

Headless Commerce 101

for Business Leaders





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Introduction

When talking to business leaders, they often express their frustration in not finding a **straightforward explanation for headless commerce** that clearly describes why they need to consider it in the first place. Although the concept might sound complex at first, it will make so much more sense when the various components are broken down into the advantages each holds for businesses in the interim and long run.

In this short eBook, you will find everything you need to know to be able to understand the buzz around headless commerce. Hopefully, it will be the last bit of information you need to determine whether a headless commerce solution is precisely what your own eCommerce business needs to thrive. So, let's jump in and make our way to the point where you can join the 'EUREKA!' chorus.

"Headless commerce is bringing CTOs and CMOs back together in the boardroom."

– **Gordana Vuckovic** | Chief Revenue Officer of Vue Storefront

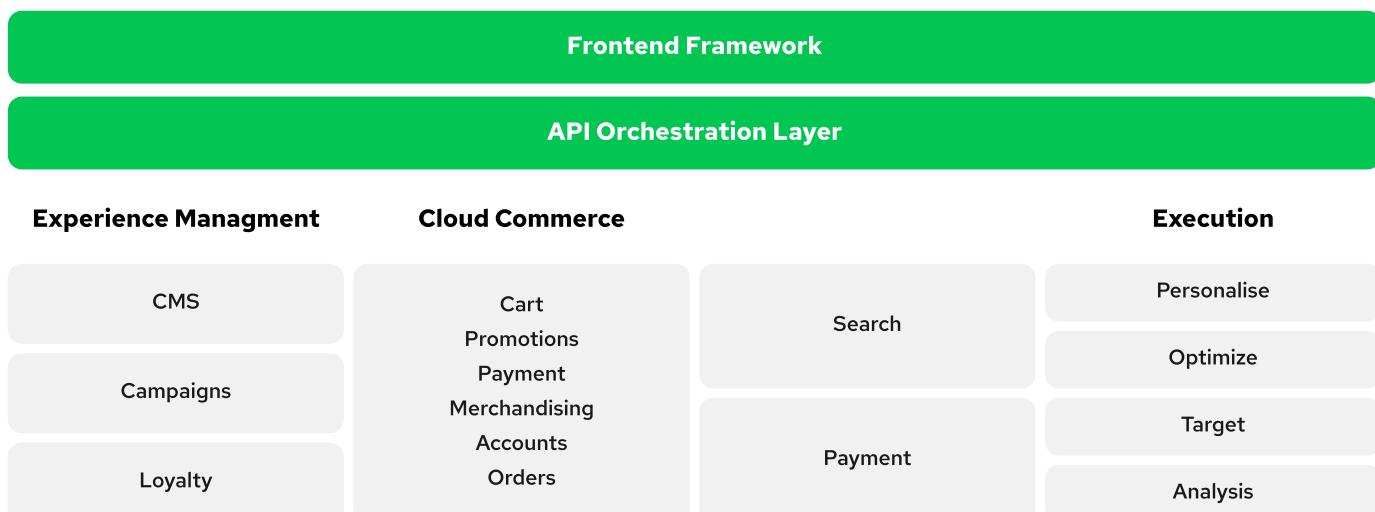


What is headless commerce?

Headless commerce is the generally accepted term used for decoupled commerce software architecture, where the system's frontend layer is separated from the backend business logic.

It is a part of the **composable commerce** approach, where an eCommerce platform, CMS, and other 3rd party tools such as payment solutions, analytical tools, loyalty programs, and search engine solutions communicate via API-first logic. "Headless commerce" and "composable commerce" terms are often used interchangeably.

By decoupling all the components of the eCommerce system, a business can compile only the parts they need from a variety of best-of-breed headless applications. They can perfectly customize them, effortlessly and affordably make changes to the UI on the frontend, and optimize for UX without any disruptions to the overall operations. We discuss this in much finer detail below.



Headless is a relatively new philosophy of building software systems. It focuses on providing businesses with the **agility** to prepare them for any customer behavior changes.



Headless vendors focus on one particular service (like a CMS, an eCommerce platform, or a frontend part), making it the best in its class, and delivering it with an API.

Additionally, eCommerce stores built with a headless approach gives merchants excellent **flexibility**. Thanks to API-first architecture they are able to plug-in and unplug particular headless elements enabling development changes and updates without interfering with the rest of the business operations.

Business leaders typically understand headless commerce as an eCommerce solution that stores, manages, and delivers content without the frontend delivery layer. They believe that the only option to go headless is to build a custom storefront—which can take months and is very expensive to develop.

Fortunately, this is not the case anymore with [Frontend as a Service](#) solutions like Vue Storefront at their disposal.

Customer experience, web and business performance, scalability – it all happens in the frontend.

Frontend, which is the HEAD in a headless commerce stack, is where all the logic must collaborate while delivering optimal results to secure increased conversion rates. This is why your headless commerce journey should always start with the frontend layer.

