Microservices: Your Next Big Move Just Got Smaller
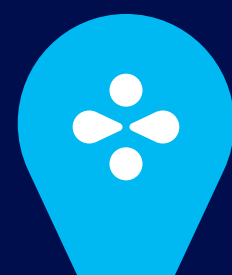
How a modern, composable architecture enables agility, flexibility and scale.

Is a Microservices Approach Right for You?

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Modern commerce is more complex and less predictable than ever, making your existing technology a liability. Businesses need the ability to respond more quickly, deploy new services easily and innovate faster than ever to deliver experiences that put the customers' needs first. A composable approach that uses microservices is the agile way to adapt to evolving conditions and safeguard your company from the challenges that come with keeping up with the status quo.

The business landscape is intensely competitive, and every business is at risk from other companies' innovations and disruptions. You need the ability to respond quickly to market innovations, and an immobile tech stack will undoubtedly leave you behind. It's time to take advantage of opportunities to digitally transform by adopting composable methods to speed up the time it takes to bring new capabilities to market. The monolithic applications of the past simply can't keep up. In addition to being hard to upgrade, they aren't built to scale to meet today's challenges.

Challenges of a Monolithic Approach

- Adding new capabilities requires long lead times

- Requires in-house engineering and IT resources

- System updates are costly, intrusive and slow to launch

- Inability to quickly scale up or down when needed

Disruptions to the system can also result in loss of sales, employee frustrations and more. That's why a modern, composable architecture — one that lets you address needs as they evolve — is the only way to futureproof your business. It's time to join the ranks of leading companies delivering experiences that are more agile, more flexible and more transparent.
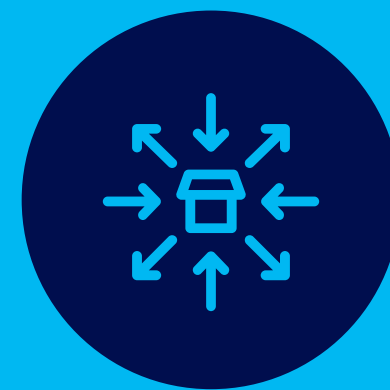
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Who Can Benefit From Microservices?

Large enterprises with legacy systems that are difficult to manage, change and update.

Companies looking to be more agile and have a better ability to scale and adapt.

Organizations beholden to legacy tech and previous investment, who need to change, improve or accelerate.

While there may be a large investment in certain tech solutions, an augmentative approach can get a business moving in the right direction and slowly break apart the monolith by replacing business functions one at a time.
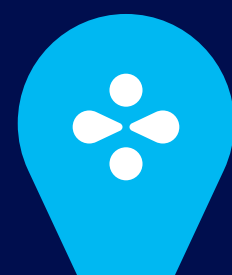
Microservices: The Big Picture

The traditional approach of using a single solution to solve a large set of business needs no longer works — modifications are challenging for an IT team, take a long time and often don't solve the business need. By bundling microservices together, you create packaged business capabilities to address specific needs. This approach also can help a business differentiate itself with a unique angle on the market.

On the following page we've defined a few industry terms that will help to illustrate why a microservices approach can enhance the flexibility and scalability of any business — or process within it.

Monolithic *The old way*
The traditional all-in-one architecture approach where the front and back end are closely tied, making updates hard to achieve without disruption to the total system.

Microservices
What you need when you need it
Highly scalable, individual business logic and technology stacks that enable an augmentative approach to satisfying user requirements and supporting immediate and long-term functional needs.

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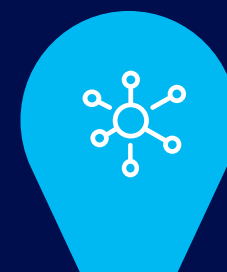
Composable Commerce
Picking favorites

An approach to leveraging individual modular components to perform independent tasks within an information system — you can select and integrate components to solve for specific business needs.

Headless
A flexible foundation

An approach that anonymizes the front end to allow an independent back end, focusing on horizontal microservices capable of serving any system requirements.

Packaged Business Capabilities (PBCs)
The building blocks

When microservices come together to create an autonomous, functionally complete business capability that communicates with other components through APIs.
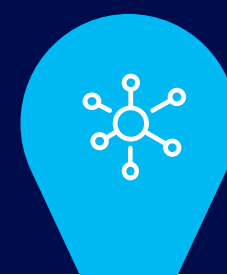
API-first *Now we're talking*

A strategy that allows developers to easily integrate different programs and languages with efficiency across platforms.

