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## OMS Buyer's Guide Part 3:

# The Rise of MACH-Compliant OMS Solutions

## INTRODUCTION

In today's rapidly evolving digital landscape, where customer expectations are constantly shifting and the pressure to optimize the bottom line intensifies, monolithic systems have become significant roadblocks to progress. As these rigid structures become more obsolete, the natural progression of technological advancement paves the way for innovative solutions—and this is precisely where MACH architecture and the MACH Alliance emerge.

The evolution of modern commerce, culminating in the formation of the MACH Alliance, directly reflects the changing demands of consumers and the imperative for businesses to adapt swiftly to market fluctuations. Embracing the MACH principles – an architectural blueprint for constructing and deploying digital systems – offers a distinct competitive advantage.

Understanding MACH-compliant order management systems (OMS) and their benefits is crucial for making informed decisions about your technology stack.

Interactive

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## WHAT IS THE MACH ALLIANCE?

As monolithic systems become more obsolete, rapid advancements in technology naturally follow—which is where the MACH Alliance comes in. The MACH Alliance is a non-profit industry body that advocates for open and best-of-breed enterprise technology ecosystems.

To support businesses looking to adapt to a more progressive digital world, the MACH Alliance was developed with four cutting-edge technology principles to lead the charge: Microservices, API-first, Cloud-native, and Headless.

A technology solution becomes MACH compliant by being architected and built from the ground up (or significantly refactored) to embody these four principles. It's not simply about adopting one or two of these concepts but holistically embracing all four to create a truly modern, agile, and future-proof architecture.

# WHAT IS A MACH-COMPLIANT OMS?

A MACH-compliant OMS is built upon the foundational principles of **M**icroservices, **A**PI-first, **C**loud-native, and **H**eadless architecture. This contemporary approach empowers businesses to construct highly adaptable and scalable order management solutions tailored to their unique operational and customer experience requirements.

M

**Microservices:**
The system is composed of loosely coupled, independently deployable services.

A

**API-first:**
All functionality is exposed through APIs, enabling seamless integration and flexibility.

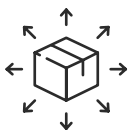
C

**Cloud-native:**
The system is built and optimized for cloud environments, leveraging cloud scalability and resilience.

H

**Headless:**
The backend logic is decoupled from the frontend, allowing for greater flexibility in user interface design and multichannel experiences.

### In the context of an OMS, this means:



**Modular OMS architecture:**
Each OMS function (e.g., inventory management, order routing, fulfillment) is a separate microservice, allowing for independent scaling and updates of individual components.


**API-driven OMS integration:**
All OMS functions are accessible via APIs, facilitating easy integration with other systems like ERPs, CRMs, ecommerce platforms, and various sales channels.

**Cloud-based OMS deployment:**
The OMS is designed to run in cloud environments, offering scalability to handle peak order volumes and reliability for continuous order processing.

**Frontend-agnostic OMS:**
The core OMS functions can be accessed by any frontend system, enabling true omnichannel order management across web, mobile, in-store, and other sales channels.

# BENEFITS OF MACH-COMPLIANT OMS

The MACH approach to OMS offers numerous advantages that address the evolving needs of modern commerce. These benefits enable businesses to create agile, scalable, and future-ready order management solutions:

**1. Flexibility and customization**

- Quickly adapt order routing logic by modifying specific microservices without disrupting the system.
- Integrate best-of-breed inventory management or fulfillment solutions to optimize order processing.

**2. Scalability**

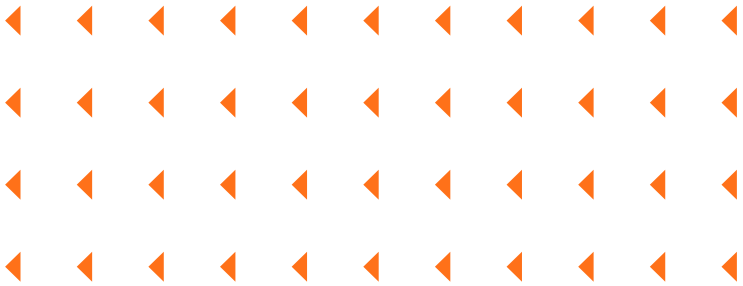
- Effortlessly handle order volume spikes during peak seasons or flash sales with cloud-native elasticity.
- Independently scale order capture, inventory management, or fulfillment microservices based on demand.

