Retail Industry Spotlight:
Boost Agility and Resilience in the Cloud

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TO SAY CONSUMERS HAVE CHANGED the way they shop is an understatement. Enabled by cloud computing, the way consumers buy goods and services shifted radically in response to the restrictions forced by the COVID-19 pandemic. Many retailers were caught off guard with the suddenness of a transition. And many are still scrambling to accelerate their cloud transformation initiatives to promote their products, expand customer support, predict inventory levels, and meet the new expectations of consumers. Moving to the cloud has become the priority for IT, and migrating VMware workloads with Google Cloud VMware Engine represents one of the fastest ways that retailers can move their on-premises applications to the cloud. The goal is to realize the scale, intelligence, and speed required to stay competitive, and keep customers happy. This white paper examines the urgent issues facing retailers and provides insights into how migrating to the cloud can address their challenges.

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A Generational Shift

RETAILERS, BOTH BRICK-AND-MORTAR AND ONLINE, underwent their biggest shift in a generation in 2020 as customers adapted to new realities at home and work en masse. According to McKinsey, 75% of consumers changed their shopping behavior and 36% of them tried new brands. At the same time, retailers themselves had to cope with forced store closings and stay-at-home orders that left them scrambling to handle operations designed for another era.

Many of the changes are here to stay, affirm analysts and other experts.

But although the shifts have created challenges for retailers unprepared for the lockdowns and other sudden changes in consumer demand brought about by the COVID-19 pandemic, they also represent opportunities for retailers that can adapt quickly.

The changes in buyer behavior have impacted retailers' IT infrastructure as shoppers do more of their shopping online and more staff work at home. These changes have accelerated the need for the digital transformation to support its customers as well as staff away from the store and deliver services such as customer service in a distributed environment. That transformation can enhance customer experiences, boost team productivity, and free up resources for innovation.

The cloud provides the means for businesses to gain the agility they need as consumer behavior undergoes permanent alteration and nearly half of employees continue to do their work at home even after the crisis abates.

A key way retailers can achieve the agility and digital transformation they need quickly and affordably is by migrating IT resources to the cloud. For example, instead of including a dedicated call center with all of its computing resources on-premises, a cloud computing environment can deliver all the necessary applications remotely. That way, customer support staffers can access customer information and even phone systems at home. Running applications in the cloud enables business managers and their IT department to replicate the functions of their on-premises system where employees, customers, and partners can access them anywhere, anytime without changes.

Simultaneously, running in the cloud helps businesses sidestep many of the limitations of legacy systems that may have been holding them back, explains Edward Durbin, director of the Global Retail Industry Group at VMware.

"Retailers struggling with old operational systems can virtualize them and move them into a more updated environment," he says. Utilizing solutions such as Google Cloud VMware Engine can help retailers lift and shift their apps to the cloud quickly and easily with minimal disruption.

Retail in the Cloud

Personal shopping, food deliveries, home workouts, and supply chain optimizations all went into over-drive during the crisis brought on by COVID-19—and all were made possible by cloud-enabled digital transformation.

The changes are ongoing, as consumers continue to shift their behavior and retailers are forced to adapt. That's why 75% of the retail IT leaders participating in a 2020 MIT survey said the pandemic had acceler-ated their digital transformations such as leveraging modern technologies to improve business processes and meet goals such as increasing operational effi-ciency and enhancing the customer experience. These plans were already under way, at a slower pace for the most part. But new imperatives brought on by the pandemic and the expectation that many of the shifts will become permanent put the plans on fast-forward.

Highlighting some of the lasting shifts, McKinsey reports that consumers expect to continue to do more shopping from home for the foreseeable future.

"Global consumers have already stated that when the pandemic is over, they're not going back to the way it used to be done," Durbin notes. "That statistic alone tells retailers that if they're enabling home shopping on a not-so-firm foundation, they'd better build that foundation, because things aren't going to change back. And the retailers that haven't fully embraced the technologies needed for that have some catching up to do."

Fortunately, the maturation of cloud technologies can provide some needed relief for stressed retailers. In a nutshell, the cloud offers potential for retailers to meet the new consumer demand online and adapt quickly to market changes.

The cloud helps retailers:

▶ **Capture revenue** from omnichannel shopping. Shopping away from the store is nothing new, of course, but large numbers of shoppers forced to shop from home on their laptop or mobile devices have discovered that they prefer the convenience and time savings of more options for stocking refrigerators and closets. Robust solutions such as Google Cloud VMware Engine can prevent revenue loss resulting from network outages or slow legacy IT infrastructure when customers can't complete transactions. That's because the cloud provides the scale and reliabil-ity retailers need in order to meet that demand with minimal investment.

▶ **Leverage AI and data analytics** to provide more of what consumers want and need. Although smaller retailers may have neither the means nor the staffing resources to deploy AI and big data to boost operations, cloud services offer econo-mies of scale that put these technologies in reach.

