KONTENT.AI

The ultimate guide to a headless CMS

by Kontent.ai Team

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TL;DR (If you read nothing else, read this)

The future is now: Engage customers through new channels

Your customers are increasingly using mobile apps, virtual reality, augmented reality, chat, voice-controlled digital assistants, smart wearables, and various Internet of Things devices. If you're not connecting with them through these new channels, you're missing an opportunity.

Traditional web-oriented Content Management Systems aren't ready for this

You need a new type of CMS that was built for omnichannel content management and delivery from the very beginning—a headless CMS. A headless CMS focuses on content management and provides an Application Programming Interface (API) that makes the content available on any device and any platform.

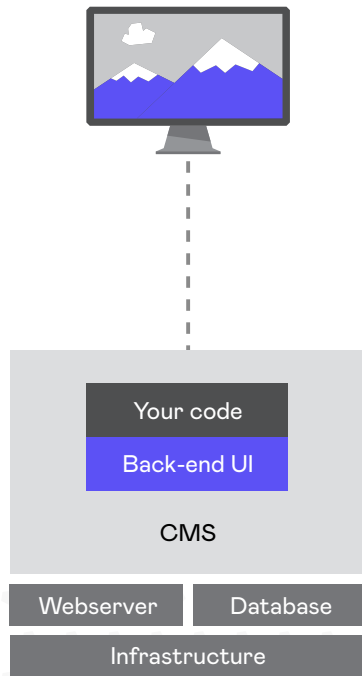## Take complete control over your content

With a modern CMS, you can create content once and then use it across multiple platforms such as websites, mobile apps, social media, and others. This saves time and reduces the risk of inconsistencies, as all of the content will come from a single source of truth.

In addition to improving the efficiency of content creation, a modern CMS can also streamline internal processes. The ability to manage content from a central location makes it easier for teams to collaborate, review and approve content, and keep track of changes. This reduces the need for manual processes and minimizes the risk of errors.
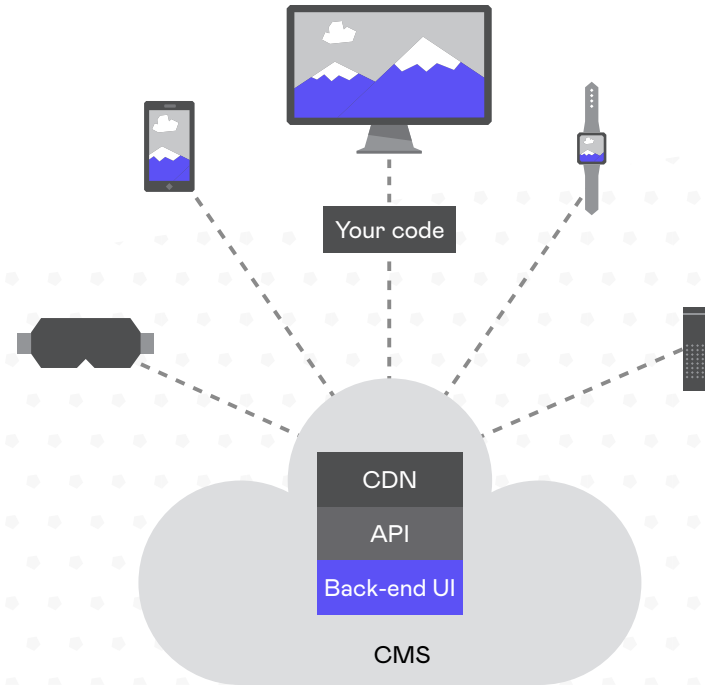
Stay ahead of your competition

An AI-powered headless CMS is considered cutting-edge technology for large organizations that want to engage customers across an increasing number of channels. This book will explain how the headless approach compares to others and will help you make an informed decision.
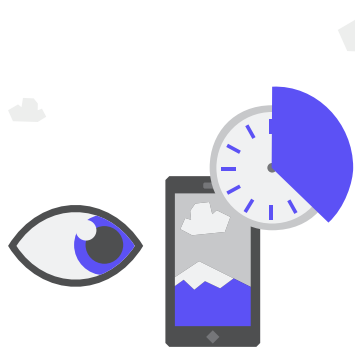
Traditional CMS

Your code

Back-end UI

CMS

Webserver	Database
Infrastructure	

Headless CMS

Your code

CDN

API

Back-end UI

CMS

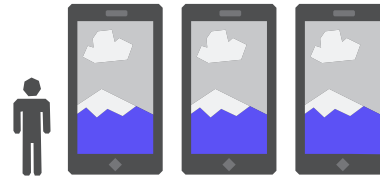# The world has changed and so must the CMS

1 Why multichannel engagement matters to every business

4.5 hours on a phone each day

The average time spent daily on a phone is expected to reach 4.5 hours in 2023, which emphasizes the importance of having a strong presence on mobile devices.
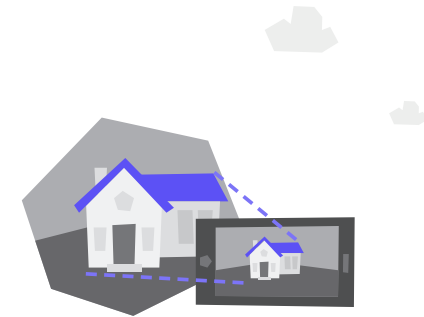
Source: Statista (2022)

Connected devices to be 3x the global population

In 2023, there's going to be more than three times more networked devices on Earth than humans.

Source: RCR Wireless News (2021)

1.4 billion people using Augmented Reality technology

By the end of 2023, there will be 1.4 billion Augmented Reality (AR) device users.

Source: XR Today (2022)

2 We need a new way of managing content in this multichannel world

Gone are the days when a single platform or channel could suffice for businesses to connect with their target audience. The rapidly evolving technological landscape has given rise to four major trends. Let's have a close look at each of them:

Multichannel

In the new multichannel world, your content may be consumed on any number of devices. If you do not want to miss the opportunity of truly engaging with your customers, you need to make sure your content is ready for multiple channels. This requires a whole new mindset in structuring, organizing, managing, and presenting content.

Unfortunately, traditional CMS systems were built with just websites in mind and, although they do support structured content, the multichannel approach is an afterthought for them and they do not support the new paradigm well.

Modular content strategy

The term "modular approach to content" means your content is divided into smaller, reusable pieces. It can be easily reused across multiple platforms, allowing for greater flexibility as these pieces can be recombined and modified to fit the needs of different channels and contexts.

Additionally, modular content allows for greater collaboration between teams and departments—pieces of content can be created and managed by a large number of people while still maintaining a consistent voice and message.

Single source of truth

With multiple departments and teams, it's easy for information to become fragmented and duplicated, leading to confusion and mistakes. By having a central content hub, organizations can eliminate inconsistencies and ensure everyone is working on the latest version of content.

This can help improve decision-making, streamline processes, and ultimately lead to better outcomes for the organization. Moreover, having a single source of truth also helps businesses stay compliant with industry regulations and standards, as it ensures that all information is accurate, up to date, and easily accessible.

MACH architecture

MACH stands for Microservices-based, API-first, Cloud-based, and Headless, and is a set of technology principles for building enterprise software in 2022 and beyond.