Optimized UX and CX, SEO, business performance, web performance, and scalability all happens in the frontend.

"Businesses treat symptoms like slow website performance and conversion rates with bandaids, not fixing the system (frontend) causing those symptoms."

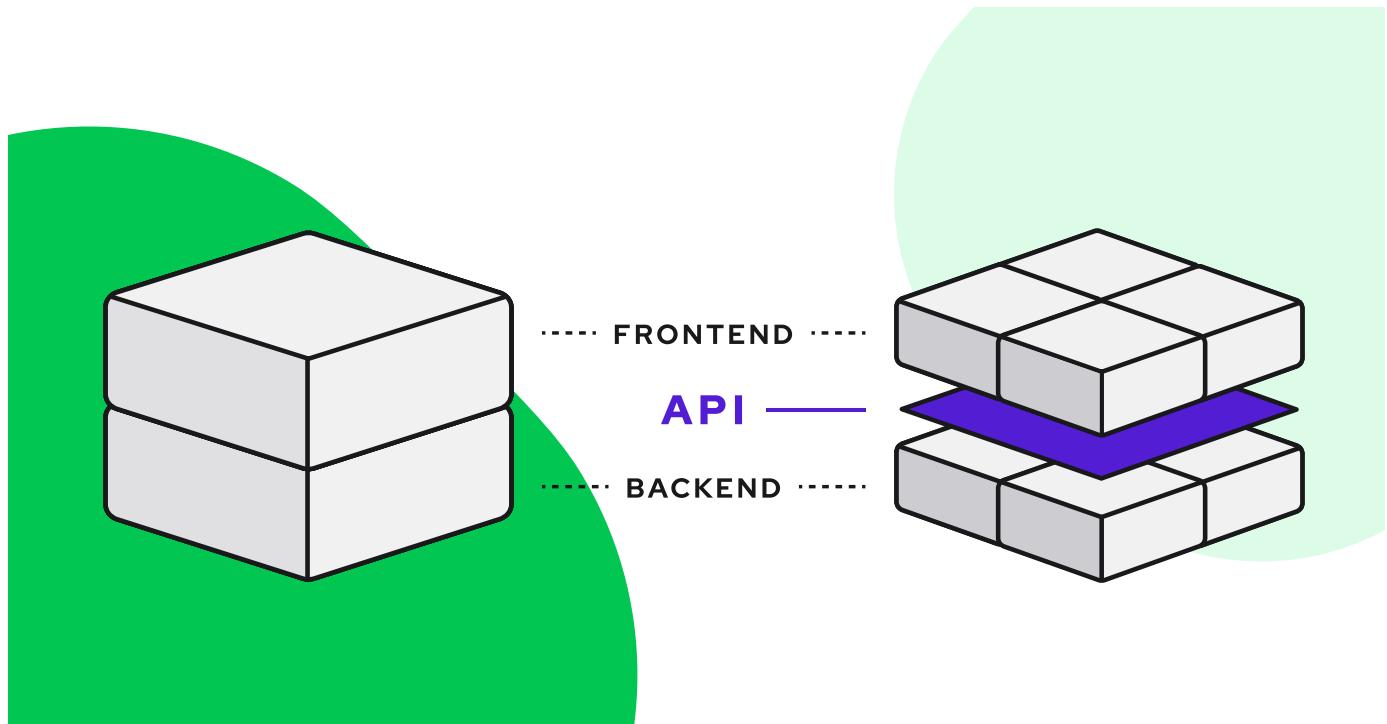
– **Tyson Graham** | Enterprise Sales of Vue Storefront



CHAPTER 2

Headless commerce as a solution to monolith limitations

commercetools coined the term “headless commerce” in 2013. It was arguably born out of a 2013 Forrester Research report that complained eCommerce vendors were falling behind on UX trends and suggested “loosely” coupling the backend and frontend of eCommerce stores.



A headless commerce approach resolves many of the issues businesses have faced in recent years due to the vast limitations of monolithic legacy solutions. As good as the old all-in-one platforms were in the past, they are currently too obsolete to keep up with the rapid change in consumer expectations and needs in eCommerce.

Monolithic legacy systems comprise the frontend and backend, a CMS, search, payment, and all other tools needed and form one intimate environment. If you want to change something on the frontend, you must also make the necessary changes to the backend.

Headless allows your frontend to be driven by marketing and you can iterate whenever needed. IT controls the backend and can iterate whenever required without any interference on the storefront.

