Whitepaper

Hybrid cloud deployment strategies: enabling smarter POS solutions

Recommendations for assessing your organizational readiness and creating adaptable and enduring retail strategies.

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Let's explore the essentials of hybrid cloud deployment and its impact on point-of-sale (POS) systems within the retail sector. This whitepaper takes you through key strategies, technologies, and insights, ensuring you have the knowledge to optimize your retail operations for the future.

A hybrid cloud deployment allows you to blend these models, creating adaptable and enduring retail strategies.

Introducing a hybrid approach

Even the most innovative retail organizations typically replace their POS solution every 10-15 years, emphasizing the importance of choosing a flexible system that can adapt over time. With such rare occasions for major change, it's critical to get it right – selecting a POS system that not only serves today's needs but can also grow and adapt with tomorrow's trends. This approach means strategically deploying a POS solution flexible enough to evolve with retail's fast-paced environment. Tactically, it involves careful planning and execution, ensuring your POS system boosts your business's efficiency every step of the way.

Consider the following:

- For **simplicity and freedom from maintenance**, a cloud-based SaaS solution is appealing, eliminating the hassle of maintenance and updates.
- For **data control and ownership**, a private cloud seems ideal, offering a tailored and secure environment.
- And for **peak efficiency and swift transactions**, an on-premise solution, often embodied by edge computing, is essential not just for its immediate support of your business operations without delay but primarily for its stability and uptime, especially during network outages.

These scenarios reflect universal desires among retailers for ease, control, and efficiency. For example, positioning POS calculations near sales points minimizes latency, crucial for businesses with extensive transactions across numerous POS systems over years. Edge computing supports this need for speed.

Full control over systems and data often leads to a preference for private cloud solutions, especially for organizations with the capacity to manage them. Smaller entities might find edge computing more accessible.

Leveraging easy-to-use, maintenance-free cloud services from day one makes SaaS an attractive option. These services are evergreen, ensuring you're always up-to-date without the maintenance hassle.

But what if you could have it all?
A hybrid cloud deployment allows you to blend these models, creating adaptable and enduring retail strategies. In this whitepaper we delve into hybrid cloud deployment for POS systems, offering insights on assessing organizational readiness, defining strategies, securing your retail business's success amid changes.

Let's define hybrid cloud deployment

Hybrid cloud deployment is the strategic selection of the best deployment options for your organization's POS solution. This method combines:

- **Software as a Service (SaaS)** for scalable, easy-to-manage operations
- **Private cloud deployment** for enhanced control over data and applications
- **Edge (on-premise) deployment** for the fastest, most reliable transaction processing

We advocate for a hybrid cloud deployment as the optimal way to deploy a POS system. This approach enables you to tailor a solution that delivers maximum value for your specific needs, whether you're a small retail chain or a large market player.

Hybrid cloud deployment means not being tied to one method, like SaaS. It provides the ultimate flexibility to adjust as your retail organization grows and evolves.

When assessing a POS system, it's important to weigh how different deployment strategies align with operational requirements. A SaaS solution simplifies operations, a private cloud gives you control, and edge computing ensures efficient transaction processing. But each choice involves trade-offs.

Take a look at how each model fares against crucial operational factors:

Retail operations needs vs. deployment strategies

	SaaS	Private cloud	Edge	Hybrid
Performance speed	✓	✓	✓	✓
Data control	✓	✓	✓	✓
Cost efficiency	✓	✓	✓	✓
Scalability	✓	✓	✓	✓
Maintenance involvement	✓	✓	✓	✓
Offline capabilities	✓	✓	✓	✓

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✓ High suitability ✓ Moderate suitability

Please note: The matrix clarifies that a hybrid cloud approach is the most strategic option for today's retailers. It meets your unique requirements for transaction speed, data control, cost efficiency, scalability, and maintenance involvement, offering a balanced solution without compromising on key operational needs.

This is how we recommend hybrid cloud deployment:

POSs

POS systems are crucial for retail transactions, serving as key touchpoints for customer interactions and insights into shopping behaviors. The choice of deployment model directly influences operational efficiency and customer satisfaction. Opting for the right model ensures essential tills have offline capabilities while utilizing cloud solutions for flexibility and cost-efficiency in other areas.

- A subset of POS services deployed ***on the edge***, which is on-premise, in your stores to ensure offline capabilities.