With a microservices-based approach, an organization can break down its applications into smaller, independent services that can be developed, deployed, and scaled independently. This not only leads to faster development times but also enables teams to work on specific parts of the application without affecting the overall system.

Using these modular components, organizations can quickly assemble powerful digital experiences that are tailored to meet the needs of their customers.
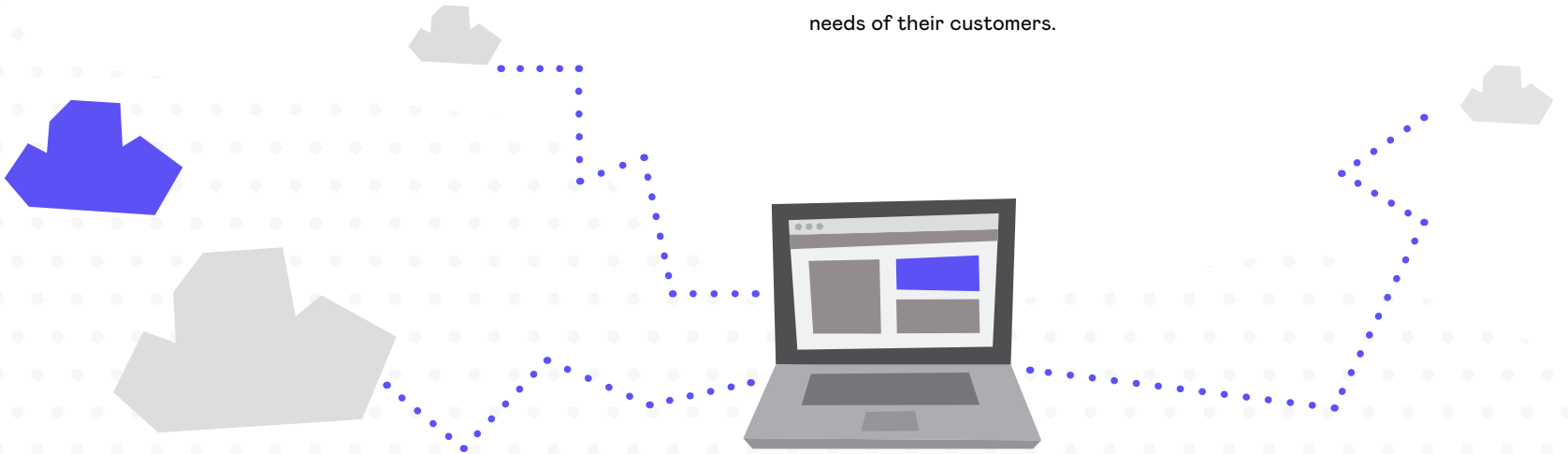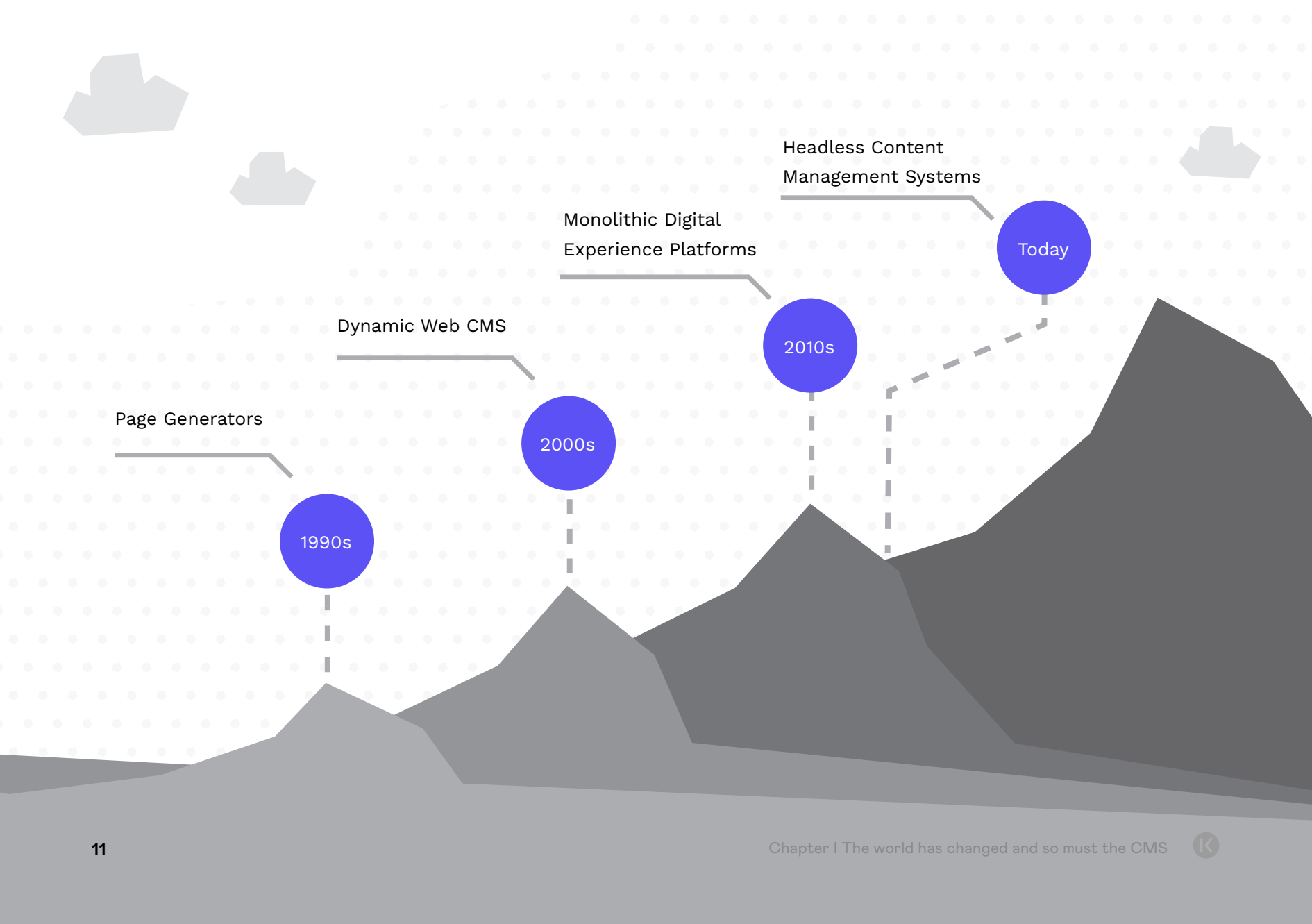
3 Current trends are driving the need for a scalable CMS solution

The trends described in this chapter emphasize the importance of breaking down content into smaller, reusable components, which can be easily assembled to create digital experiences across multiple channels.

The increasing number of channels, devices, and touchpoints requires organizations to have a flexible and scalable content management solution that can keep up with the pace of change.

In the next chapter, we'll take a closer look at each type of CMS and its pros and cons.

Headless Content
Management Systems

Monolithic Digital
Experience Platforms

Today

Dynamic Web CMS

2010s

Page Generators

2000s

1990s

How does a headless CMS work?

1 Headless CMS in a nutshell

A headless CMS is a content management system that allows you to manage content and access it from your applications using an API.

Unlike traditional CMS solutions, a headless CMS does without the presentation layer (the "head") that would dictate how the content should be displayed. Instead, you control the presentation completely with your own code.