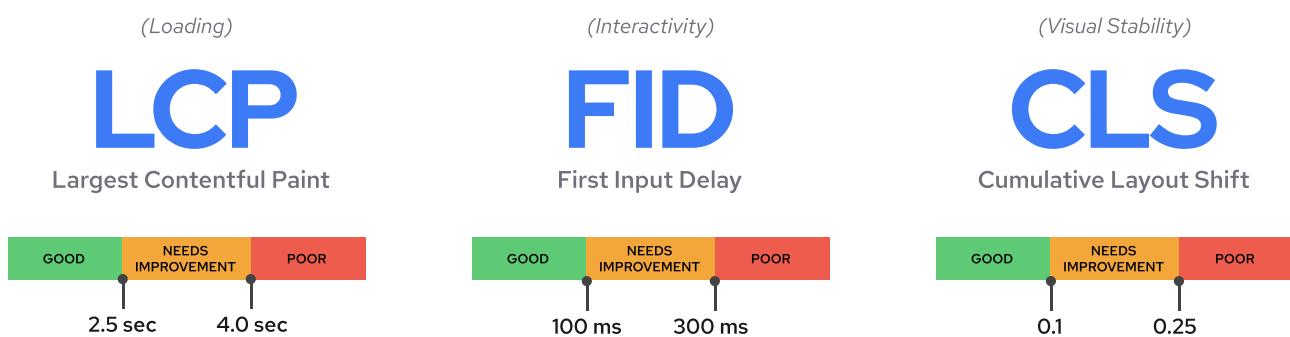


This makes any changes challenging and costly, as you need to enlist the help of developers each time. Even with a dev team on board, adding new features is sometimes impossible.

Some of the most significant disadvantages of monolithic architectures include:

- Poor web performance, which leads to low SEO rankings and dropping conversion rates.
- Tight coupling between components, as everything is in one application. This makes changes and updates more challenging as even a small one on the presentation layer can impact the entire system.
- Less reusability and flexibility.
- A large code base makes it more challenging for developers to understand the code and business knowledge.
- Less scalable, which makes it difficult or impossible for your store to grow to new markets and product categories
- Not following SRP (Single Responsibility Principle).
- More deployment and restart times.

Lagging legacy systems slow down your business



In eCommerce, time is money—primarily when it affects your website's UX and SEO metrics. With Google's Core Web Vitals update from 2021, loading times (pages and images) are the primary ranking signals to help land your site in the top 10 on the SERPs. Google knows what consumers want and only displays sites that meet their stringent speed requirements on results pages. It is understandable why it has become an essential factor when analyzing consumer behavior online.

A test done by Kissmetrics determined that customer satisfaction was reduced by 16% per second they had to wait for more than 3 seconds. It also determined that 79% of customers dissatisfied with a website's performance most probably won't return for another purchase. A further 44% of customers share bad online shopping experiences with family or friends.

These statistics make it abundantly clear that there is no time to waste in speeding up the performance of eCommerce platforms (some pun intended) and are one of the primary reasons why so many enterprise eCommerce businesses are transitioning to a full headless stack. **The Ericsson Consumerlab determined that the level of stress consumers experienced caused by mobile delays was comparable to watching a horror movie.** Nobody wants their customers to compare their brand with stress or make them feel like they just watched a horror movie, right?



Cognitive load associated with stressful situations
Source: Ericsson ConsumerLab, Neurons Inc., 2015





The table below sums up the primary reasons why legacy eCommerce systems fail in the current market conditions.

SEO impact	Slow mobile loading times and UX steal your conversion rates.
Conversion impact	Lower conversion rates stump revenue and growth.
Low mobile conversion rates	A lack of focus on small screen customer experience and mobile optimization while search engines and users demand a mobile first approach for optimal experiences.
Difficulty to scale & grow	Monolithic architecture is notoriously inflexible and difficult to scale, leading to excessive downtime.
Lack of UX consistency and omnichannel	Any changes to the UI, or updates on brand specifications must be done separately for all devices, which causes inconsistency across channels.
Budgetary impact	Development budgets cut into customer acquisition budgets.
Tech debt	User expectations have outgrown what PHP and Enterprise Java tech stacks can offer.
Resources	Great developers are not attracted to old and clunky tech stacks. They always look for what is coming next.
Innovation	Monolithic architectures and native apps require recurring and significant investments to remain relevant to fast-changing user behavior.



Headless commerce solves monolith challenges

Problem	Solution
<ul style="list-style-type: none">• Delayed time to measurable ROI• Difficult to optimize for performance• Long time-to-market• Technology is becoming too complex• Total Cost of Ownership (TCO) rises with the complexity• Talent is hard to find and retain	<ul style="list-style-type: none">• Lower costs, quick time-to-market & improved conversion rates delivers faster ROI• Performance-oriented architecture with best practices• Quick time-to-market advantage due to ready code• Buy, not build: with a strong focus on UX, SEO & customizations• Lower TCO due to ready features & integrations• Smaller dev team required: maintenance & updates can be included in the license

"A headless architecture enables businesses to use different solutions for every aspect of their website, such as search, personalization, and the shopping cart, rather than having a single piece of software with a few bolt-on applications for specific business functions.

This gives businesses greater freedom to choose best-of-breed technology solutions, rather than being limited to ones that work with their underlying platform. It also means software updates are less onerous and disruptive since each solution can be updated independently."