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Why Microservices? Why Now?

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Quickly solve the problems that impact your business

Businesses need adaptable technology solutions that work together across business functions to deliver a consistent customer experience. A composable approach enables companies to augment and enhance existing technologies with microservice-based solutions — transforming business functions at the speed and scale that's right for your company. How's that for flexibility?

Internally, microservices allow your IT team to keep up with the rapid pace of change felt by the business. In fact, a microservices-based approach can offer new experiences or services to capture new markets and spark innovation in your business:

- Rapidly implement new capabilities and features
- Quickly scale up or down
- Reduce the need for costly, complex customizations
- Reduce overhead costs for managing and maintaining
- LImit the number of developers needed to deploy new capabilities
- Empower employees with more strategic work

Blue Yonder Advantage

Driving Success Through Digital Transformation

Poor conversion rates, disconnected experiences and/or lack of visibility. Microservices can mitigate whatever issues are hindering your ability to succeed. Decide what capabilities you need to add and then prioritize their addition based on desired business outcomes.

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Composable Commerce Offers the Best of Both Worlds

You can see why this approach has gained so much traction with tech-savvy and forward-thinking businesses. While many professionals understand the value of a composable approach, some businesses may not be quite ready for a complete overhaul just yet. With a microservices approach, you can augment your existing technology piece by piece. You can choose — and quickly implement — the microservices that will most effectively support your company's business goals — or alleviate specific challenges — first and foremost. Then, you may add to that, as needed. Some companies eventually transition to a completely composable, microservices-based architecture in their own time. Either way, by making the choice to get started, you can feel confident in growing your business at the pace and scale that's right for you. A microservices approach allows you to add best-in-class solutions and augment technologies to evolve your business capabilities.

Big Benefits for Any Industry

Every industry can reap the benefits of a composable approach. Blue Yonder is helping companies deliver better customer experiences by enhancing processes such as inventory availability, fulfillment and delivery options, order visibility and customer service with microservice-based solutions. Designing your experience with microservices means addressing challenging processes — like site subscription management, chat, POS, Buy Now Pay Later, or Reverse Logisitics — and prioritizing in a way that fits your business needs.

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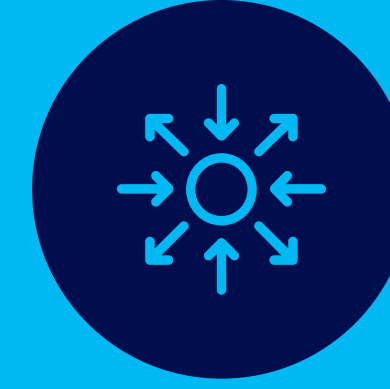# 8 Ways Microservices Make a Major Impact
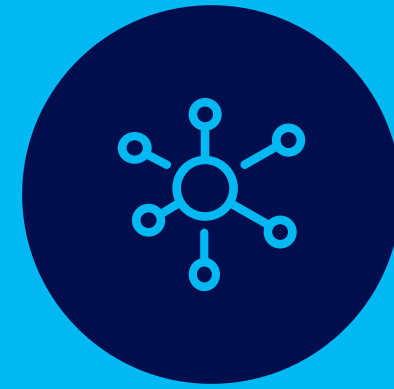
Easily adapt as business needs change

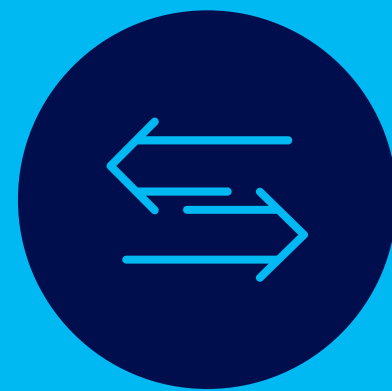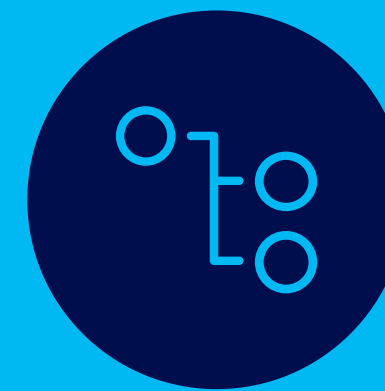React to market shifts with speed