▶ **Improve operations** for greater efficiencies and cost savings and to respond to rapid shifts in demand—for example, on Black Friday.

▶ **Leverage new cloud-based services** that enable retailers to manage workload surges with flex-ible application capacity and minimal capital expenditures.

▶ **Improve the customer experience** via phone, chat, and other virtual channels, even with a remote workforce.

The cloud can deliver customer service and support applications to the members of a distributed work-force located anywhere. This gives workers access to their applications, the ability to comply with privacy and other regulations, and the data they need to deliver top-quality service. As a bonus, cloud appli-cations from major providers can bring AI and other advanced functions to bear on making the customer experience as positive as possible.

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It all comes down to focusing on customers and serving them as smoothly and as efficiently as possible. Even before COVID, fast transactions and speedy delivery were increasingly critical for retailers under pressure from large online sellers' raising the bar for service quality. Now they're more vital than ever. "Retailers today have to focus on how they can reduce or even eliminate the friction getting in the way of purchases," Durbin explains. "We've all bought something from a place and said, 'Boy, that was a challenge and difficult customer experience to give them my money.'" Today's new realities make such experiences even more detrimental to retailers.

In this environment, Durbin says, retailers must ask themselves which tools, including applications and processes, they can give employees to reduce that friction for customers. "We're talking about the Apple effect, where you walk in, virtually or in person, and the employees have everything on their device needed to take payment and then pick from the back of the store or deliver your purchases to you within two days." Applications that put all the tools employees need for serving customers at their fingertips and provide smooth-running, friction-free experiences for e-commerce are just some of the benefits of moving retail systems to the cloud.

Virtualized Workloads Driving Agility

Virtualized workloads occur when applications and the tasks relying on them move from one computing environment to another but otherwise remain unchanged. At the most fundamental level, virtualized workloads enable retailers to lift and shift back-office applications and other business systems from their premises and into the cloud. The result is a fast, affordable digital transformation that enables retailers to access existing systems anywhere, anytime, just as if they were still installed on-site. Particularly for retailers with multiple locations, each with systems to maintain and keep up-to-date, this can become a game-changer that frees up resources and budgets for the vital work of adapting to an ever-changing consumer landscape.

The benefits to retailers of moving existing on-premises retail systems include lower costs, decreased complexity, and greater agility. Agility, in particular, is critical to keeping the doors open for business while suppliers and partners, as well as customers, adjust the way they do business and make purchases.

For example, Google Cloud VMware Engine enables businesses to add onto or even move all of their on-premises workloads and applications seamlessly into the cloud. This means that IT managers can move their existing applications into the cloud in just a few minutes without having to rebuild them. From there, they can run their existing applications—including point-of-sale (POS) systems, laptops, and other devices—just as they did when those applications were installed in the store or office.

Google Cloud VMware Engine creates a software-defined infrastructure that natively runs VMware workloads without any changes to current tools. That infrastructure includes computing power, storage, network connections, and security services that are dedicated to the individual customer, with cloud

security controls in place. Integrated cloud management tools enable IT staff to oversee the whole stack in one central location. At the same time, the underlying technology provides consistency and ensures compatibility across on-premises systems as well as those in the cloud (for organizations that choose to use a mix of both in a hybrid environment).

All of which enables retailers to scale IT infrastructure—on demand—empowering staffers to continue the vital work of building the new delivery methods and service options that customers demand, while reducing the time spent on maintaining infrastructure.

Enabling Scale via the Cloud

Getting formerly on-premises applications and vital systems such as POS systems into the cloud by migrating virtualized workloads is just the first step toward enabling the cloud's full benefits. Pairing this effort with a leading cloud service such as Google Cloud gives retailers the ability to leverage the latest AI, analytics, and other technologies to enable functions that might prove prohibitively expensive or difficult to implement in-house.

For example, with their customer data in the cloud, retailers can leverage a service such as Google Cloud's BigQuery to run demand forecasting models to predict demand accurately and plan sales, orders, and other activities with greater precision.

Retailers can no longer afford to take chances with what has typically been an intuitive process based on individual planners' experience and past demand cycles. Fortunately, they can now utilize the power of machine learning (ML) to spot patterns and trends that may elude even the most experienced planners. What's more, such automation can scale across thousands of items sold and hundreds of retail locations.

The cloud also enables retailers to quickly and easily modernize, build, and deploy new applications from and to any location with enterprise-grade security built in.

Other benefits include:

- ▶ **Enhanced customer experiences** through seamless omnichannel experiences
- ▶ **ML-powered business insights** for tasks beyond demand forecasting
- ▶ **Optimized IT operations**, thanks to systems that are easier to run and maintain, enabling IT to continue to use existing tools, processes, and policies in the cloud with no changes
- ▶ **Increased agility** and lower operational costs due to cloud functionality such as decentralized disaster recovery and backup
- ▶ **Customer-centric**, data-driven retail operations made possible by newly available data
- ▶ **Digital and omnichannel revenue growth** boosted by innovations by staff members freed from mundane maintenance tasks

Behind-the-Scenes Improvements

In an economy where customers expect instant service online or off, migrating virtualized workloads can help optimize back-office processes that contribute to friction. Two such areas are customer service and POS systems.