– Inside Retail



The components of a full headless commerce stack

Frontend as a Service: Frontend is a responsive presentation layer that supervises and orchestrates the user-side of eCommerce. It gathers data that is stored in the backend and displays it in an organized way to reduce page load times on any device.

A proper frontend technology should be a progressive tech ecosystem that binds together all the headless components. This is exactly what Frontend as a Service offers.

eCommerce platform: An eCommerce platform is a modern, efficient commerce engine working separately from the frontend layer. Hence the communication between the two layers of the headless system is swift. Headless platforms use APIs for data orchestration, and as a result, each implementation proceeds faster, and the whole system runs more responsively.

Headless CMS: A headless Content Management System allows storage and organizing of content independently from the entire eCommerce tech stack. It allows the delivery of content to multiple channels and devices allowing for smooth omnichannel sales.

Search providers: Search and discovery efficiently deliver rich product and content-based experiences on every device and channel.

Payment providers: Any preferred API-hosted payment gateway can be integrated with the headless stack, which provides a UI for the checkout & payment process through integrations with a payment provider.

API in headless commerce: API in headless commerce is a connection to one layer of communication, which is standardized across all the technologies to connect them with more flexibility and speed. It is a vital component of the [MACH approach](#) to “future-proof enterprise technology and propel current and future digital experiences.” Developers who know how to play with APIs can learn one basic principle and use this language (APIs) to quickly connect things in a standardized manner.



These are only the basic elements of a headless commerce stack. As the industry grows and gains popularity due to its efficiency, more headless vendors are joining this accelerating market daily. The best part of going headless is that because of the API approach, a merchant has the freedom to plug in whatever solution they prefer and need.

CHAPTER 4

Business benefits of headless commerce

There are countless valuable reasons to consider moving to headless from monolithic systems. Next, let's discuss the essential benefits of teaming up with a headless technology partner.

Freedom to compile only best-of-breed eCommerce solutions

As great as the one-size-fits-all, out-of-the-box monolithic software solutions were to eCommerce a few years ago, they failed to grow as fast and efficiently as enterprise users need them to. The one-stop-shop software architectures became a significant drawback as the default monolithic features turned out to block and slow down business growth.

Consumer expectations for new features, the best UX, and super-fast page loads caused a course correction for eCommerce, moving it more towards choosing from a variety of the best interoperable solutions available in the market.

And this is where headless commerce steps into the spotlight! The API-first approach now gives businesses the freedom and flexibility to build and compile an eCommerce stack with their preferred best-of-breed CMS, eCommerce platform, payment providers, search, loyalty, rewards programs, and legacy platforms.

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The flexibility of start-ups

Consumer habits are rapidly and constantly changing, making the eCommerce market incredibly competitive. To avoid losing customer loyalty, merchants must be agile and flexible in implementing modern solutions to meet new trends and customer expectations in near real-time. If they don't, it directly affects user experience, and they risk losing loyal customers.

The tightly connected elements of monolithic systems make it challenging to provide a superb customer experience because the front- and backend are coupled. This lack of flexibility means that developers must interfere with the underlying database code when changing the frontend and adjusting it to new marketing goals or brand identity.

It can be risky to move to modern frameworks with better web performance or change the UI (user interface). Any updates to monolithic frameworks need thorough testing to prevent any calamities from bringing down the entire system.

This is precisely why headless architecture is such a hot topic today. It solves all of the challenges listed above. Testing new services or adding new features typically does not threaten to disrupt the entire system. Marketers now have the freedom to make swift and necessary changes to the frontend without help from developers.