Smaller IT teams

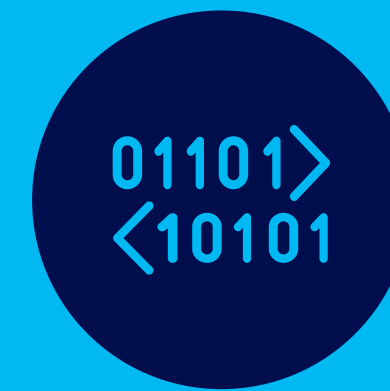Every service can be scaled independently

Lower cost of production and ease of deployment

Intrinsically interoperable and built on industry standards

Pick and choose best of breed and best of need

Continuous delivery and real-time data updates

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Walgreens Transforms Their Business

Walgreens had a steady plan to add omni-channel order flows over three years — allowing customers to buy online and opt for in-store or curbside pickup.

Then COVID hit. Overnight, customer expectations changed.

" **Brian Amend**
Sr. Director of Supply Chain Systems, Walgreens

The company needed to accelerate their omni-channel roadmap. Their existing order management system couldn't support the advanced functionality required for these business capabilities — but there was no time to build a new system. Cue Blue Yonder's Commerce microservices — a fast and flexible solution that augmented their legacy system within 6 months. **In 7 months, they had the solution implemented across the chain of stores.**

Learn more about Walgreens' fast implementation here.

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Microservices Drive Growth at Petco

In response to emerging customer needs, Petco needed to deploy a "buy online, pick up in-store" (BOPIS) capability in an accelerated time frame. By partnering with Blue Yonder to develop a microservices-based approach, **they were able to deploy BOPIS across all 1,500 retail locations in less than four months.**

Learn more about Petco's fast-turn BOPIS project here.

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Technology Suited to Your Specific Needs

Microservices are purpose-built for specific functions, so they work better and are more efficient than one-size-fits-all solutions. They require fewer resources, less time and less financial investment to deploy, manage and maintain than a monolithic system. This approach offers the flexibility to support your immediate needs while still encouraging growth through a scalable architecture.

The monolith is too slow to respond to new customer expectations with innovation, causing the need for custom code just to keep up. Rather than addressing issues as they arise, microservices allow companies to isolate the area that is holding their technology back from meeting customer needs — and in return they can pinpoint how technology can support the new experiences, allowing fast turnaround times instead of long deployment projects that require full stacks to receive value. A microservices approach can augment your existing system and immediately start you on a path to growth.

