



WEBSCALE

TECH GUIDE



# Intelligent CloudOps for Modern Commerce

Overcoming the constraints of traditional hosting & management

The ecommerce industry in the U.S. achieved another spectacular milestone in 2022 – crossing **\$1 trillion** in receipts for the first time ever. Technology innovations like the cloud, mobile, artificial intelligence (AI), machine learning (ML), automation, composability and microservices have transformed how modern commerce is delivered.

Digital experiences have also evolved in the hands of sophisticated developers leveraging automated DevOps practices, driving greater efficiency and faster time to market.

Yet the critical administration of the cloud environment, where the ecommerce application lives and breathes, has largely remained people first and technology second with manual, error prone, inefficient and slow processes.

## What is CloudOps?

CloudOps refers to the practice of managing and optimizing the performance, availability, and security of an application or website by taking advantage of the inherent scalability, flexibility, security and reliability of the cloud.

Intelligent CloudOps takes this a step further, using advanced technologies to automate and optimize cloud operations, and provide deep visibility and actionable insights enabling continuous optimization. This approach can significantly enhance a merchant's ability to modernize the management and maintenance of their cloud infrastructure and applications, leading to improved efficiency, reliability, and cost savings while ensuring better customer experience and uptick in revenue through increased availability, performance and security for their digital storefront.

# Why are ecommerce businesses pivoting towards Intelligent CloudOps platforms?



## Analytics

Every ecommerce storefront needs an intelligent visibility tool that provides insights into the traffic, sources, conversions, hosting infrastructure, and user experience. While there are many tools that accomplish some of these, Google Analytics being one of them, none offer a comprehensive view of a website's infrastructure.

Traditional hosting providers are referred to as “black boxes” because they intentionally provide very little access to infrastructure, making the gathering of data on traffic, sources, and conversions very challenging. CloudOps facilitates the real-time gathering and reporting of key metrics that impact the health of any digital business. With Intelligent CloudOps, basic visibility matures to deep observability. Automation, AI and ML deliver actionable insights for merchants and their developer teams to make data-driven decisions on where to optimize and secure their infrastructure, and ensure a seamless customer experience.



## Comprehensive security

Omnichannel commerce has expanded the security perimeter, allowing vulnerabilities to be more easily exposed. Traditional hosting providers typically provide little more than a WAF, coupled with reactive security measures that are insufficient. CloudOps professionals implement additional security measures to protect web applications from the front end through web traffic, malicious code inserted into the backend, or from browsers executing scripts to steal sensitive information. Intelligent CloudOps, along with managed security services, leverages automation and deep analytics to create a real-time security blanket, from the origin to the edge, by proactively monitoring, detecting, diagnosing and mitigating complex threats.



## Continuous Integration & Delivery (CI/CD)

The dynamic nature of an ecommerce business warrants continuous updates and releases of new features and functionalities to keep up with ever evolving customer needs and modern market trends. The brittleness of the traditional monolith is giving way to highly flexible headless and composable deployments. Leveraging a best-of-breed, microservices and PBC (packaged business services) approach, offers greater creative freedom and development agility. CloudOps best practices today involve one-click containerized deployments and enabling microservices at the edge. With automation, zero-downtime blue-green deployments, fully managed CI/CD processes to build, test and release code, and codifying the cloud infrastructure for efficient management, are all possible.



## Increased reliability

An Intelligent CloudOps strategy can improve the reliability of cloud-based systems by incorporating key elements of a well architected framework.

Automated monitoring and alerting systems can quickly identify and alert teams to issues that could lead to service disruptions or outages. Disaster recovery and business continuity plans ensure that critical systems and data are backed up and can be restored quickly in the event of an outage or other disruption. Elasticity measures ensure that cloud-based systems can scale quickly and efficiently to meet changes in demand. Fault-tolerance and redundancy can continue to function even in the event of hardware or software failures. Proactive maintenance and upgrades help prevent issues from occurring in the first place and improve the overall reliability of cloud-based systems.

A Well-Architected CloudOps model is built to succeed, planned for disaster, and makes no assumptions about trust when it comes to security.



## Faster time to market

By automating routine tasks such as deployment, testing, and monitoring, an Intelligent CloudOps strategy can remove the need for manual intervention, improving the speed of new code releases. An Intelligent CloudOps strategy can ensure code changes are continuously integrated and tested, and releases are delivered in smaller, more frequent increments. This can help reduce the time required for testing and reduce the risk of errors in production.



## Auto-scalability

Ecommerce sites are the most susceptible to sudden spikes in traffic, especially during sales promotions, holiday seasons or even a viral unplanned event. This is especially true in high growth markets such as fashion, apparel, health & beauty and electronics industries. CloudOps allows businesses to scale their infrastructure and cloud-based services up or down as needed based on traffic. Intelligent CloudOps automates this process, so businesses can focus on their customer experience and revenue without worrying about downtime and/or slow site speed.



## High availability

It is estimated that SMB ecommerce loses between \$5400 to \$9000 per minute for every second of downtime. CloudOps ensures that ecommerce sites are available 24/7, with zero to minimal unplanned downtime. This is achieved through redundancy, self-healing, load balancing, and automated failover mechanisms. With Intelligent CloudOps, applications are architected with N+1 redundancy, and split across two or more availability zones to ensure application uptime even during cloud provider outages.



## Cost-effectiveness

CloudOps drives cost-efficiencies compared to traditional hosting, as businesses only pay for the resources and cloud services they use. This means that they can scale up their infrastructure during peak hours and scale it down when demand subsides, avoiding having to pay for excessive or unnecessary infrastructure overhead. Intelligent CloudOps automates these otherwise laborious processes to ensure an “always optimized” cloud infrastructure. This automation leads to significant savings in terms of infrastructure and personnel costs.