  Typically relevant for your main exit tills, no matter whether they're operated by staff or self-service checkouts (SCOs).

- A subset of POS services deployed as ***SaaS*** to achieve flexibility and reduce cost.

  Typically relevant for less busy exit tills, no matter whether they're operated by staff or self-service checkouts (SCOs), but also highly relevant for mobile POS (MPOS) and for enabling emergency POS. SaaS is typically usage-billed, and usage on your less busy tills isn't likely to spin out of control, so SaaS can in this case help reduce your total cost of ownership (TCO) as well provide very easy maintenance.

Store services

Store services form the backbone of retail operations, servicing the client-facing touch points in stores and the day-to-day in-store operations. They contribute to ensuring that the day-to-day activities of a retail store run smoothly and efficiently. Choosing the right deployment model for these services is crucial for maintaining operational consistency and leveraging technological advancements to improve store management.

- Deployed as ***SaaS:*** SaaS provides fast and easy setup with minimum maintenance.

- Deployed ***on the edge:*** Edge (on-premise) deployment provides offline capabilities so store services can be managed locally regardless of connectivity. Keeping data locally and in close proximity to your backend processes, fully processed by your organization, gives you full control over your data.

- Deployed in ***private cloud:*** Private cloud ensures complete control but requires significant resources, including a skilled team with specialized IT knowledge and sufficient financial backing for sustained operations and maintenance.

INSIGHT

Utilizing hybrid cloud deployment with 52ViKING

52ViKING seamlessly blends all consumer touchpoints, including traditional POS, MPOS, SCO, webshops, etc., making it a cornerstone for retailers aiming to thrive in both physical and digital marketplaces. It stands out by offering flexible, centralized control of data and pricing, which is crucial for a consistent retail experience across various channels. This flexibility is further enhanced by hybrid cloud deployment, ensuring retailers can effortlessly scale and adapt to market dynamics, reinforcing Fiftytwo's commitment to leading-edge, adaptable POS solutions within a unified commerce strategy.

Discover the power of 52ViKING: Learn more

Unified commerce services

Unified commerce represents a holistic approach to retail, seamlessly integrating omnichannel strategies with services that encompass eCommerce, mobile applications, and in-store technologies. It's about creating a unified customer experience across all retail touchpoints. The deployment of unified commerce services is pivotal for retailers aiming to adapt quickly to market changes and meet evolving customer expectations, offering them a range of shopping experiences from webshops to Scan&Go apps.

- Deployed as **SaaS:** Ensures low maintenance and scalability, particularly beneficial for managing POS computations for online sales, including webshops and Scan & Go apps.
- Deployed in **private cloud**: Offers the scalability and agility needed for rapid development of new services in response to an ever-changing market. This deployment model ensures data ownership and close integration with backend processes, a priority for leveraging the full capabilities of the 52ViKING platform's unified commerce.