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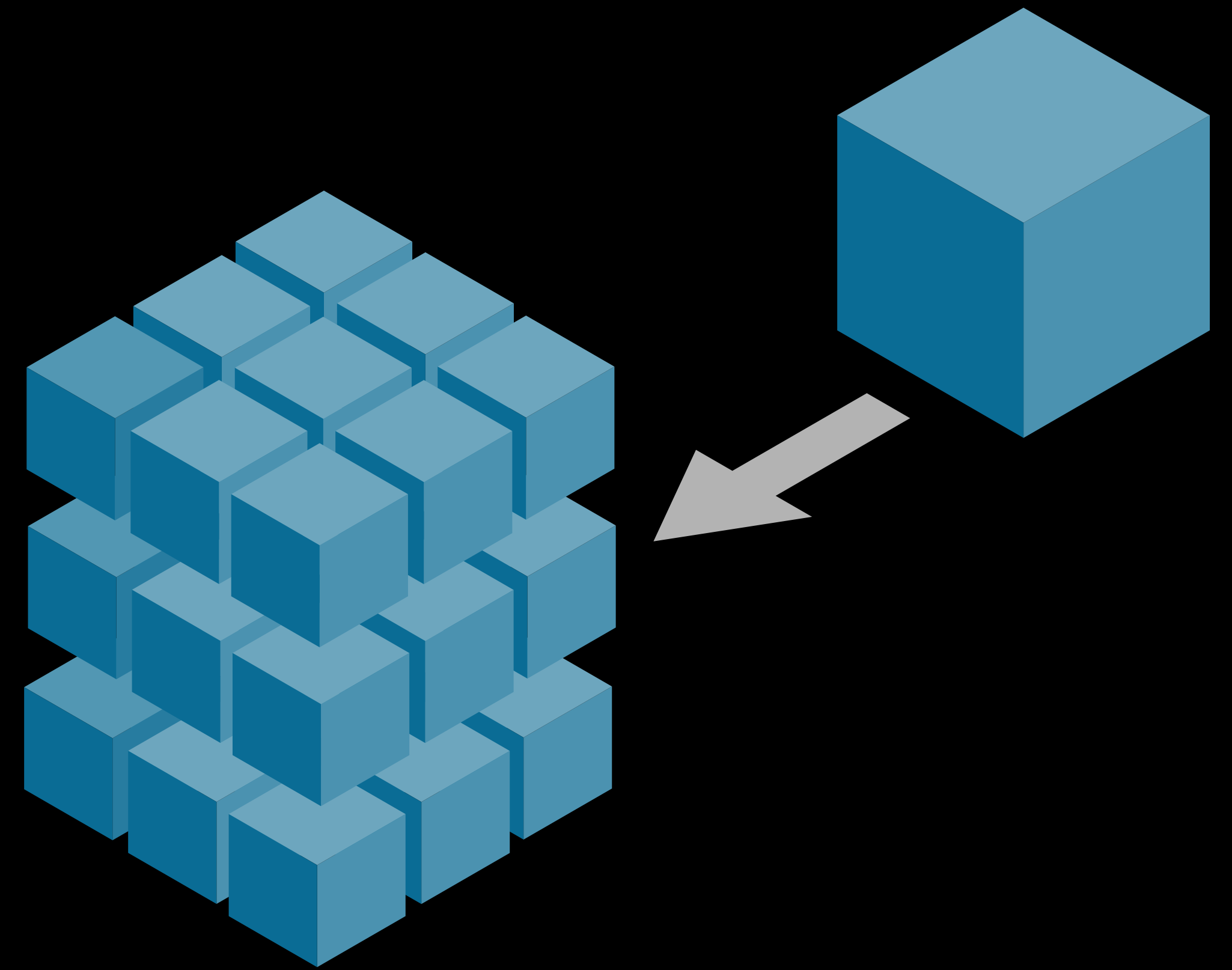
Considerations of a Multi-Vendor vs. Single-Vendor Approach

One of the reasons microservices have become so appealing to commerce-driven businesses is that they allow you to decide which vendors you want to work with. You can choose from many vendors that each perform different tasks or one single vendor that offers the full suite of microservices to address your business needs. While it can appear that using multiple vendors may offer you more control and purpose-built microservices, you might experience integration issues, confusing communication or other frustrations that wouldn't happen with a single-vendor approach. When you need help, who do you call? Responsibility among vendors can be murky. Service providers want to avoid taking on extra work if they can pass it off as an issue that's not on their end of the integration. It may seem like having more vendors means more help, but it can be inefficient and stressful to manage all these companies on top of your own. The best solution can be broken down, implemented and changed over time. With a single provider, you get a partner that's more attuned to your needs with less risk.

Challenges to Avoid With Multiple Vendors

- Increased costs over time

- More vendors create a higher probability of integration issues

- Complex tech support — blame passed between vendors / lack of accountability to solve issues

- Increased management when it comes to evolving and adapting new tech
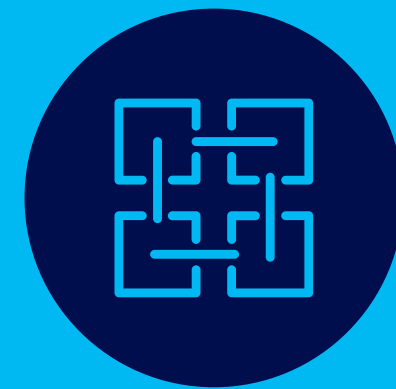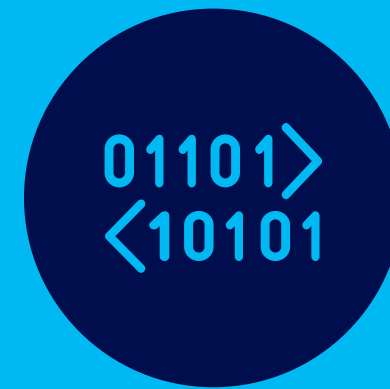
- Duplicated efforts across vendors
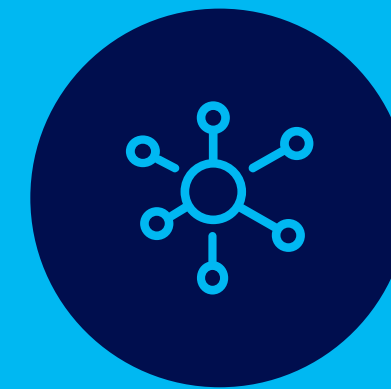
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The Best of Both Worlds