**3. Faster time-to-market**

- Implement new fulfillment methods (e.g., curbside pickup) by adding dedicated microservices.
- Rapidly integrate new sales channels or marketplaces using the API-first approach.

**4. Improved resilience**

- Isolate issues in specific areas like payment processing without affecting overall order flow.
- Ensure business continuity with cloud-native redundancy for critical OMS functions.



**5. Future-proofing**

- Easily adopt emerging fulfillment technologies (e.g., autonomous delivery) by adding new microservices.
- Quickly adapt to new customer-facing channels with headless architecture, ensuring consistent order management across all touchpoints.

**6. Cost-efficiency**

- Optimize cloud resource allocation for OMS functions based on usage and demand patterns.
- Reduce development costs by allowing focused updates to specific OMS modules (e.g., returns management).

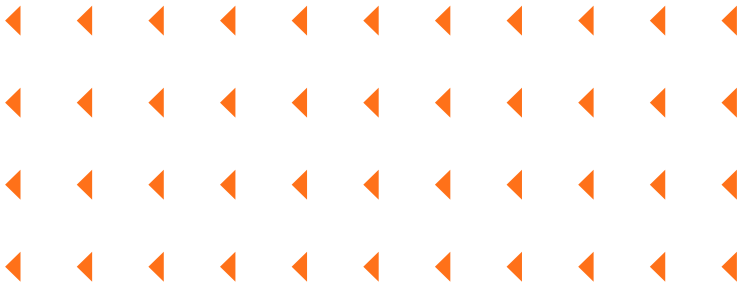
**7. Enhanced customer experience**

- Provide real-time, accurate order status updates across all channels through API-driven integration.
- Rapidly implement new features like personalized delivery options without overhauling the entire OMS.

**8. Better integration**

- Seamlessly connect OMS with ERP, WMS, and CRM systems for a holistic view of the order lifecycle.
- Facilitate real-time inventory updates and order synchronization across the entire business ecosystem.

While MACH-compliant OMS offers numerous benefits, consider business-specific needs, technical capabilities, and growth trajectory before making the right decision.