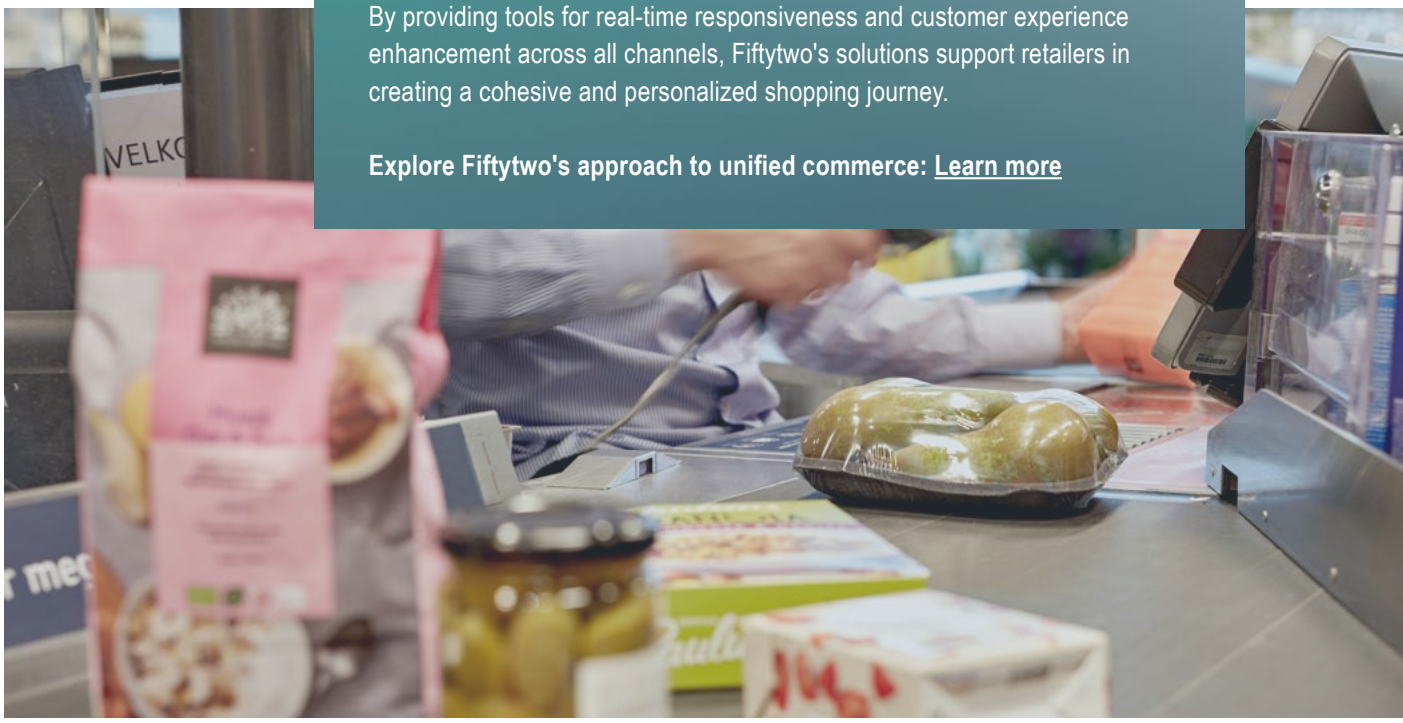
Please note: This section's hybrid cloud deployment recommendations are illustrated through 52ViKING's capabilities.

INSIGHT

The Fiftytwo approach to unified commerce

Fiftytwo's approach to unified commerce is centered around the 'best of breed' philosophy, merging retail strategy with the latest technology. This approach includes dynamic and flexible pricing, seamless omnichannel POS solutions like 52ViKING, and data-driven insights for strategic decision-making.
By providing tools for real-time responsiveness and customer experience enhancement across all channels, Fiftytwo's solutions support retailers in creating a cohesive and personalized shopping journey.

Explore Fiftytwo's approach to unified commerce: Learn more



Advantages of hybrid cloud deployment

- Deploy where you get the **most value**; you get the best of all deployment options.
- You get offline **capabilities** where they're needed.
- You get **scalability** where it's needed.
- You get **flexibility** when it's needed.
- **Reduced total cost** of ownership (TCO) compared to pure cloud/SaaS.
- You get **ownership** of the critical parts of your POS infrastructure.
- You get **full control** and own your POS data compared with pure SaaS.
- You' re able to **separate critical workloads** from less critical workloads.

Challenges with hybrid cloud deployment

- **Requires careful planning:**
  When you don't just use a single deployment method, you must carefully consider your needs and options for each component in the hybrid deployment mix.
- **A fragmented deployment environment:**
  When you mix things, there's more than one environment to consider, each with its own workflows. It isn't as simple as going for just a single deployment method. A mix of deployment methods can require more effort to maintain an overview of what runs where and who's responsible for it. This may not be a problem in stable day-to-day operations, but it can become an issue if something goes wrong.

By adopting a hybrid cloud deployment, retailers can guarantee the efficiency and reliability of their POS systems, while being poised to adjust to new challenges.

INSIGHT

The transformative impact of hybrid cloud in retail

Adopting hybrid cloud technology [...] offers unparalleled benefits, enhancing operational flexibility and consumer reach. It supports **easier customer access, product customization, improved inventory management, and increased business agility**, with **83% of businesses** viewing hybrid multi-cloud as the ideal IT infrastructure for fostering agility and innovation. This approach is key for retailers aiming to streamline operations and meet the dynamic needs of today's consumers.

Source: **Xebia Articles**

The components of your hybrid cloud mix

Let's take a closer look at the components of our recommended hybrid cloud deployment mix in general to learn why it makes sense to mix the components to get the best from all the options in a hybrid deployment approach:

SaaS: the streamlined solution

We simply call this option SaaS, not *SaaS deployment*. That's because with software as a service (SaaS), you don't consider deployment at all. Your organization is simply a consumer who buys a cloud service that provides the relevant features and processes on an as-needed basis.