Blue Yonder's microservices offer accelerated value and continuous growth:

A better, more cohesive user experience for employees to adopt and use
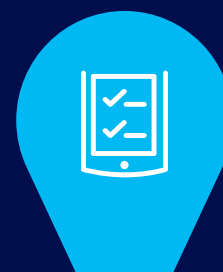
Enhanced security by reducing the complexity of data flows on a single platform

Microservices developed to work together, optimizing efficiency

Rapid go-live capability and agile support to continue to modernize

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Real-World Impact

The speed and agility of microservices enable you to realize their initial value in weeks/months instead of the years it would take to upgrade or replace a monolithic system. From helping with inventory predictions to real-time data analysis, custom code just can't keep up. With a microservices architecture, you're always ready for growth and scale — monolithic solutions aren't built to support the engagement volume that businesses see today. A more modern architecture means you have a custom solution you can control, and getting set up is a simple plug-and-play approach.
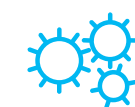
You'll be able to:

- Reduce development complexity

- Rapidly implement new capabilities & features

- Quickly scale up or down

- Reduce need for costly, complex customizations

- Reduce overhead costs for deploying, managing and maintaining

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A Smaller
Initial Investment

Implement only the microservices you need to get started. The composable architecture allows you to add on as needed, when you see fit — and when your budget allows.

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Future-Proof Your Business With Microservices

At the very core of a microservices approach are the notions of flexibility, composability and scalability — all things you'll need to continue down the path of a successful, growing business. When shifts in technology, market trends and consumer preferences trigger new requirements to meet growing expectations, microservices can quickly and easily address business needs without a disruption to your total system. This also means test-and-learn plans can be implemented quickly, allowing your company to innovate faster than ever before.

Exceeding Customer Expectations

One thing that won't change is consumers' evolving expectations. Their desire for choice, immediacy and transparency is only increasing. Companies that can't evolve with their consumers will inevitably lose them to another business that can. In that sense, a microservices approach isn't an option, but a requirement.

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Stand Out in a Crowded Market

From inventory optimization to order orchestration and store fulfillment, Blue Yonder is helping businesses across the globe to stand apart. From evolving approaches to commerce solutions, to improving the role of order management in experience design, Blue Yonder has helped a variety of businesses across different industries successfully transform their OMS with a microservices approach.

petco

SEPHORA

URBAN OUTFITTERS

Walgreens

ASDA

wilko

Take the Next Step

Go beyond the traditional, and design an experience that reflects your business, enhances the employee experience and redefines what your customers want and expect. Feel empowered with the flexibility to innovate and the confidence to face the future knowing you are prepared for whatever comes. It's time to explore how microservices and a composable approach are key to your unique journey.

Visit **blueyonder.com/contact-us** to get started or use the QR code below. You can also email us at **commercesales@blueyonder.com**.
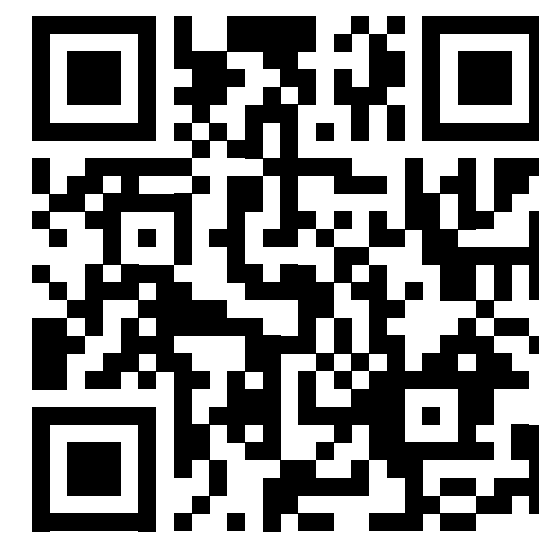
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