Lightning-fast web performance

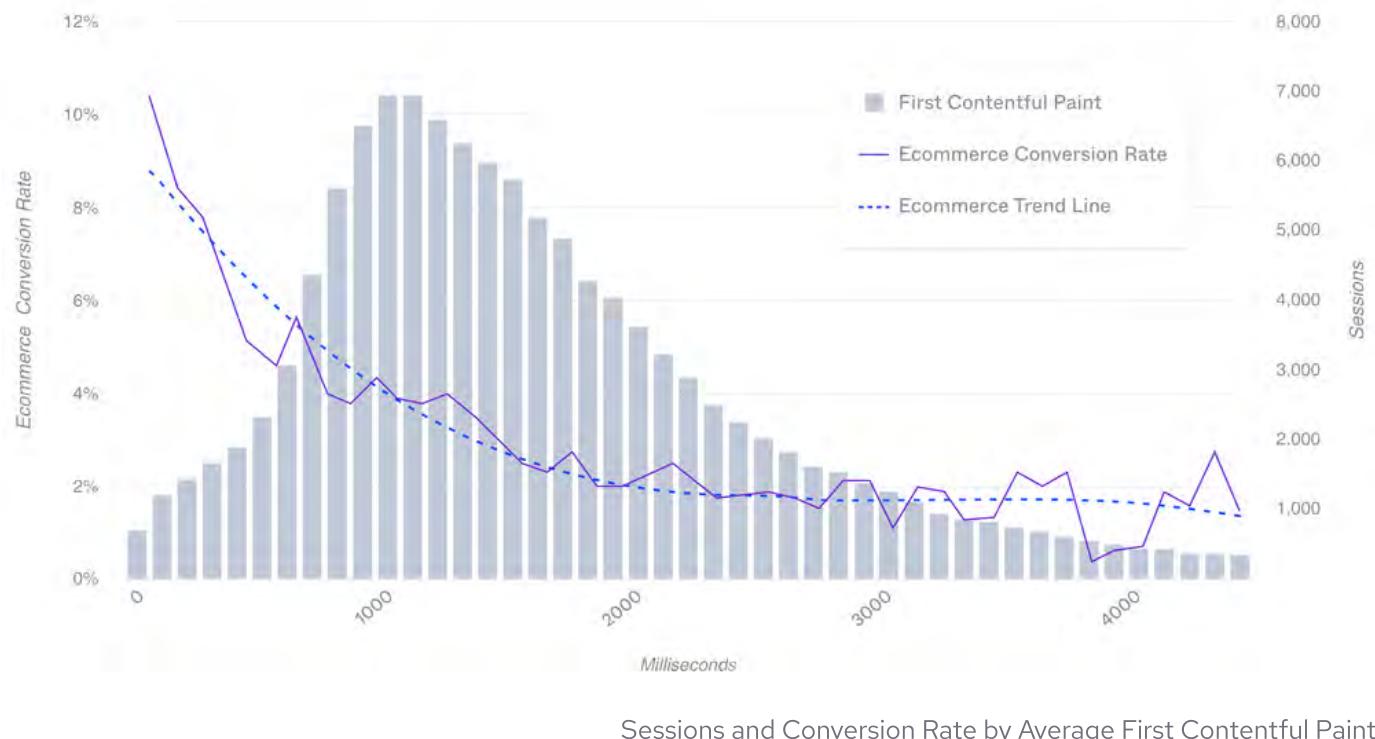
Headless commerce solutions deliver performance-oriented architecture with a strong focus on SEO (mobile and desktop) and conversion rates. When it comes to eCommerce speed, time indeed translates into money. Slow monolith websites lose orders to fast websites. Poor site performance directly affects your conversion rates and revenue.



In a recent test conducted by Speedsense, they measured the distribution of page speed for every visitor and the ratio of whether or not those sessions resulted in a sale. The data allowed them to identify a correlation between site speed and sale likelihood.

They observed increased engagement metrics after increasing the site speed. It also significantly decreased abandonment while mobile pages increased by nearly 15% per session. The most critical impact of improved site performance is improved UX.

A faster site is simply more functional. Customers will more likely explore the site because frustrations are reduced. It also improves the user perception of the brand.



Scalability

Headless solutions provide seamless auto-scaling capabilities, and unexpected increased traffic is not problematic to the setup. A significant pain point for monolithic system users is the very limited possibility of scaling an eCommerce business.

This limits expansion into new markets, the development of new product segments, launching new brands and stores, and generally slows down business

This is one of the most immediate and familiar pain points vendors aim to solve with a headless commerce approach. When an eCommerce business is growing rapidly, it needs a tech stack that will quickly grow with it and allow for changes on the go. This is precisely what headless commerce offers.

Headless architecture enables merchants to quickly set up multi store environments and give them the ability and option to switch solution providers at any time should that be an urgent requirement. eCommerce legacy solutions block businesses from growing, scaling into new markets, building new brands, and developing new products and service segments. It slows down the growth and operations of the business.

Headless architecture enables merchants to quickly set up multi store environments and give them the ability and option to switch solution providers at any time should that be an urgent requirement.

Omnichannel possibilities for an improved shopping experience

Modern shoppers have modern needs and expectations. Omnichannel buyer journeys look different from what they looked like five years ago. Everything is connected, and consumers want a seamless shopping experience on every device—whether at home on a desktop or on a mobile phone in the taxi on the way to work.

Securing a solid base for future growth means addressing these customer expectations with flexibility on both the tech and organizational levels. It can be challenging, especially for monolithic systems where any updates and changes must be managed individually per device. Headless commerce resolves this potential blocker.

Headless commerce allows businesses to add personalized content in one source that can be displayed across multiple touchpoints. With a headless CMS and the API-based connection to the backend, content can be served on one default channel and over a whole variety of electronic tools: desktops, smartphones, wearable devices, and other "smart" tools.

With a headless CMS and the API-based connection to the backend, content can be served on one default channel and over a whole variety of electronic tools: desktops, smartphones, wearable devices, and other "smart" tools.



A headless CMS also makes it possible to provide omnichannel experiences with no coding. This allows marketers to adapt content for specific channels and devices to deliver the best UX. And the better UX, the higher chance of a conversion.