For SaaS in general you typically pay a subscription fee and then you pay for usage, but you're not involved in how the SaaS solution is run behind the scenes. You leave that to the experts.

It's almost like electricity: You let your electricity provider's engineers and other specialists take care of the power grid and maintain all its relays and intricate redundancy mechanisms. You simply expect your electricity to be readily available 24 hours a day, and for that service you pay a subscription fee and a variable price that depends on how much electricity you use.

By integrating SaaS into your hybrid cloud strategy, you leverage its immediacy and efficiency, supplementing other deployment methods to create a comprehensive, adaptable infrastructure.

Advantages of SaaS

- **Deployment-free experience:** No need to think about deployment or hosting; everything is taken care of.
- **Elastic scalability:** Scales well on demand; both up and down.
- **Rapid activation:** Ensures quick setup and implementation.
- **Evergreen software:** You're always on the latest version.
- **Universal access:** Accessible anywhere anytime with a working internet connection.
- **Reduced CAPEX:** Low capital expenditure (CAPEX) when you use the cloud service provider's data center instead of buying your own equipment.
- **Usage-based pricing:** Pay for what you use.

Challenges with SaaS

- **Pay for what you use:**
  - **Elevated OPEX risk:** Risk of high operational expenditure if your usage-based cost-per-hour charges rise.
  - **Budgeting challenges:** Difficult to estimate and budget if usage varies.
- **Connectivity dependency:** Requires fast and stable internet connectivity. May otherwise lead to latency.
- **Limited offline functionality:** Few or no offline capabilities.
- **Provider dependency for operations and security:** Operations and security are handled by the SaaS provider. You must trust your provider to handle your critical POS infrastructure and data. Whoever owns your environment in the cloud has a great responsibility.

Private cloud deployment: tailored and controlled infrastructure

Cloud deployment uses abstractions of physical hardware and hosting. In the cloud, you primarily work with deployment resources rather than specific computers.

Private cloud deployment offers a personalized approach to cloud computing, where your POS solutions reside within a cloud environment exclusively managed by your organization or on dedicated virtual machines.

This model is especially suited for large enterprise retail organizations, providing the granular control needed over critical POS infrastructure, coupled with the ability to meet specific operational demands.

Opting for a private cloud infrastructure allows retail enterprises to leverage a dedicated environment tailored to their specific needs, offering a balance between control, security, and scalability.

Advantages of private cloud deployment

- **Scalable resources:** Adjusts seamlessly to your business's demands, scaling up or down as needed.
- **Universal access:** Ensures your team can connect to your systems from any location, enhancing operational flexibility.
- **Cost-effective at scale:** Potentially more economical for large operations compared to relying on external vendors, especially when usage is predictable.
- **Enhanced security and control:** Offers comprehensive management of security protocols and data backups, critical for safeguarding sensitive information.

Challenges with private cloud deployment

- **Resource-intensive management:** Necessitates a significant investment in technical expertise, financial resources, and time for setup and ongoing management.
- **Continuous operations and maintenance:** Demands an initiative-taking approach to system updates and maintenance to ensure optimal performance.
- **Complex troubleshooting:** Managing a large, intricate private cloud environment can complicate identifying and resolving issues, especially when numerous applications are involved.

Edge deployment: ensuring immediate, reliable transactions

Edge computing, synonymous with on-premise deployment, brings its own set of advantages. The term "edge" signifies the deployment at the network's periphery, directly within your premises, offering a critical benefit for time-sensitive operations like those seen in POS systems.

Deploying solutions at the edge means installing them right where they're needed most, ensuring they can operate independently of internet connectivity. This local hosting not only promises offline reliability but often results in more cost-effective operations, especially in locations where internet service is less dependable.

Edge deployment offers a reliable, efficient solution for processing POS data directly on-site, providing significant advantages in terms of operational uptime and transaction speed. When integrated into a hybrid cloud strategy, it ensures that your retail operations are equipped to manage both current demands and growth.

