCE-FIT A DATA CENTER WHERE A STORE SHOULD BE — USE THE RIGHT TOOL FOR THE JOB

Virtualization is a proven technology that's been available for more than a decade and is widely used in data centers to reduce capital and operating costs.

Traditional virtualization solutions therefore are designed to optimize and simplify data centers, balance CPU usage across a bank of servers, and for automation and storage. This is very different from the needs of a live retail ecosystem, where there may be hundreds or thousands of distributed, remote devices across multiple locations.

Virtualization tools designed for data centers are simply not designed with the distributed management and control required for the retail store, nor the workloads and specialty equipment (such as POS peripherals) used in-store. When retailers do try to force traditional virtualization solutions into their retail ecosystem, they can experience workload challenges — including costly and lengthy implementations.

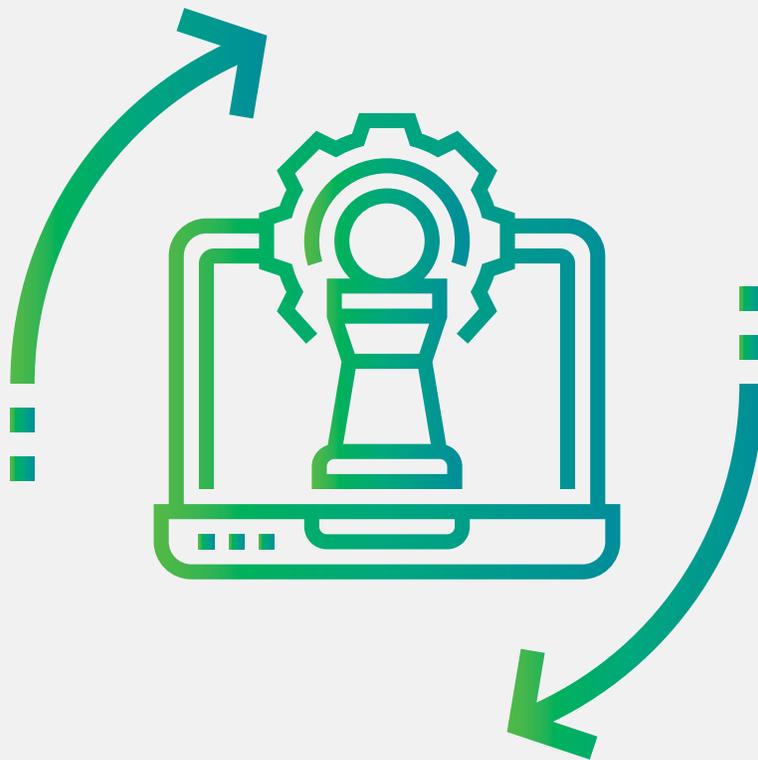


6. MODERNIZE YOUR INFRASTRUCTURE SO YOU CAN MOVE FAST

With new technologies hitting the market every day — and impacting consumer perception of service quality and value — retailers are under pressure to deliver innovations to keep the customers they have and attract new ones.

And the speed of change will only increase. So it's imperative that you move from a static, "one problem at a time" mindset and instead create a dynamic, flexible IT ecosystem that helps you test and deploy new applications and services quickly — making you ready for anything.

The time to act is now. We can help you invest in tomorrow while seeing more value from your infrastructure today.



7. THE RIGHT PATH FORWARD TOWARDS THE SOFTWARE DEFINED STORE OF THE FUTURE

Introducing NCR Software Defined Store Enabled by Zynstra

With NCR Software Defined Store enabled by Zynstra, you can truly achieve a connected, agile store, innovating not just the POS but all store systems to better serve your customers.

The solution helps you achieve a modern IT infrastructure, which makes upgrading and augmenting existing technologies easier, without hardware holding you back. By adding cloud services and new functionality to your stores, you can bridge the gap between physical and digital. What's more, you'll be investing in the infrastructure to easily move to the cloud when you're ready to innovate even faster with even lower total costs of ownership.