Lower IT costs

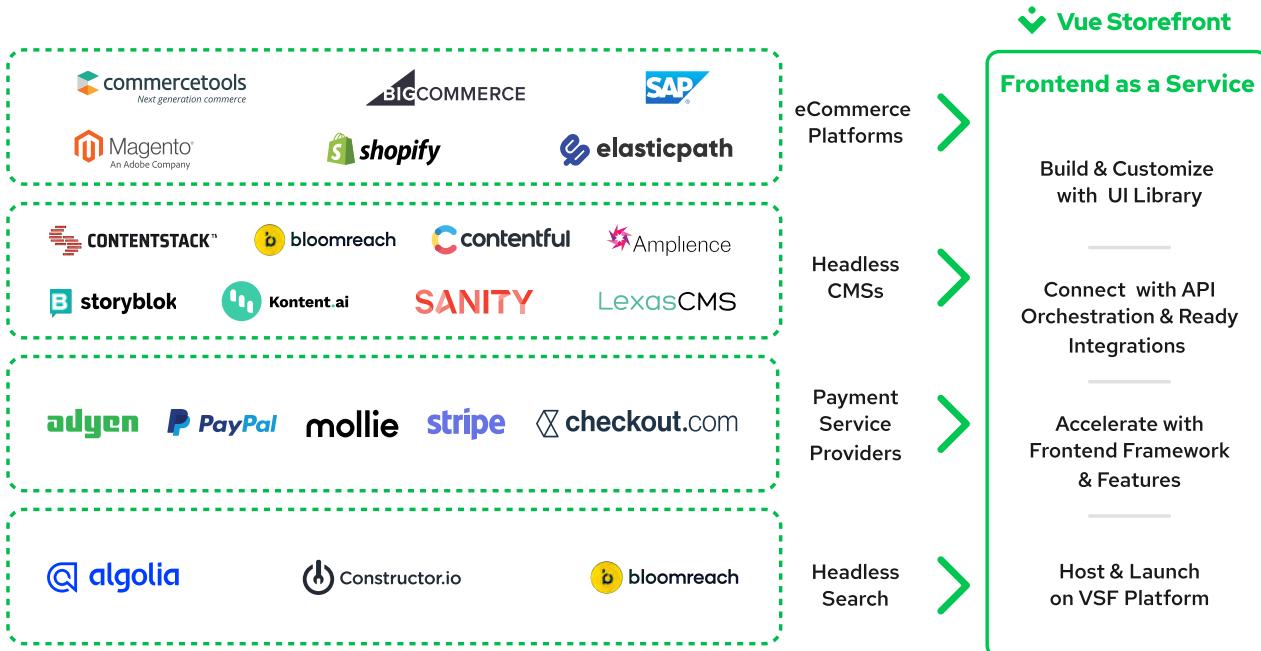
Headless commerce presents a decentralized architecture that splits the process of engaging the entire dev team simultaneously, thus reducing IT costs. A monolithic architecture engages the whole team as they have to deal with all the different eCommerce layers simultaneously.

When working on a headless commerce stack, developer teams can test, fix bugs, and develop separately without risk to the entire system.

They don't have to wait for another team to finish specific tasks before commencing their own—saving loads of development hours.

The most significant advantage of headless developments is access to the best pre-built integrations. The time saved in development hours adds a massive chunk of operational expenditure back onto your bottom line. For example, Vue Storefront has more than 20 out-of-the-box integrations with best-of-breed eCommerce solutions, and the number is growing.





Vue Storefront's growing integration ecosystem "The Modern Commerce Stack"

CHAPTER 5

Business performance value

Change not only threatens to disrupt current business but can lead to disaster. As a result, organizations continue to do as they've always done, even when it seems irrational. This is one of the most significant barriers to making the needed move from monolith to headless. But, the measurable value headless commerce solutions add to the longevity of an eCommerce business are slowly but surely breaching those barriers daily.

Higher annual revenue

Fast, pre-built headless systems, which are mobile-friendly, SEO-friendly, and easy to scale, instantly resolve problems with scalability and flexibility. With much higher mobile conversion rates, annual revenue can be boosted by 20% on desktop and even by up to 50% on mobile.

Vue Storefront

commercetools
Next generation commerce

BIGCOMMERCE

SAP



Higher conversion rates for mobile

In comparing desktop and mobile conversions, businesses are experiencing a mobile revenue gap. Consumers spend more time and less money on mobile because the stores are not mobile-friendly.

Reduced page loading time

The market continues to put pressure on performance and SEO. Google's latest update failed almost all ecommerce sites BUT you are expected to respond quickly and continue to raise in your SEO ranks and your conversion rates. Much of this pressure is on your store's frontend.

Headless commerce places a very strong emphasis on speed and being compliant with the latest Google Core Web Vitals measurements to ensure better rankings on the SERPs.

Ownership on the frontend for optimizations

Headless solutions grants marketers flexibility and independence from the IT team to make changes on the frontend UX. They can add unlimited content on a highly customizable frontend layout. The API-first approach delivers a seamless customer experience.