For customer service, virtual desktop integration (VDI) can help retailers comply with critical standards and regulations, Durbin says. For POS systems, virtualization can bring even outdated infrastructure new life and greater efficiencies by reducing older hardware to the status of thin clients. These "dumb terminals" can stream more-modern software from the cloud. "Convenience stores, department stores, supermarkets, grocery chains, and others no longer have to have that technology in every location," Durbin says. "As a retailer, I can utilize the cloud and not have to worry about on-prem environments."

Such deployments also have the advantage of making maintenance much more manageable. By running systems in the cloud, technicians can perform routine patching, troubleshooting, and repairs remotely instead of traveling personally to individual stores, saving time and expense. "I now don't have to give Bob a USB stick to go out to store 22 and plug it into lane 18," Durbin says by way of a hypothetical example. "I can now do that by remote control."

Realizing the Benefits of Virtualization and the Cloud

Migrating virtualized workloads to the cloud helps retailers gain valuable benefits in these critical areas and more:

E-commerce migration and modernization

With many retailers hobbled by legacy systems even before the crisis of 2020, they're even more under the gun now to modernize—that is, to upgrade older technologies to meet modern challenges.

"App modernization is a big deal right now," Durbin says, "and a cloud platform that lets developers sit down and quickly modernize their applications is a critical tool." Such tools can upgrade legacy applications in the cloud to deliver a quicker, cleaner, more efficient experience to people who use them.

Virtualization in the cloud helps e-commerce and modernization efforts by:

▶ **Migrating e-commerce platforms** to take advantage of the reliability and scalability enabled by leading cloud platforms.

▶ **Improving site performance** with the 99.99% availability of Google Cloud—vital at a time when consumers are more impatient than ever.

▶ **Providing disaster recovery**, backup, and storage in the cloud, available anywhere, anytime; reducing downtime due to natural disaster or plain human error; and decreasing total cost of ownership (TCO).

Simplifying operations

With more staff working at home than ever, many for good, retailers have had to adjust their operations accordingly.

"Retail executives can't put a poster in the break room anymore to communicate with their employees," Durbin explains as an example. "Companies that have lost that one-to-one relationship risk high turnover rates, because they're not connected to their employees."

Ditching paper messages is just one way that retailers can foster new ways to engage employees. Putting systems that employees use into the cloud provides many other benefits, including:

- **Lowering the TCO** of business systems by simplifying upgrades and upkeep

- **Building more efficient**, more dynamic supply chain and IT operations, enabling retailers to adapt more quickly to change by scaling systems up and down as needed to meet demand, for example

Agility and efficiency gains

Freeing IT staff members from the need to maintain an aging IT system enables them to work more productively on efforts to serve customers in new ways.

Other benefits include:

- **Moving call centers** to the cloud with VDI, improving customer support delivered by staff working from home

- **Reducing costs and complexity** through the economies of scale delivered by major cloud providers and systems that IT staff can manage in one place

- **Capturing revenue** from transactions that might have been lost due to legacy IT infrastructure that forces customers to struggle to complete transactions

Enabling key retail capabilities

The new capabilities demanded by today's retail climate all serve the purpose of meeting customers where they are, with the offerings they want and at a moment's notice, particularly in times of uncertainty. Retailers have had to innovate faster than ever over the last year, and the changes show no signs of slowing.

The innovations made possible even for smaller retailers thanks to simplified operations via virtualization in the cloud include:

- **Buy online, pick up in store** (BOPIS) options now offered by retailers of all stripes, including groceries and restaurants

- **Private labels** that give consumers more reasons to shop at a given retailer

- **Enhanced customer experiences**, including for home shopping, curbside pickup, personalization, and more

Conclusion

Today's realities have put retailers under tremendous pressure to streamline operations, serve customers in new ways, engage employees, and free themselves of the limitations of legacy systems. Migrating virtualized workloads to the cloud can help, by reducing costs, simplifying critical functions, and freeing up staff for more-productive activities.

In particular, Google Cloud VMware Engine enables customers to seamlessly migrate workloads for retail operations across on-premises and public cloud environments with no changes to their existing applications. That means that business managers and their IT department can replicate the functions of their on-premises system so that employees, customers, and partners can access it anywhere, anytime. Retailers also benefit from flexible pay-go models, lower TCO, and greater agility, thanks to the ability to spin up new capacity on demand.

"Moving or eliminating legacy systems by leveraging the cloud greatly increases retailer's efficiencies, and that makes all the difference," Durbin says. "I'm a firm believer in that."

To learn more about how retailers can build agility and resilience in the cloud, visit https://cloud.google.com/vmware-engine or https://cloud.vmware.com/google-cloud.