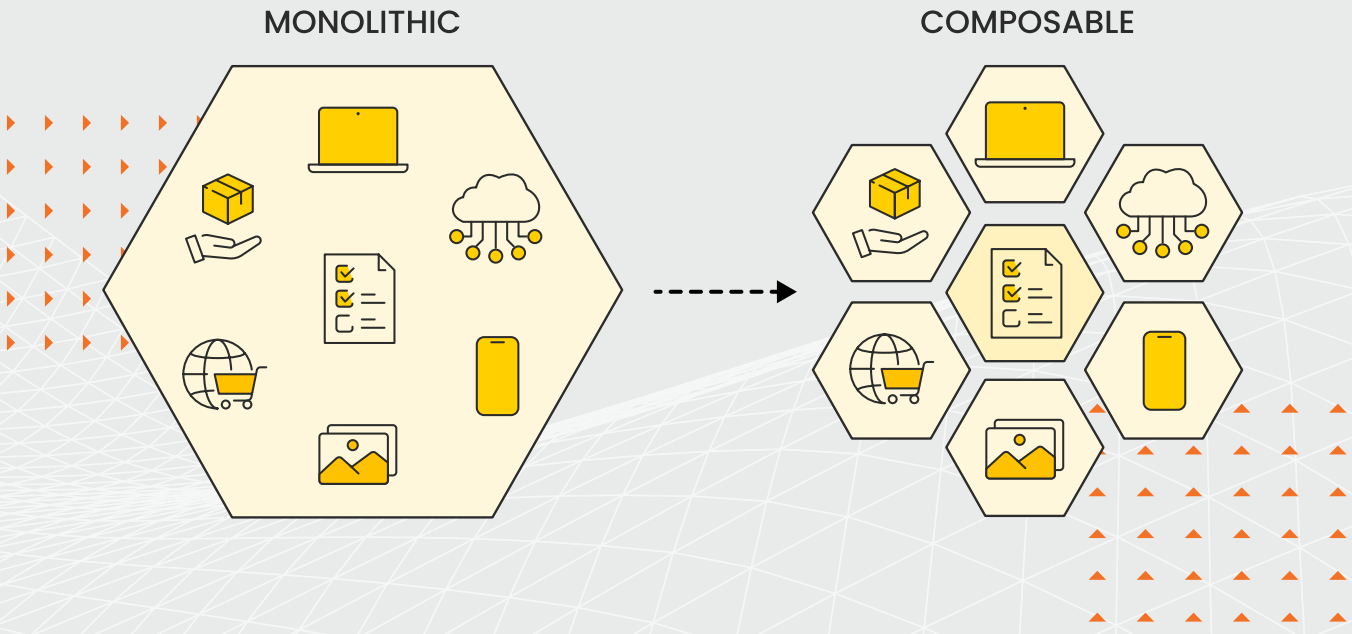


# MACH ARCHITECTURE: BREAKING FREE FROM MONOLITHIC CONSTRAINTS

The emergence and rapid adoption of MACH architecture are not accidental. Industry experts recognized the inherent limitations and challenges posed by traditional monolithic commerce systems and developed a comprehensive strategy grounded in modern technological solutions to address them effectively.

A significant drawback of tightly integrated monolithic systems is the inherent difficulty in implementing changes or adopting new technologies without potentially impacting the entire platform. This rigidity can severely restrict a business's ability to integrate third-party systems crucial for growth and adapt to evolving market demands.

MACH technology fundamentally transforms this paradigm. By dismantling the constraints of monolithic architectures, it empowers businesses with a modular and flexible infrastructure. Instead of being confined to a single, inflexible system, organizations can leverage a collection of independent, best-of-breed components that can be assembled and adapted to create the precise ecommerce infrastructure required to thrive in today's dynamic and rapidly evolving landscape – and to confidently navigate the future of commerce.



## About KIBO

Kibo Commerce is a composable commerce platform for retailers, manufacturers, distributors, and wholesalers who want to simplify complexity and deliver modern customer experiences. Supporting experiences that span Order Management, eCommerce, and Subscriptions, Kibo's platform is trusted by companies like Zwilling, Ace Hardware, and REEDS Jewelers to drive operational efficiency and exceed customer expectations.

For more information, visit **kibocommerce.com**.

## About Grid Dynamics

Grid Dynamics (Nasdaq: GDYN) is a leading provider of technology consulting, platform and product engineering, AI, and digital engagement services. Fusing technical vision with business acumen, we solve the most pressing technical challenges and enable positive business outcomes for enterprise companies undergoing business transformation. A key differentiator for Grid Dynamics is our 8 years of experience and leadership in enterprise AI, supported by profound expertise and ongoing investment in data, analytics, application modernization, cloud platform and product engineering, and digital engagement services. Founded in 2006, Grid Dynamics is headquartered in Silicon Valley with offices across the Americas, Europe, and India.

To learn more about Grid Dynamics, please visit **https://www.griddynamics.com/**.

## About Google Cloud

Google Cloud is the new way to the cloud, providing AI, infrastructure, developer, data, security, and collaboration tools built for today and tomorrow. Google Cloud offers a powerful, optimized AI stack with its own planet-scale infrastructure, custom-built chips, generative AI models and development platform, as well as AI-powered applications, to help organizations transform. Customers in more than 200 countries and territories turn to Google Cloud as their trusted technology partner.