Advantages of edge deployment

- **Immediate processing:** For a retailer, the speed at which transactions are processed can significantly impact customer satisfaction. Edge deployment allows for rapid processing right at the point of sale, reducing waiting times and enhancing the customer experience.
- **Operational reliability:** Certain POS units, such as main exit tills and self-service checkouts (SCOs), operating locally on the edge, ensure smooth operations even without internet connectivity. This crucial offline capability is vital for maintaining uninterrupted sales during network outages or in locations with unreliable internet service.
- **Cost efficiency:** Hosting solutions on-site can be more economical over time, especially when considering the ongoing costs associated with cloud services. Additionally, the performance benefits of local processing can outweigh the initial investment in infrastructure.
- **Strategic deployment:** Consider a retailer with multiple checkout lanes; deploying the most frequently used systems on the edge can significantly reduce latency. This strategic placement ensures that the majority of transactions are processed without delay, maintaining high throughput even during peak times.

Challenges with edge deployment

- **Maintenance and support:** Your team will be responsible for the upkeep and updating of these systems. This includes managing security patches and hardware upgrades, which can introduce additional costs and operational complexities.
- **Scalability and flexibility:** While edge systems are optimal for immediate processing needs, they may not offer the same scalability and flexibility as cloud-based solutions. Planning for future growth and technology shifts is essential to ensure that your edge deployment continues to meet your needs.

Implementing your hybrid cloud strategy

Crafting a hybrid cloud strategy requires a thoughtful approach, particularly due to its inherent complexity and the comprehensive benefits it provides. This nuanced approach goes beyond merely mixing components; it's about designing a cohesive system tailored to the unique requirements of your retail operations.

Inspired by Google's* framework, our strategy simplifies the process into three actionable pillars tailored for retail:

1. **Define your goals:** Understand your current operations and, together with stakeholders, outline how enhancements through hybrid cloud deployment can achieve your objectives. This step aligns with Google's* advice on envisioning your future state to optimize operations.

2. **Evaluate critical workloads:** It's crucial to strategically place workloads. For instance, deploying critical POS systems on the edge ensures reliability and addresses latency, consistent with our earlier recommendations for stores' key POS setups.

3. **Choose appropriate technology and topology:** This involves aligning your technology choices with business needs, leveraging the roadmap provided in this whitepaper for retail organizations of various sizes. This stage often involves collaboration with specialized POS providers to focus on precise technology solutions, enhancing the strategy implementation phase.

Our emphasis on these pillars, especially regarding critical system deployments and selecting technologies, mirrors Google's* best practices but is specifically adapted for the retail sector's unique challenges. By maintaining a partnership with specialized, vendor-neutral consultants, retail organizations ensure their POS solutions are future-proof and aligned with both current and emerging needs.

Crafting a hybrid cloud strategy requires a thoughtful approach, particularly due to its inherent complexity and the comprehensive benefits it provides.

*Google's take on hybrid cloud: https://cloud.google.com/learn/what-is-hybrid-cloud
https://cloud.google.com/architecture/hybrid-multicloud-patterns-and-practices

The answer lies in a well-executed hybrid deployment strategy, tailored to each retailer's unique operational framework.

Preparing your organization for hybrid cloud growth

In a market driven by rapid innovation and shifting consumer expectations, how does a retail business prepare itself for the future? The answer lies in a well-executed hybrid deployment strategy, tailored to each retailer's unique operational framework. This strategy is a thoughtful blend of on-premise robustness and cloud-enabled agility. It's an approach that aligns with Fiftytwo's dedication to empowering retailers with superior solutions. As we embark on this journey together, we aim to guide you through critical steps to ensure your organization is optimally positioned for this significant transformation.

Hybrid cloud readiness: tailoring deployment strategies for retailers of all sizes

Adopting a hybrid deployment model marks a pivotal transition for retailers, demanding a carefully customized approach. This strategic shift is essential for businesses of all sizes, requiring an understanding of the unique dynamics and needs of each retail operation. Whether you're a small business aiming for scalability or an enterprise directing global compliance, the foundation of your strategy should involve a mix of cloud and edge solutions.

For retailers at every scale, ensuring that your POS systems are reliable and capable of supporting your operation's demands is crucial. A critical aspect of this strategy is **establishing a prioritized hierarchy of POSs**. In high-traffic stores, designating specific units as on-premise ensures the reliability of essential sales processes, creating a seamless customer experience. This approach accommodates scalability for smaller businesses and addresses complex integration and global compliance challenges faced by larger enterprises.