This not only enables a content-first approach to your engagement with your audience (as content creators no longer have to wait for development teams to catch up) but it means you can use the same content across multiple channels—website, mobile app, digital assistant, virtual reality, smart watches, etc.—making the headless CMS the ideal solution for the fast-paced multichannel world.

Your code

CDN

API

Back-end UI

CMS
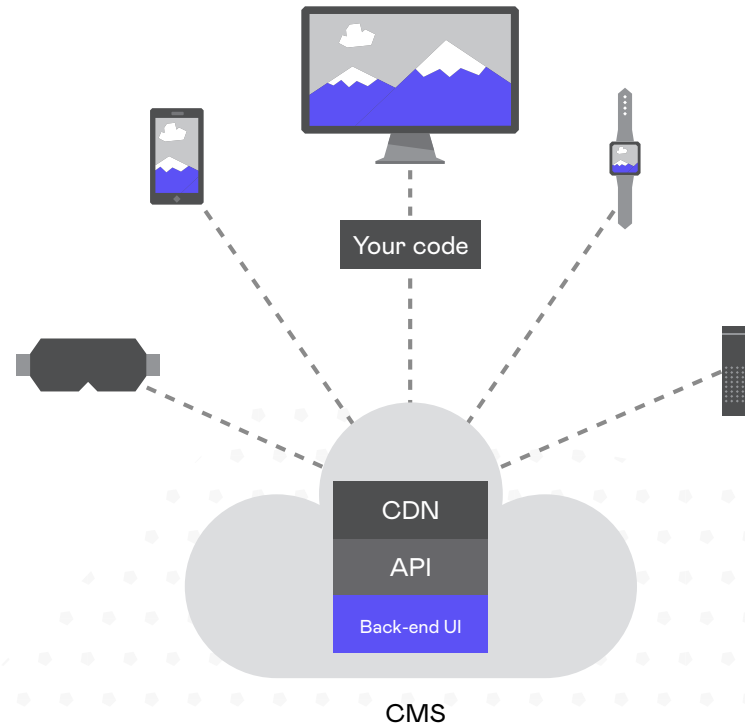
Theoretically, you can run an on-premise headless CMS, but you will get the most out of it if you use it as a cloud service. This is because the headless architecture allows CMS vendors to provide a true multi-tenant Software-as-a-Service (SaaS) product and look after the CMS for you while you focus on your applications.

Furthermore, modern headless CMSs come equipped with collaborative and project management tools, granting global content teams greater control and oversight over what gets published, where, and when.

2 Coupled, decoupled, or headless?

When you're choosing a new CMS, it's important that you understand the differences in various architectural approaches used by different products. While this may look like a technical detail, it has a big impact on how the CMS will support your business goals now and in the future.

Coupled CMS

**Most traditional CMS systems are built as a coupled CMSs**
The coupled architecture combines everything in a single application: the content repository, back-end user interface for editors, templating system, as well as your custom code.
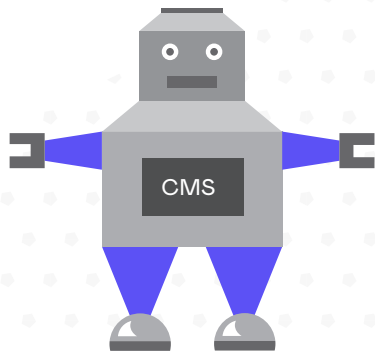
Decoupled CMS

A decoupled CMS for better separation of concerns
In this case, you make all modifications in the content management environment (typically behind the firewall) and synchronize the published content with the content delivery environment.
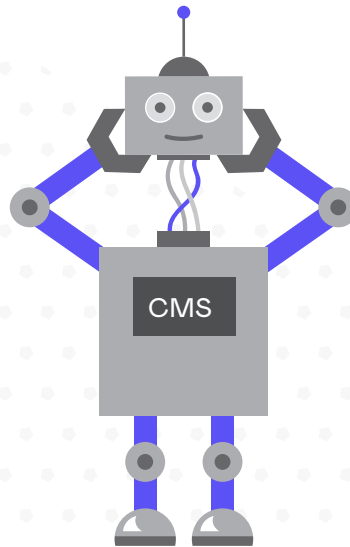
Headless CMS

Headless CMS: no head, no limits
A headless CMS makes the presentation layer much more flexible as it eliminates the front-end part: by providing the content through its application programming interface (API), it can be used on any platform and on any device to retrieve and display the content.
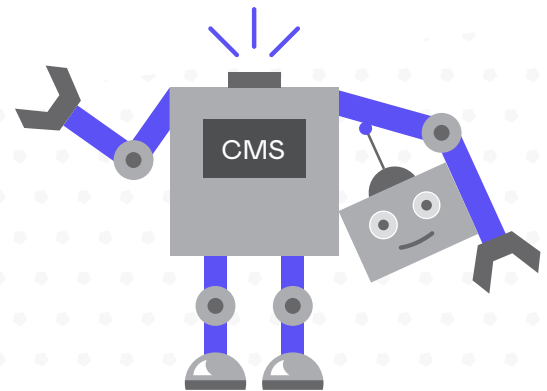
3 Which architecture is right for you?

Coupled CMS

Pros

> This approach is very popular as it only requires a single environment and it's easy to set up and manage.

Cons

> The CMS code is tightly connected with your templates and custom code, meaning you need to look after your own code as well as the CMS code during the whole application life cycle (installation, upgrades, hotfixes, code versioning, continuous deployment, etc.).

> The CMS code is exposed on the public server which increases security risks.

> The load on your website impacts the performance of your content management back end, and vice versa.

While coupled CMSs may also provide an API for non-web channels, they weren't built as API-first solutions and do not provide the benefits of a true headless CMS (see chapter True headless-first versus "me too" headless CMS).

CMS

Front-end templates + Your code

Back-end UI

Webserver   Database

Infrastructure
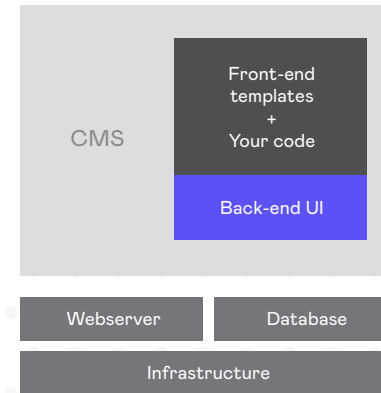
When to use
A coupled CMS may be a good fit for you when you plan to build a brochure website and you don't expect to publish to multiple channels.

Decoupled CMS

Pros

› This model provides better security, higher (though not full) separation of your custom code from the CMS, and easier scalability.

Cons

› You have to manage several environments, which multiplies the costs of infrastructure, ongoing maintenance, and software licenses.