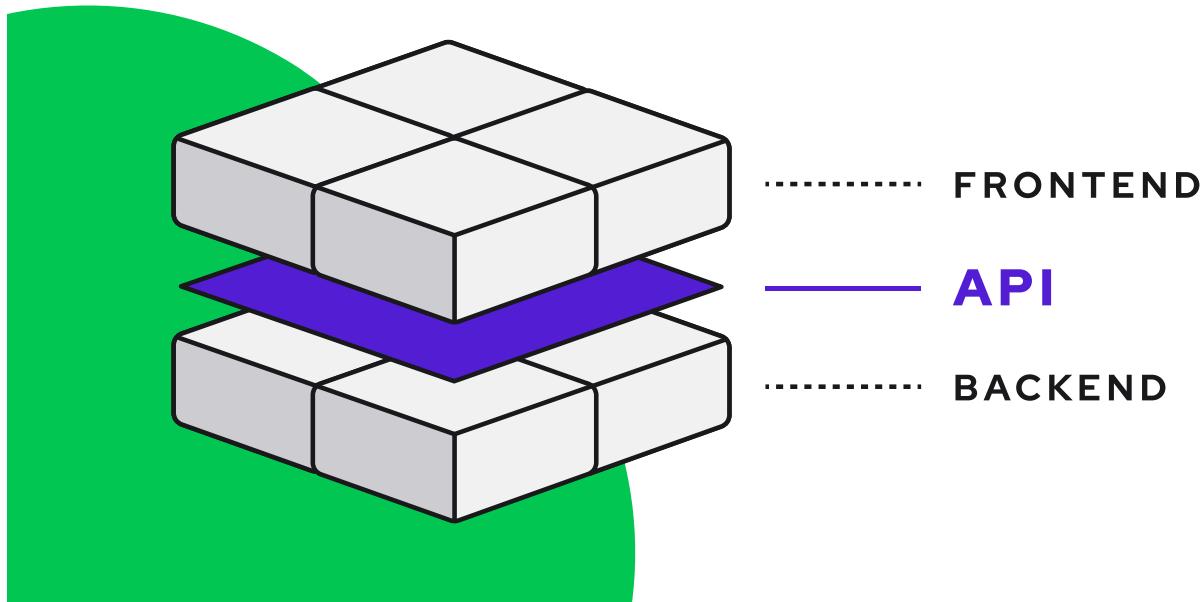
A seamless customer experience

Headless solutions improve web performance and allow merchants to introduce changes to the frontend without the developer's help. It means that updates to the presentation layer are made without delays to meet ever-changing customer demands and provide a seamless customer experience. And when customer satisfaction grows, conversion and revenue increase.





Where to start with headless commerce



As we mentioned earlier, the HEAD in the headless system is vital to establishing a solid platform and API orchestration layer to accommodate the fastest and simplest way for various APIs to communicate with the UI.

Using Vue Storefront as the Frontend as a Service for your headless commerce stack is undoubtedly the best starting point for composing an entire ecosystem. With Vue Storefront as an API-first frontend solution, you can build a best-in-breed composition of services for your eCommerce platform, headless CMS, headless search, payments, loyalty programs, and other 3rd party services.

We give you a whole ecosystem of tools that can work together or independently, and each of them addresses one of the challenges you will face while building an eCommerce storefront. Each Vue Storefront tool addresses a key component of your development cycle, from Build to Launch.

Each Vue Storefront tool addresses a key component of your development cycle, from Build to Launch.



Made for eCommerce Growth



Lighning-fast performance

Vue Storefront's architecture using best practices and best, field-tested tools to make your app perform fast and smoothly



Short time-to-market

Native integrations and out-of-the-box features cut your time-to-market. Use the shortcuts we deliver to outpace competitors.



Customization & Flexibility

Every UI component or a complex module can be adjusted to the individual brand's identity, while a shopping journey - to a specific target audience's needs.

Merchants can take a **phased approach to future-proofing to reduce risk**. The solution lies in **solving challenges like time-and-cost or operational interference** with current platforms while still providing an efficient supply chain for warranties and avoiding lost opportunity costs from not having access during development stages.

Using vendors that grant principles incorporated and supported by ***the MACH Alliance** is a great first step when considering headless solutions. It is a **modular and API-first approach** driven by headless technology principles. Specific standards are a necessity for fast-moving headless technology demands.

In a rapidly and consistently changing world of limited attention, well-paired modularity becomes a stable supplement for performance while simultaneously offering flexibility.

Starting your headless journey with Vue Storefront assures **quick integration** and provides **freedom of choice** when setting up a preferable headless technology architecture.