As you move towards a hybrid deployment model, the emphasis should be on more than just technological upgrades. It's about fostering a retail environment that is adaptable, customer-focused, and prepared for future shifts in the market. This involves strategic planning, integration of technologies, and a commitment to training and support, ensuring that every team member is equipped to handle the new systems.

The move to hybrid deployment is a decisive step for any retailer, demanding a customized approach that aligns with your unique business dynamics.

Small retailers:

Adapting to a developing environment

For small retailers, the journey towards hybrid deployment focuses more on leveraging SaaS benefits than on overhauling existing systems. SaaS can offer significant advantages, especially in terms of scalability, cost-effectiveness, and ease of use, making it an attractive option for businesses that do not require the complexity of on-premise solutions.

Key strategies include:

- Conducting an evaluation of your current POS and IT infrastructure to understand how SaaS can fit into your operations and provide value.
- Planning how to use cloud services to improve aspects of your business, such as inventory management and customer data analytics, that directly contribute to your growth and efficiency.
- Providing training for your staff to ensure they can effectively utilize SaaS tools, understanding their benefits and how they fit into your retail environment.
- Analyzing the financial impact, considering both the initial investment in SaaS and the potential long-term benefits from operational efficiencies and scalability.

Key actions:

- Assess the need for an on-premise POS system, which might be necessary for high-volume transactions but otherwise, exploring SaaS solutions could be more beneficial and cost-effective.
- Integrate SaaS solutions in areas that offer significant benefits to your business operations, such as customer engagement, sales tracking, and inventory management.
- Ensure your team is proficient in using both cloud-based and, if applicable, on-premise systems to maintain service continuity under any circumstances.
- Plan your technology investments with flexibility in mind, allowing you to quickly adapt to new opportunities or shifts in the retail environment.

Mid-sized retailers:

Building a robust and responsive setting

For mid-sized retailers, readiness for hybrid deployment involves preparing for greater complexity and ensuring that new technologies integrate smoothly across multiple locations.

Key strategies include:

- Mapping out a detailed strategy for migrating data and services to the cloud while maintaining existing on-premise systems.
- Establishing a comprehensive training program that addresses the specific needs of staff at different locations, focusing on the interaction between cloud and on-premise systems.
- Evaluating your current IT setup to determine how it can be optimized for hybrid deployment, including network improvements and hardware upgrades.
- Planning for redundancy by ensuring that critical systems, particularly POS, have on-premise backups that can operate independently if needed.

Key actions:

- Prioritize POS systems for hybrid deployment, ensuring that key transactional and operational data can be accessed both on-premise and via the cloud.
- Integrate cloud services such as CRM and ERP to streamline operations and provide real-time insights into business performance.
- Ensure that staff across all stores are trained and comfortable with transitioning between cloud and on-premise systems.
- Allocate budget not just for the implementation of cloud services but also for the ongoing maintenance and support of a hybrid environment.

Large retailers:

Orchestrating across extensive networks

Large retailers with multiple locations face the intricate task of ensuring that a hybrid deployment strategy is coherent and efficient across the entire network. Organizational readiness in this context involves creating a seamless orchestration of on-premise and cloud services.

Key strategies include:

- Designing an integration plan that ensures new cloud services work in tandem with on-premise systems without causing operational disruptions.
- Customizing cloud services to meet the unique requirements of different areas of your operations, whether it's sales, supply chain management, or customer service.
- Implementing robust security measures that apply uniformly across your on-premise and cloud solutions to protect customer data and business-critical information.
- Developing a support and maintenance plan that provides quick resolution to any issues, minimizing downtime and maintaining business continuity.

Key actions:

- Establish a hierarchy of POS systems, with certain units designated as on-premise to guarantee reliability, especially in high-traffic stores.
- Adopt cloud solutions that can be tailored for diverse functions and provide a unified operational picture across all locations.
- Incorporate advanced security protocols into both on-premise and cloud components, ensuring consistent protection.
- Create a specialized in-house team or partner with a service provider for ongoing management of the hybrid system.

Enterprise-level retailers:

Crafting a strategic blueprint for global scalability

As you implement a hybrid deployment model across your enterprise, the focus is on creating a strategic blueprint that minimizes operational disruptions and aligns with complex international compliance demands. Your approach must be carefully planned, considering the vast network of stores, diverse teams, and the broad spectrum of products and services that define your global presence.