The synchronization of content introduces potential issues, especially if your website enables members to contribute their own content that then needs to be synchronized back.
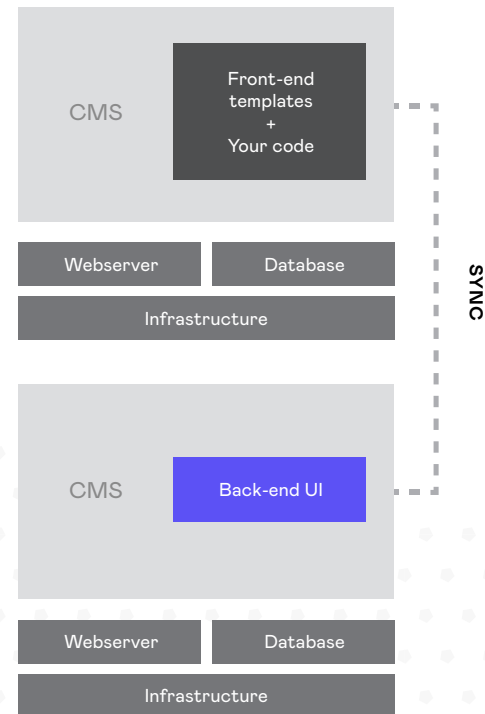
When to use
The decoupled CMS enables similar use cases to the coupled CMS, just with a more robust architecture. However, by nature, it's still primarily a web-focused solution.

Headless CMS

Pros

› The API makes the content available through any channel and on any device and allows you to make the CMS part of your microservices architecture.

› You can write your websites or mobile applications using any programming language, your favorite tools, and your own development process.

› You have full control over the application lifecycle without having to interfere with any CMS code.

› It provides higher security and much easier scalability.

› A modern headless CMS like Kontent.ai offers native AI skills that allow creators to securely leverage AI for content creation and optimization.

Cons

› A headless CMS offers more creative freedom but also requires a team of skilled developers since it doesn't come with any pre-built templates or themes.

› The idea of separating the front-end and back-end components and having content served through APIs can be challenging to understand for those who are used to traditional CMSs.

Your code
Webserver

CMS

API
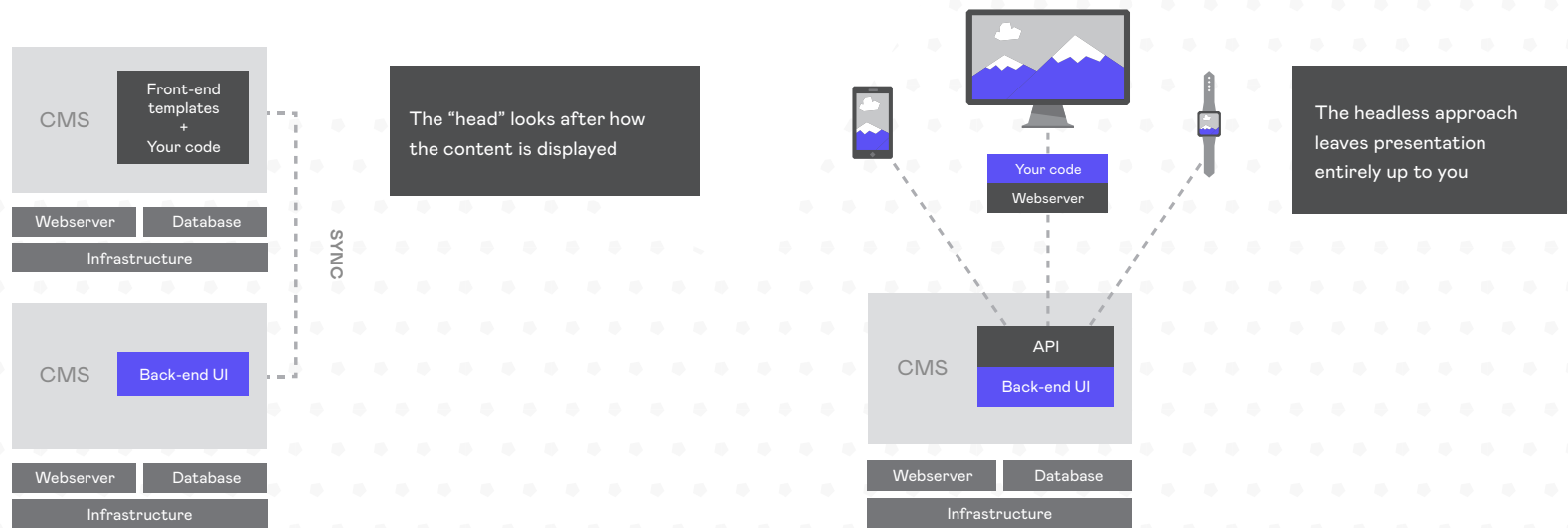Back-end UI

Webserver   Database

Infrastructure
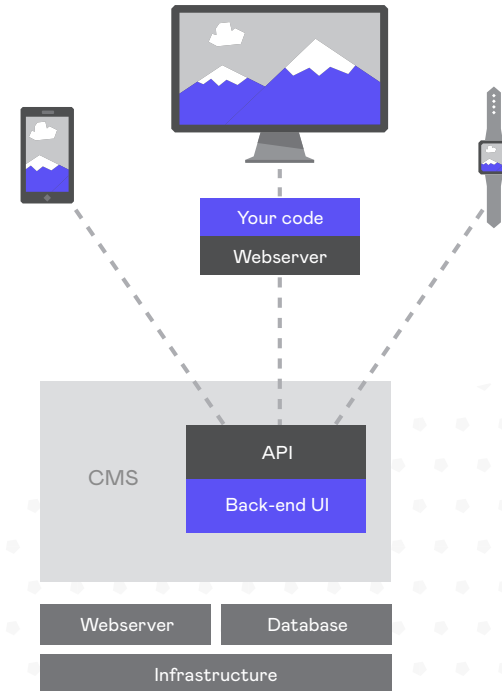
When to use
If you plan on supporting multiple channels, a headless CMS is your best choice. Whether it's a website, mobile app, voice interface, or something new, a headless platform allows you to deliver high-quality content across all devices and touchpoints in a consistent manner.

4 Understanding the differences: Decoupled versus headless CMS

There's a lot of confusion around "decoupled" and "headless" in the market. People may tell you things like "a decoupled CMS is just another name for a headless CMS". Unfortunately, that's a misunderstanding of the headless concept.

The decoupled CMS does separate the presentation layer (the "head") and the content management back end, but it still uses a templating model and is responsible for how the content is displayed.

CMS

Front-end templates + Your code

The "head" looks after how the content is displayed

Webserver | Database

Infrastructure

SYNC

CMS

Back-end UI

Webserver | Database

Infrastructure

Your code

Webserver

The headless approach leaves presentation entirely up to you

CMS

API

Back-end UI

Webserver | Database

Infrastructure

5 Understanding the differences: True headless-first versus "me too" headless CMS

Many traditional coupled or decoupled CMS systems provide some kind of REST API and claim they are "hybrid" or "also headless". You should be aware, however, of important details that make a big difference between a CMS that was designed with a headless or "API-first" approach in mind from the very beginning, versus a CMS for which the API was an afterthought.

Content model

A true headless CMS works with all content in a way that makes it possible to use the content for any channel.

Traditional web-oriented CMS systems often use concepts of pages and drag-and-drop interfaces that create content in a format that doesn't allow for content reuse.