***The MACH approach came to light because businesses needed ways to remain agile and nimble, customer-centric, and future-proof. The acronym stands for Microservices, API-first, Cloud-native, and Headless.**

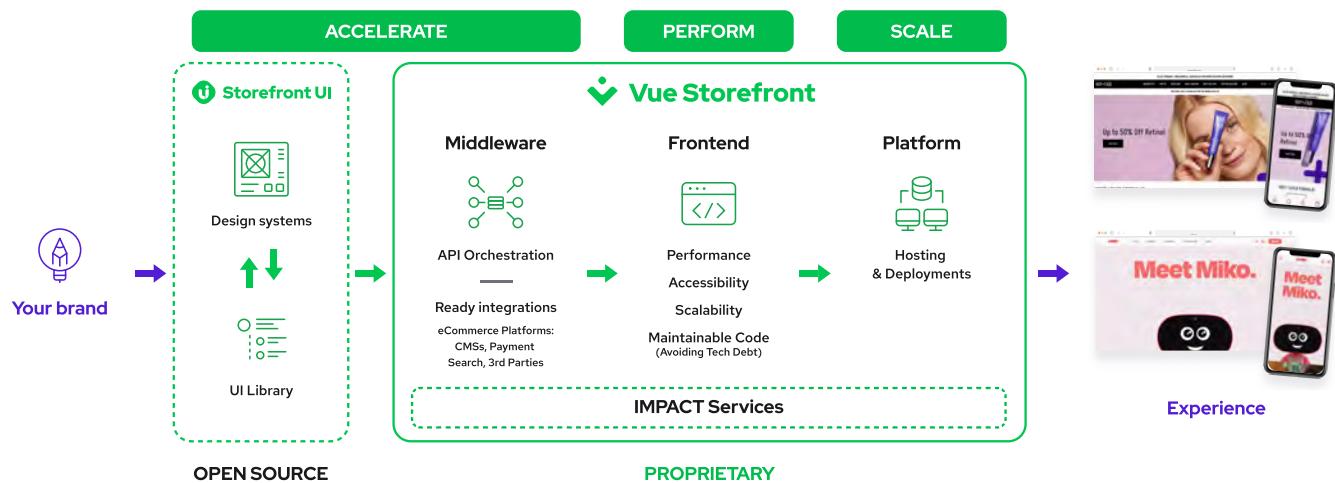


MACH technologies support a composable enterprise in which every component is pluggable, scalable, replaceable, and can be continuously improved through agile development to meet evolving business requirements.



CHAPTER 7

Begin your headless commerce journey with Vue Storefront



Vue Storefront helps commerce companies to provide a great experience for their customers through a well-performing frontend while increasing revenue, and drastically cutting costs on development and operations.

Vue Storefront is loved by developers. It is the most popular, and fastest-growing Frontend as a Service for composable commerce. Its performance-oriented architecture combines mobile friendly experience and an API-driven approach that enables eCommerce to build flexible, futureproof webshops.



The core offering can be broken down into three categories:

Accelerate:

Our customizable Storefront UI library helps you to adopt best practices for great customer experience and to accelerate development. On top of this, benefit from an API orchestration layer that lets you connect with the best-of-breed eCommerce Platforms, Headless CMSs, payment systems, and Search tools out of the box.

Perform:

We provide a performant architecture with support with SLAs to make sure your website always provides an outstanding experience backed by lightning fast websites.

Scale:

Use various techniques, like CDN, and caching, so you can provide an excellent experience for your visitors regardless of their geographical location, or sudden traffic spikes, like Black Friday, without any extra effort.

Developers can be free from leaving behind many time-consuming, repetitive, and optimization tasks thanks to our efficient and scalable cloud infrastructure, fast and light frameworks, performance monitoring, and good practices perfected on 1,700+ stores.

1 Improved customer experience:

Out-of-the-box ultrafast architecture both for mobile and desktop. Decreased page load times, and our customizable frontend templates translate to improved customer experience, bumped up conversion rates, and revenue boost.

2 Higher ROI:

Get to market faster, thanks to our customizable frontend templates, out-of-the-box integrations, and supercharged website speed. Vue Storefront helps to cut down on Total Cost of Ownership (DevOps, maintenance, development), while increasing revenue.

**3**

Average Session Duration

This measures the average length of sessions on a website. Longer sessions indicate highly-engaged users, while turbulence calls for changes and optimization.

4

Win back your focus on your core business:

There is no need to reinvent the wheel. Build what is unique for your business and utilize our architecture, best practices, frontend components common for all eCommerce sites. Let your teams focus on your core business logic and customization – get all the tools to go live with tight schedules.

5

Future-proof and scalable:

Expand your geographic reach and scale customer traffic flexibly. Satisfy local needs with our multi store support, and easily handle unexpected traffic peaks with auto-scaling. Implement any frontend feature imaginable, as well as seamlessly migrate to another backend if needed. All this without vendor lock-in.

6

Fully managed infrastructure:

Don't lose sleep worrying about all the details of maintenance. Vue Storefront provides 99.8% uptime SLA, automated scalability, and disaster recovery. Our frontend and infrastructure experts have already helped enterprise businesses all around the globe achieve stable infrastructure and save costs.

REQUEST A DEMO!

Thank you for reading the eBook!

If you have any questions, feel free
to contact our team

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