A Well-Architected CloudOps model is built to succeed, planned for disaster, and makes no assumptions about trust when it comes to security.

# The Business Case for Intelligent CloudOps over Traditional Hosting

Capability	Traditional Hosting	Intelligent CloudOps
Actionable insights	Limited visibility into traffic, cloud infrastructure and user experience	<ul style="list-style-type: none"> <li>● Deep observability and analytics for data-driven decision making</li> <li>● Real-time actionable insights on UX, security, application performance, admin &amp; code changes, CDN-delivered traffic and business impact</li> </ul>
Customer data protection	<ul style="list-style-type: none"> <li>● Legacy WAF offering limited security moat from common threats</li> <li>● Reactive approach with little to no intuitive security management</li> </ul>	<ul style="list-style-type: none"> <li>● 360-degree protection from the origin to the edge</li> <li>● Protection from complex threats like carding attacks, malware and skimmers</li> <li>● OWASP Top 10 protection</li> <li>● DIY rules &amp; policy engine to quickly address security and performance issues</li> <li>● Advanced rate limiting configurable for different parts of a site, along with configurable blocking periods</li> <li>● Proactive security management for policy improvement, monitoring, detection, diagnosis &amp; real-time alerting</li> </ul>
Performance optimization	Basic CDN with limited programmability	<ul style="list-style-type: none"> <li>● CDN for ecommerce &amp; Edge Workers</li> <li>● Dynamic Site Cache to reduce the load on application servers to a fraction of what it would otherwise be.</li> <li>● Automated image management to ensure online buyers receive the right image for their specific device, every time, and ideally always from the cache closest to the end user</li> <li>● Real User Monitoring for ensuring industry-beating Core Web Vitals</li> </ul>
Flexible deployments	<ul style="list-style-type: none"> <li>● Accommodates flexible deployments but not scalable</li> <li>● Cost inefficiencies due to inability to right-size infrastructure, time consuming &amp; error prone manual processes</li> </ul>	<ul style="list-style-type: none"> <li>● Highly scalable leveraging the inherent scalability and flexibility of the cloud</li> <li>● Powers flexible software architecture models: Monolith, Headless, Composable, &amp; PWA</li> <li>● Ease of integration with SaaS, API-first technologies</li> <li>● Highly cost efficient due to right-sized infrastructure; automation leading to faster time to market</li> </ul>
DevOps support	<ul style="list-style-type: none"> <li>● Virtual machines and dedicated environments</li> <li>● Manual DevOps processes</li> <li>● Reactive approach</li> <li>● Unplanned downtime unavoidable</li> <li>● Time consuming</li> <li>● Error prone</li> <li>● Cost inefficient</li> </ul>	<ul style="list-style-type: none"> <li>● Tech-enabled Managed Services that redefine the maintenance and ongoing management of storefronts</li> <li>● Quick containerized deployments (Docker &amp; Kubernetes) with zero downtime</li> <li>● Enables microservices at the edge facilitating a “best of breed” approach</li> <li>● Zero-downtime one-click Blue-Green deployments</li> <li>● Self-remediation &amp; self-healing servers</li> <li>● Managed CI-CD (automates the build, test &amp; release of code) integrated with all leading code repositories</li> <li>● Infrastructure as a Code (IaC) - automates cloud infrastructure management leading to zero errors</li> <li>● Application testing to ensure UX on the site is not impacted by the traffic</li> <li>● AI/M-led automation</li> <li>● Proactive approach where issues are identified and fixed even before they impact the business</li> </ul>

# Intelligent CloudOps Success: SaaS technology + Specialized Managed Services

The rapid growth of ecommerce has led consumers to expect a seamless and personalized digital experience when interacting with businesses online. These evolving demands have significant implications for the merchant, who must ensure their digital platforms are always responsive, available, and reliable in order to meet the high standards of today's customer experience expectations.

Intelligent CloudOps was designed to meet these expectations, and it's why Webscale has combined our intelligent SaaS tech stack with our highly specialized Support and Managed Services in order to create a truly comprehensive, customizable path to ecommerce success in the cloud.

The convergence of an expert-driven managed services team, a tech-driven application delivery, performance and security tool stack, and on-demand cloud services creates the fundamental superpower of a winning Intelligent CloudOps strategy.

Intelligent CloudOps practices reach far beyond the basic upkeep of cloud infrastructure, going deeper into the end-user experience, in order to drive prescriptive improvements to the delivery of the overall application stack. SaaS technology alone cannot accomplish it all, so these modern tools should be augmented by a support and managed services team with deep industry expertise, allowing businesses to more effectively manage their digital experience. This combination can more effectively detect potential issues before they occur, and automate responses to improve service quality. By doing so, merchants put themselves in a better position to make data driven improvements to their customer experience, enhance user engagement, and ultimately increase revenue.

Webscale's mission is to change the way ecommerce businesses monitor, optimize and secure their online storefronts allowing merchants to make intelligent, data-driven decisions; to create a safer, more engaging user experience for their customers; and to increase conversions and brand loyalty.

The convergence of an expert-driven managed services team, a tech-driven application delivery, performance and security tool stack, and on-demand cloud services creates the fundamental superpower of a winning Intelligent CloudOps strategy.



Webscale One is an **Intelligent CloudOps Platform** that provides ecommerce merchants with a well architected digital commerce infrastructure for their online storefronts. Webscale One provides a robust suite of software, backed by a managed services team with deep ecommerce and multi-cloud expertise, together simplifying the most complex challenges faced by merchants in the cloud, including migration, optimization, automated deployments, agility, security, TCO and daily management.