Oftentimes you will discover that their REST API may not even make such content available or the way the content is provided makes it useless for other channels, like a mobile app.
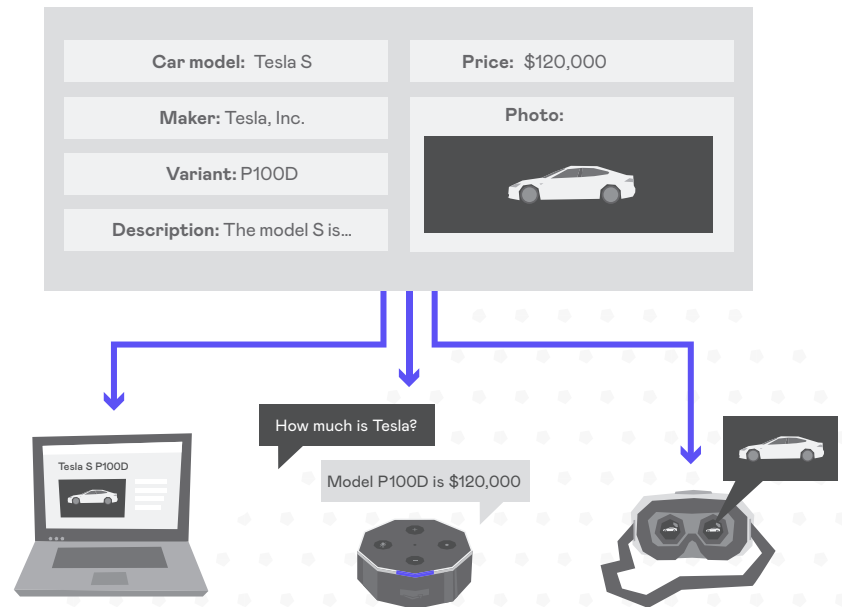
Robustness and performance of the API

A true headless CMS was built with an API-first approach.

Its creators usually pay a lot of attention to the API and the whole solution is designed in a way that enables its full power.

Traditional CMS products often provide just a pure REST API, lacking the additional elements that ensure high scalability and security of the APIs in real-world applications. They usually don't provide a Content Delivery Network (CDN) to ensure global coverage, or high speed or high service availability, which has a considerable negative impact on its overall performance.
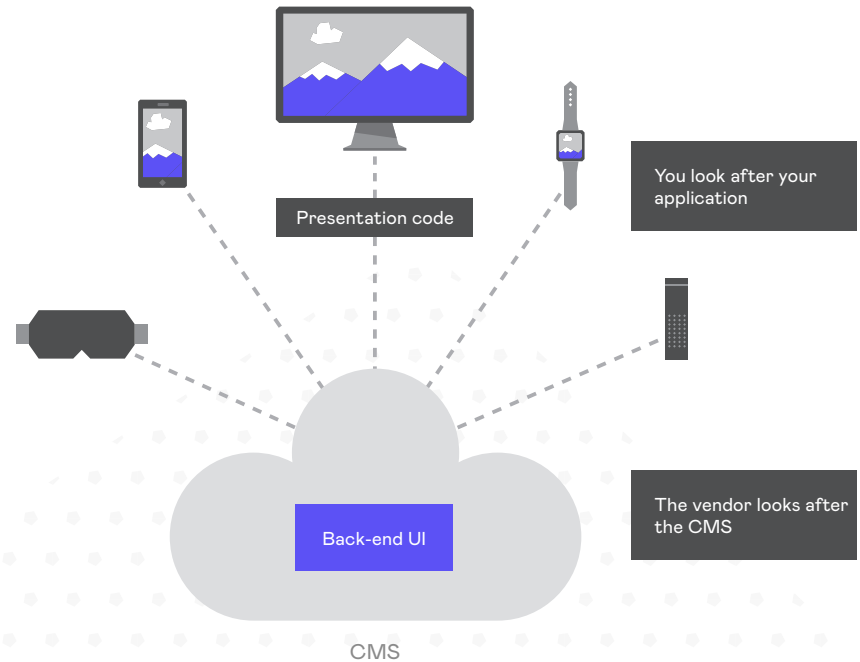
6 Understanding the differences:
True SaaS CMS versus CMS hosted in the Cloud

Software as a Service model

The most revolutionary aspect of the headless approach is that it enables CMS vendors to provide a CMS in a true multi-tenant Software-as-Service model.

This wasn't possible with traditional CMS models that combined both content management and content presentation.

In fact, it's one of the main reasons traditional CMS vendors only provide single-tenant managed hosting or Platform as a Service (PaaS) hosting for their products. Such models, however, don't unlock all the benefits of the Cloud, as we explain later in the chapter "Choosing your hosting model".

Presentation code

You look after your application

The vendor looks after the CMS

Back-end UI

CMS

7 Other options to consider

In order to give you a complete overview of your CMS options, we've included some alternatives that may fit certain scenarios.

Static site generators

Static site generators aren't actually a CMS. These are usually frameworks or scripts that take content provided in a specific format and use it to generate static HTML files that can be hosted on any server.

This option is popular for smaller websites that change infrequently and don't need to provide any kind of personalization or other dynamic elements.

In order to provide a user-friendly editing interface, it's common to use a headless CMS as the source of content for a static site generator. You can also use headless CMS webhooks that notify your site-generating code when content is updated so it can generate and upload a new version of the website to the server.

Static site generators are focused on HTML websites, so they do not support other channels.

CMS

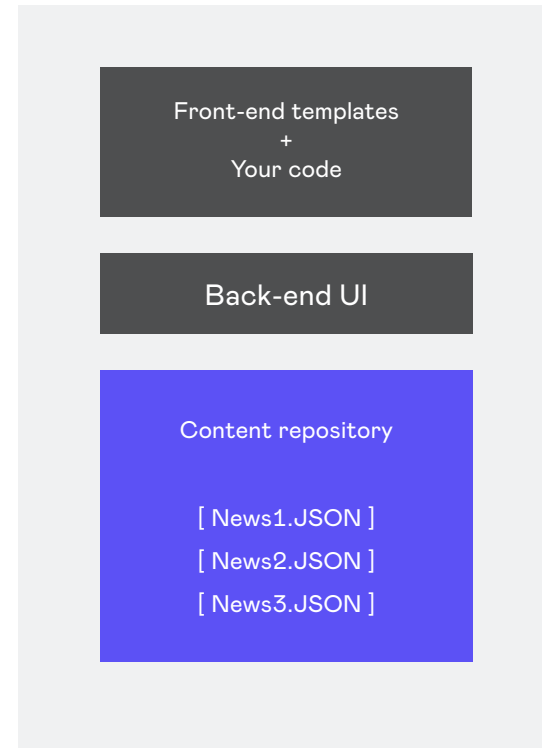Website Generator

Static HTML Website
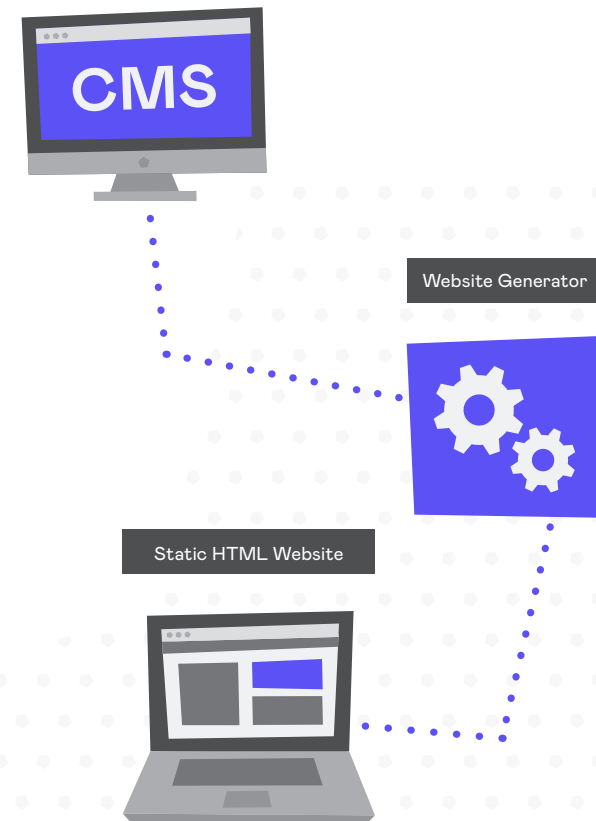
Flat-file CMS

Flat-file CMS systems are usually coupled, web-oriented systems that use a file system to store the content in a structured format, such as XML or JSON files.