EVOLVE YOUR STORES BY ENHANCING YOUR EXISTING SYSTEMS AT YOUR OWN PACE WITH AN OPEN AND SCALABLE PLATFORM TO GO TO THE CLOUD WHEN YOU'RE READY

Horizon 1



VIRTUALIZE

Digitize the store to create a connected store ecosystem that reduces TCO

Horizon 2



UPGRADE

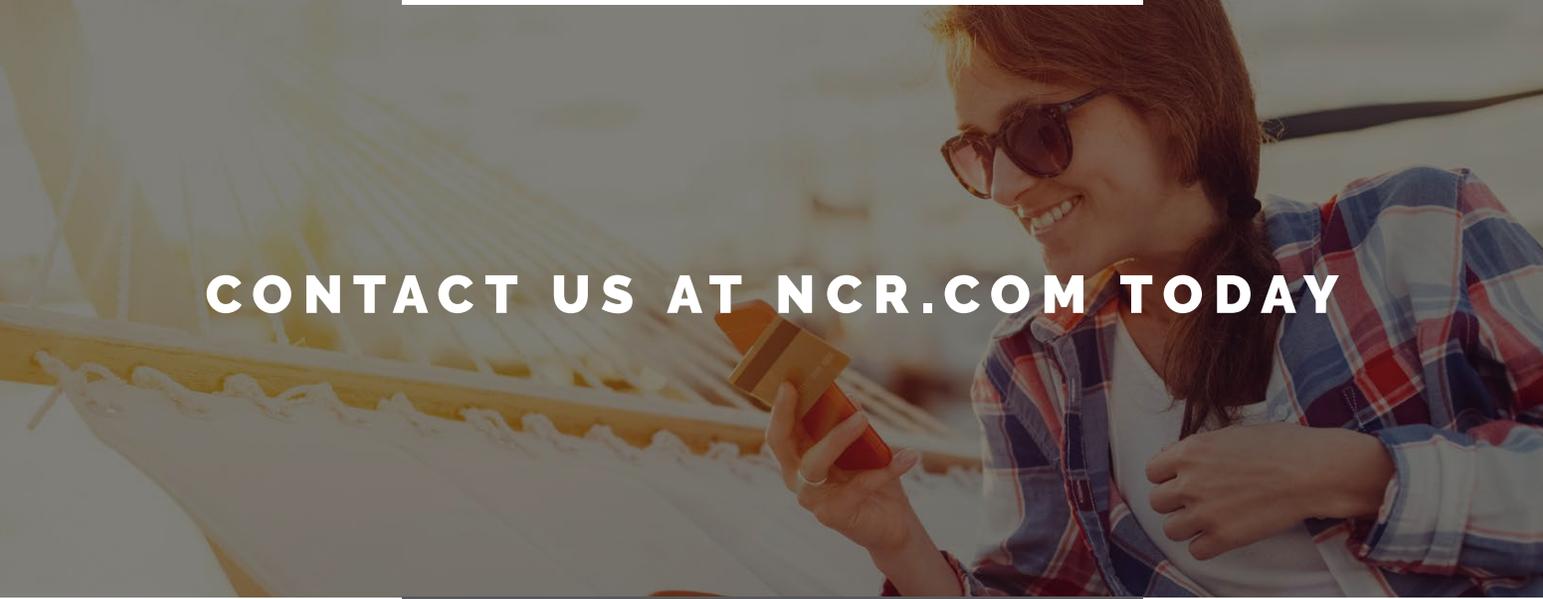
Upgrade to new software faster and with lower costs to help deliver exceptional experiences

Horizon 3



INNOVATE

Migrate to the cloud when your business is ready — further multiplying TCO reductions and speed of innovation



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WHY NCR?

NCR Corporation (NYSE: NCR) is a leading technology company that enables, improves and brings unexpected value to every interaction between consumers and businesses. Our best-in-class software, hardware and services enable more than 700 million transactions daily across the retail, hospitality and banking industries.

Headquartered in Atlanta, Georgia, NCR has over 30,000 employees and does business in 180 countries. NCR is a trademark of NCR Corporation in the United States and other countries.

ABOUT ZYNSTRA

Zynstra enables retailers to deliver superior customer and employee experiences through faster innovation and radically reduces cost to serve in-store. Purpose built for the edge, our powerful software optimizes existing store technology and enables digital transformation.

Zynstra virtualizes back and front office store technology, with intelligent automation to deliver software defined stores. Specific virtualization solutions include Store, POS, mobile POS Tablet, Kiosk, Self-Checkout and Enhanced PCI-DSS Compliance.

Zynstra delivers its patented retail edge software for the world's largest, most distributed, innovation-driven enterprises. With Tier 1 PCI-DSS compliance Zynstra is committed to security excellence at the edge.

NCR continually improves products as new technologies and components become available. NCR, therefore, reserves the right to change specifications without prior notice.

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