Key strategies include:

- Implementing standardized on-premise POS systems as the bedrock for reliable, consistent operations worldwide.
- Configuring cloud solutions to cater to the distinct regulatory requirements and business needs specific to each region.
- Designing a technological infrastructure that's not only scalable but also fortified to handle the demands of a global customer base during peak periods.
- Establishing a strategic alliance with a cloud solutions provider that's committed to fostering continuous innovation and extending robust global support

Key actions:

- Roll out a uniform POS system across all locations, anchoring your transactional efficiency and customer service consistency.
- Customize cloud services for regional specificity, ensuring operational excellence and legal compliance.
- Build scalable and resilient systems, ready to support customer service excellence during high-demand scenarios.
- Partner with a cloud provider renowned for their capacity to back enterprise-level innovation and offer extensive international support.

Operational excellence with hybrid deployment

The move to hybrid deployment is a decisive step for any retailer, demanding a customized approach that aligns with your unique business dynamics. From enhancing scalability for small businesses to ensuring global compliance for enterprise-level operations, the common thread is a solid foundation in at least one on-premise POS unit to guarantee uninterrupted service. It's about more than technology – it's about fostering a business that's agile, customer-oriented, and primed for future shifts.

As we manage this change, effective communication, comprehensive training, and proactive challenge resolution are critical to a smooth transition. Progression doesn't end with deployment – it's an ongoing journey of technological advancement. By staying updated and adaptable, your business will not only keep pace with the market but also drive retail innovation.

Directing the change: effective management for a smooth transition

Transitioning to a hybrid deployment model involves significant change within your organization. This change must be managed effectively to ensure a smooth transition:

- **Communication:** Develop a clear communication plan that informs and engages all stakeholders. Explain the reasons behind the shift, the benefits it brings, and how it will impact various aspects of the business.
- **Training:** Invest in training programs for your staff. Ensure that everyone, from front-line employees to IT personnel, understands how to use the new systems and why they're important.
- **Addressing challenges**: Anticipate potential obstacles such as resistance to change or technical hiccups. Have strategies in place to address these challenges proactively.

Support and growth: ensuring long-term success

The implementation of a hybrid deployment model is just the beginning of an ongoing journey of technological evolution and adaptation:

- **Technical support:** Establish a strong relationship with your technology support partners. Ensure you have access to prompt and effective assistance whenever needed.
- **Regular reviews:** Conduct periodic evaluations of your hybrid system to spot areas for enhancement and confirm it continues to meet your business's evolving requirements.
- **Staying updated:** Stay informed about the latest in hybrid technology developments. Be ready to incorporate new features and updates that can boost the efficiency and effectiveness of your operations.

Securing long-term success: embracing adaptability and innovation

Looking towards the future, your move to a hybrid deployment model places your business in a strong position to adapt to market changes and embrace innovation:

- **Market adaptability:** With a hybrid system, you can quickly respond to changing market demands and customer preferences. This flexibility is crucial in the retail sector.
- **Innovation readiness:** The hybrid model positions you well to leverage emerging technologies. As innovations surface, you can smoothly integrate them into your operations, ensuring your business remains relevant and progressive
- **Enhanced customer experience:** Harness hybrid cloud agility to refine customer interactions and enable advanced analytics. Support your marketing with personalized tactics, enhancing customer journeys and loyalty.

Related deployment terms

Hybrid cloud

We advocate for a hybrid cloud deployment as the optimal strategy for retail organizations, a stance echoed by industry leaders like Google. This model epitomizes flexibility, merging public and private clouds with on-premise resources to deliver:

- **Operational flexibility:** Enables dynamic scaling and resource allocation tailored to fluctuating retail demands.
- **Enhanced performance and reduced latency:** Critical for high-volume transaction processing, ensuring customer transactions are swift and seamless.
- **Robust application governance:** Facilitates refined control over applications, ensuring data compliance and security across environments.
- **Maximized ROI:** Balances cost with performance, leveraging on-premise solutions for core operations while utilizing cloud scalability for growth and peak demand periods.
- **Latency optimization:** Especially crucial in retail, where transaction speed and system responsiveness directly impact customer experience and operational efficiency.

Google's reinforcement of reduced latency's significance underscores its critical role in retail, highlighting the need for systems that respond instantly to user actions, a fundamental component of customer-centric retail strategies.