This means they don't use SQL databases, which makes their server footprint smaller and makes them easier to deploy or migrate to other servers.

This is an interesting option for companies that want a custom, dynamic, CMS-powered website with very low hosting costs.

This model, however, doesn't scale for large websites.

Front-end templates
+
Your code

Back-end UI

Content repository

[News1.JSON]
[News2.JSON]
[News3.JSON]

Website builders

Website builders include SaaS solutions like Wix, Squarespace, Webnode, and others. These products are great for simple template-based websites. They're very easy to set up and even non-technical users can create a great-looking website in a couple of hours.

They are, however, not suitable for organizations that want a fully custom solution with specific functionality or integrations.

They also aren't a true CMS as they do not allow for management of structured content—they only support page editing and a limited number of predefined content types, such as blog posts or news, and don't allow you to define your own content types.

While these builders allow you to create responsive websites, they offer no (or very limited) capabilities for any other channels.

Website Builders |
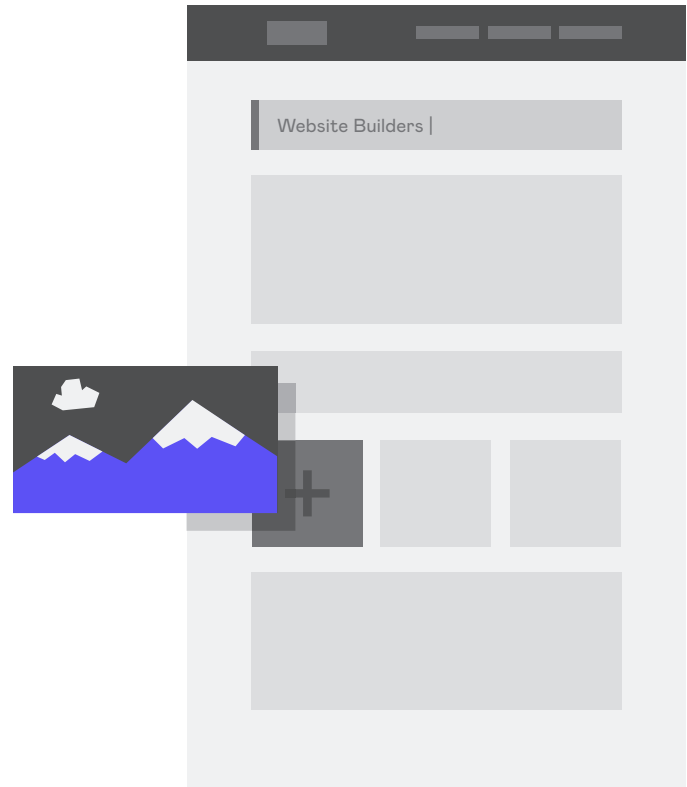
Choosing your
hosting model

1 On premise, managed cloud, or SaaS?

You can choose from a number of CMS hosting models. Very few customers run their CMS as a true on-premise solution on their own servers. These days, most customers leverage a cloud hosting model. In most cases, however, they just manage a CMS installation in the Cloud themselves or have a vendor manage it for them. This approach doesn't allow customers to fully leverage all the benefits of the Cloud. The new headless model finally allows vendors to provide a CMS as Software as a Service (SaaS). Let's have a look at each option:
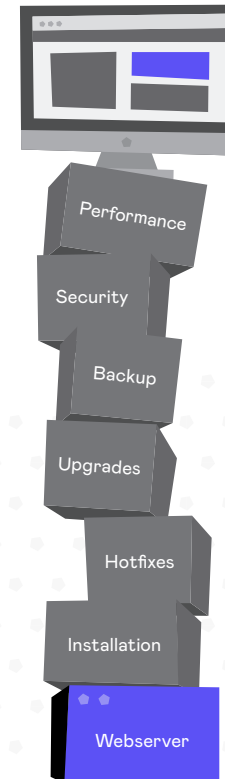
Self-hosted on premise

If you run a traditional CMS on premise you need to manage the:

› configuring of a web server
› installation of the CMS
› application of hotfixes and upgrades
› ensurance of backup, security, and performance

…and only after that can you work on your website.

That's why more and more customers are looking for a better model.

Self-hosted in the Cloud

Even if you install your CMS in the Cloud, such as Amazon Web Services or Microsoft Azure, you still need to babysit it. The only advantage is that you no longer need to worry about the infrastructure or the underlying platform.

Managed cloud hosting

Some traditional CMS vendors offer managed cloud hosting for their CMS.

While your first reaction might be "Wow, they take care of everything!", it lacks the flexibility one would expect: with every change of the code, you typically need to talk to the vendor and ask them to deploy it to your production environment.

Moreover, while this model moves the inefficiencies from you to the vendor, at the end of the day, you pay for them.
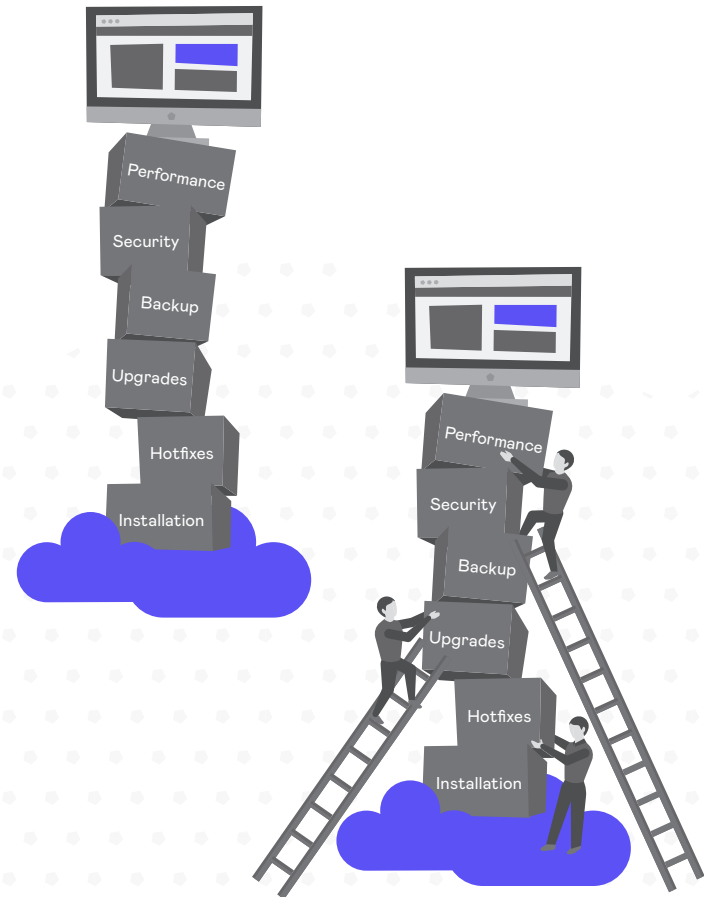
Platform as a Service (PaaS)

This model is based on a unified CMS configuration that allows vendors to automate what would otherwise be manually managed cloud hosting.

The problem is, you may not be able to use certain plugins or create certain customizations. You also only have limited control over the hosting environment and you still have to test your website after each upgrade and hotfix to make sure it's not broken.

The PaaS model still lacks the elegance and efficiency you would expect from a true cloud service.

Performance

Security

Backup

Upgrades

Hotfixes

Installation
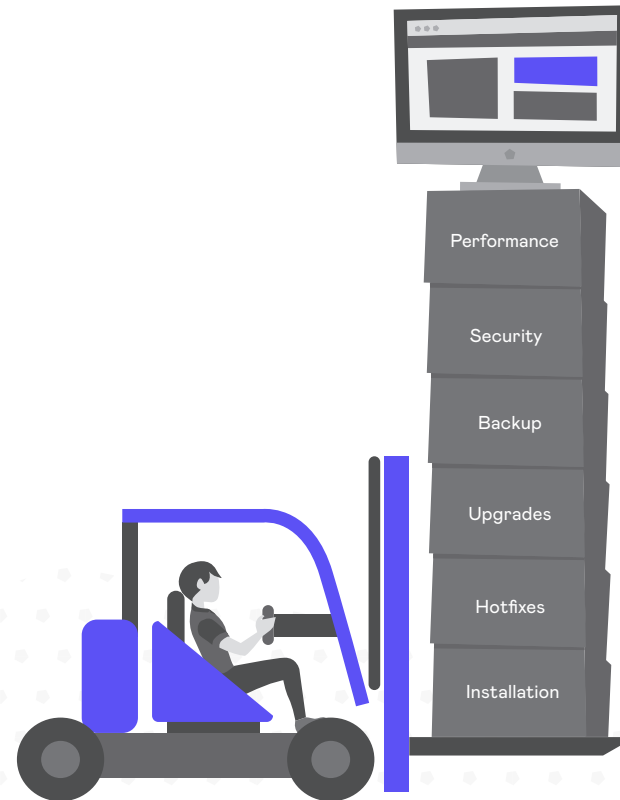
Software as a Service (SaaS)

The headless approach separates the concerns of the vendor (running a CMS) and the client (creating a website or other application that consumes the content).

With SaaS, the vendor provides all customers with the same up-to-date CMS, high availability, security, and performance.

This means you only look after your own solution.

This model allows both vendors and customers to get all the benefits of the Cloud and achieve higher agility at lower operating costs.

Your code

Webserver

CDN

API

Back-end UI

CMS
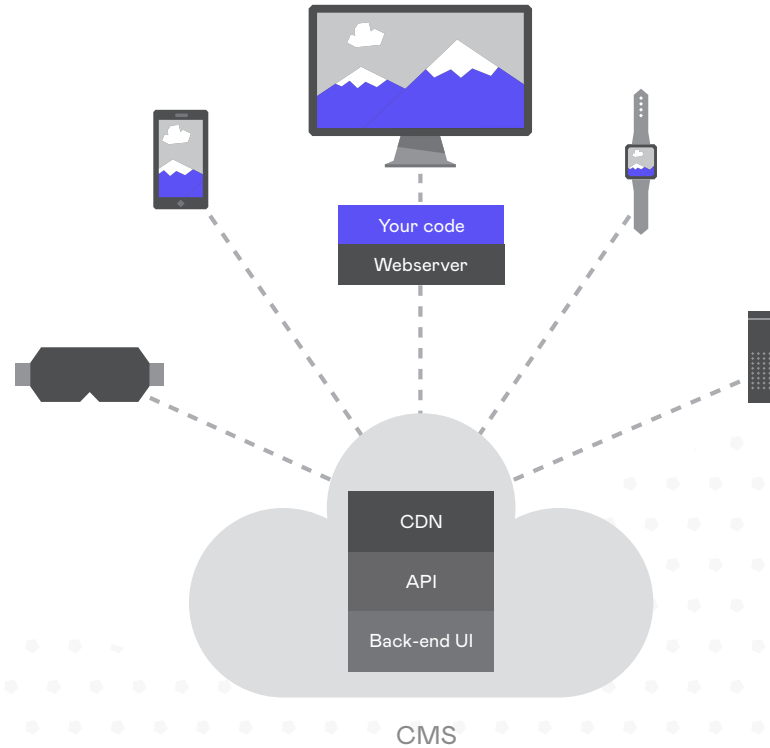
2 Cloud-first headless CMS: your peace of mind

As previously mentioned, the headless model enables vendors to provide a CMS as a true Software-as-a-Service (SaaS) solution. This wasn't possible before and it means a major revolution to the whole CMS industry. While you can use an on-premise headless CMS, it would be like buying a hybrid car and using only its combustion engine. You should use a headless CMS that was built for the Cloud from the very beginning as it offers huge benefits over any other CMS model:
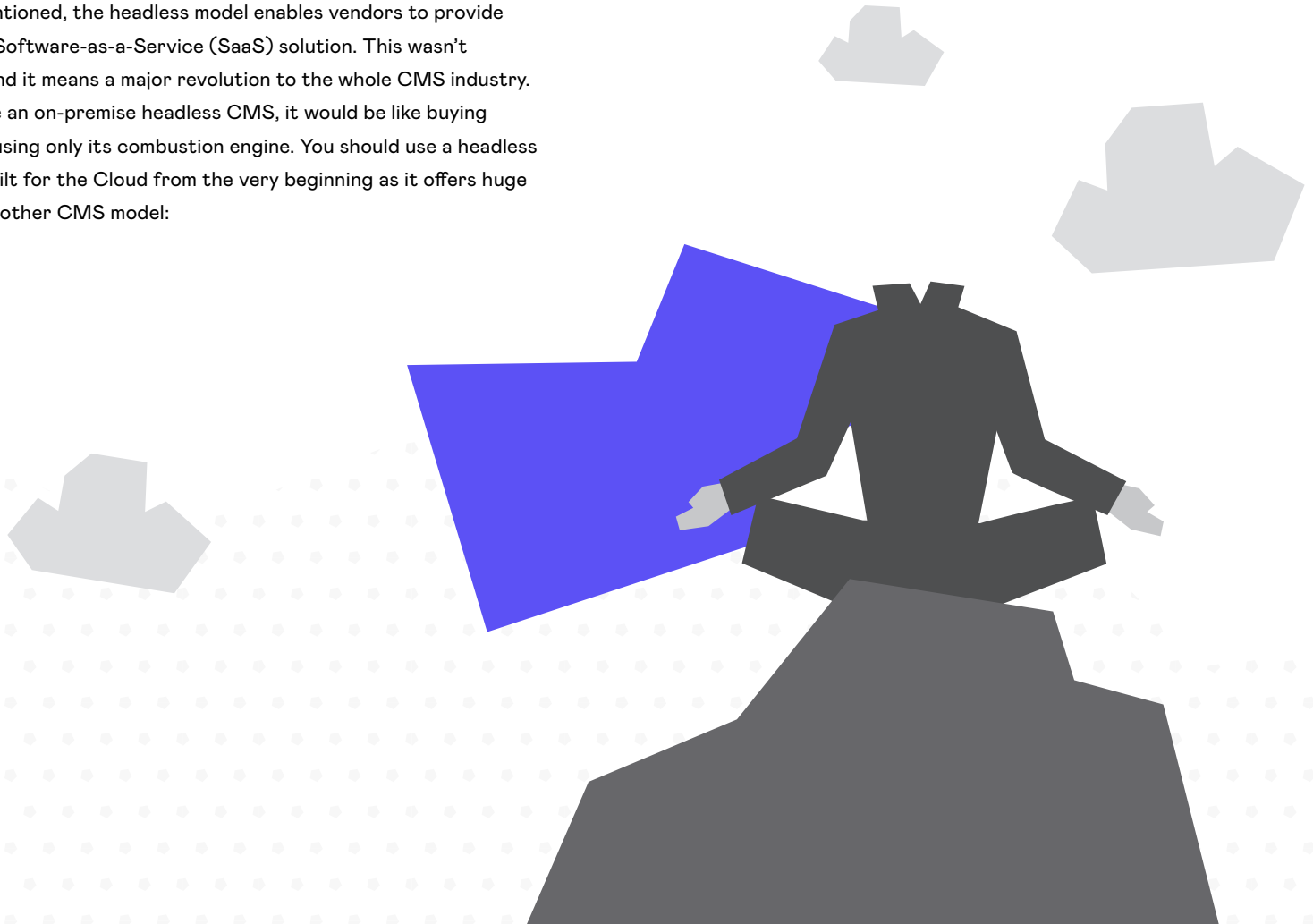
No worries about infrastructure and CMS