Multicloud

While our recommended hybrid cloud deployment strategy uses a mix of public cloud, private cloud, and edge deployment working together to suit your retail organization's needs, a multicloud environment uses cloud services from more than one cloud provider. Multicloud is thus typically used when organizations don't want to depend on a single cloud provider.

If a hybrid cloud deployment strategy uses resources from more than one public cloud provider, it can of course then be viewed as including multicloud. As Google put it, "… multicloud setups can include hybrid cloud setups but a hybrid cloud is not automatically considered multicloud."

Pure cloud

This term traditionally refers to deploying all applications and services exclusively in the cloud. It's essential to note that while this model offers simplicity and scalability, it may introduce limitations for retail applications requiring high performance or offline capabilities, highlighting the importance of a balanced approach that includes on-premise or hybrid solutions for such use cases.

Cloud native (native cloud)

That something, typically a software app, is *native cloud* or *cloud native* simply means that it was developed to run in the cloud from the start.

Identifies applications specifically designed for cloud environments, benefiting from inherent scalability and resilience. The distinction between cloud native and traditional applications is crucial for retail professionals considering cloud migrations or new application deployments. While cloud native applications offer numerous advantages, including ease of deployment and operational flexibility, it's important to consider the potential need for on-premise solutions to ensure offline capabilities and meet high-performance demands.

Virtual machine

A virtual machine (VM) is a computing resource that uses software instead of a physical computer to run applications, etc. A single physical computer (known as the host) can run one or more virtual machines (known as guests). Each virtual machine works separately from other virtual machines, even though they may run on the same host, and each virtual machine runs its own operating system, which can even be different, for example one VM running Windows and another VM running MacOS on the same host.

Infrastructure as a Service (IaaS)

In an IaaS model, a cloud service provider delivers storage, network, servers, virtualization, etc. – essentially the data center features – to customers on a pay-for-what-you-use basis. Customers then use the provided infrastructure services to run their required applications themselves.

Platform as a Service (PaaS)

PaaS is mainly a software development term for a cloud-based environment where development teams can build, test, and deploy their software applications. In a wider context, the term is sometimes used to describe a cloud model where a service provider delivers hardware as well as some, but not all, software for customers' use. In those cases, PaaS comes close to SaaS (Software as a Service), but PaaS isn't a complete full-service solution like SaaS.

INSIGHT

Hybrid shopping preferences

The IBM/NRF global consumer study reveals a significant shift towards hybrid shopping, with **over one in four consumers** preferring a mix of digital and physical shopping channels. Moreover, a substantial **62% of consumers** express a willingness to alter their purchasing habits to lessen environmental impacts. Notably, sustainability has emerged as a pivotal factor, with **44% of consumers** identifying as purpose-driven, prioritizing values like sustainability in their brand choices.

This insight underscores the retail industry's need to adapt to evolving consumer preferences by integrating digital and in-store experiences.

Source: IBM Newsroom

Embracing the shift to hybrid cloud POS systems

The retail industry faces an unending stream of change. New trends and customer behaviors emerge at breakneck speed, requiring retailers to continuously innovate and adapt their technology stack. While traditional POS systems have served businesses well with their stability, they may not fully address the demands of a continuously evolving retail environment.

This presents a critical challenge: how to implement a POS solution that's both agile enough to adapt to these changes and robust enough to handle high volume and ultra-fast data processing.

The answer lies in hybrid cloud deployment. This approach lets you tailor your POS solution to your specific requirements, blending the on-premise security and control with the cloud's scalability and agility. You can dynamically adjust the weighting between these two elements as your business develops and the retail environment changes, ensuring your POS remains a powerful tool for success.

Selecting the right partner is crucial in navigating this complex environment. Look for a vendor-neutral, experienced consulting firm that can provide unbiased guidance throughout the entire process – from assessment to selection and implementation. Their expertise will be invaluable in navigating the intricacies of hardware selection, third-party integrations, and other critical considerations.

At Fiftytwo, our focus is on making better POS solutions. We create top-notch POS software and integrations that effortlessly connect with the tools you need for an all-encompassing commerce experience. Our aim is to equip your retail business with the flexibility of hybrid cloud deployment, ensuring you stay ahead in market.

Ready to unlock the full potential of your POS solution?
Contact us today for a free consultation and discover how Fiftytwo can empower your retail business to succeed.

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We deliver innovative software solutions that increase customer loyalty and boost sales figures.

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