The SaaS model means that you do not need to worry about any underlying infrastructure or middleware. You can forget about:

> Web server maintenance
> Database server maintenance
> Backups

...and other pains connected with running a CMS. All you do is manage your content and retrieve it through an API!

Better security

Since the headless CMS is managed by the vendor who deeply understands its architecture and underlying infrastructure, it's much easier for the vendor to ensure proper security. Moreover, when the vendor fixes a security flaw, it's fixed immediately for all customers, giving hackers a much smaller window of opportunity. It's true that you still need to make sure your own code is secure, but it's much easier than securing a large monolithic CMS application as well as third-party plugins.

No painful upgrades

With a headless CMS, you are always using the latest version of the CMS, without going through painful and costly upgrades. Is there a new version of a browser? A security threat new on the scene? Or new legislation to comply with? No worries, the vendor takes care of that and you benefit from any new functionality immediately.

Infinite scalability and high availability

The headless CMS model allows vendors to fully leverage the power of the Cloud and build a highly scalable architecture with high availability—and you can very easily build your solutions on top of that architecture without any effort!

Moreover, such a CMS typically uses a global Content Delivery Network (CDN) to deliver the content to any application anywhere in the world in no time. The CDNs are built for extreme load which makes the content delivery unbreakable, even if you run a Super Bowl commercial or your campaign goes viral.

When to use
a headless CMS

1 Should you use a headless or traditional CMS?

Choose a traditional CMS if:

> You want to host the CMS yourself on your servers or in the Cloud

> You only want to build a website and have no plans to support other channels

> You want to use the CMS as a development platform

> Your marketers can't change their "website-first" mindset

Choose a headless CMS if:

> You want to create content for multiple channels, not just a website

> You want to leverage all benefits of a true SaaS solution provided as a cloud service

> You want to build your applications using a microservices architecture

> Your marketers are able to adopt an omnichannel content strategy

2 When to use a headless CMS: Typical scenarios

Content hub—one place for all your content

A single source of truth is crucial for organizations looking to operate at scale. With a headless CMS, you can manage all your content in one place, from articles and blog posts to videos, images, and more. This allows you to safeguard your brand with content governance, ensuring that only approved content is published.

Moreover, a headless CMS allows you to make the most of your content and assets by enabling easy reuse and repurposing. It's like having a well-organized toolbox where each tool serves multiple purposes, and you can quickly grab the ones you need to complete a project without having to search through a cluttered mess.
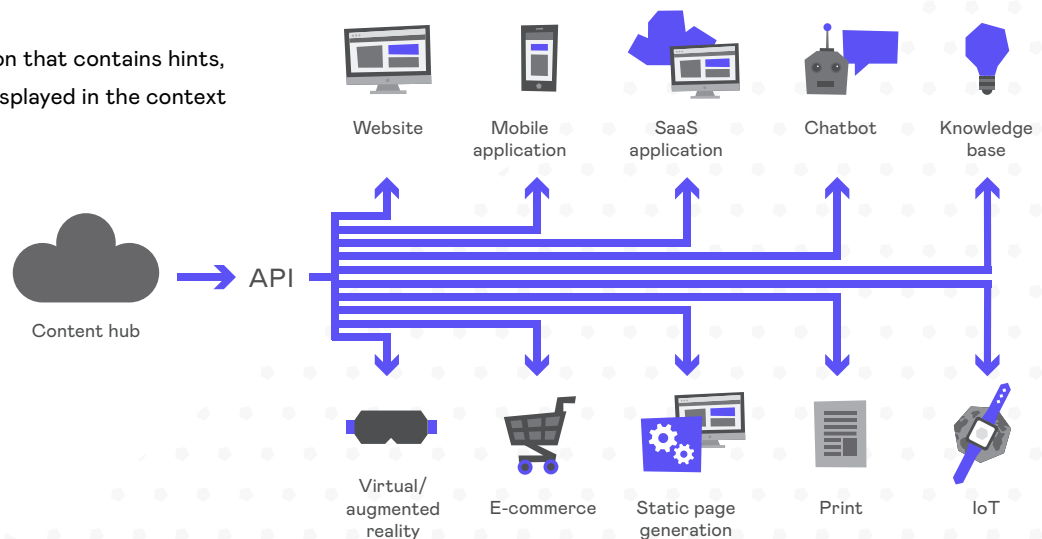
In short, centralizing all your content in one content hub makes it easier to stay organized, streamlines collaboration, and ensures that your content is consistent, compliant, and on-brand.

Legacy CMS →   ← Legacy CMS

PIM →   API delivery

ERP →   E-commerce

Content hub

Omnichannel content delivery

The API provided by a headless CMS allows you to deliver content to any channel, any device, and any platform. While many of these channels are obvious, let's have a look at some specific scenarios.

> Static page generation—you can use the headless CMS for content storage and then use script to generate static HTML files for your website.

> Conversational interfaces, such as digital assistants or chatbots, need a specific content structure that may not be well supported by traditional page-oriented systems.

> Microcontent for SaaS—think of a banking application that contains hints, short product descriptions, or various promotions displayed in the context of the application.

Website   Mobile application   SaaS application   Chatbot   Knowledge base

Content hub   →   API

Virtual/ augmented reality   E-commerce   Static page generation   Print   IoT

Complex content operations

If you have a large team of content creators, it can be a daunting task to keep everything organized and streamlined. That's why having a platform that helps you plan, create, and publish content is crucial. A headless CMS provides just that, enabling all team members to work together in real-time, regardless of their location.

Through a headless CMS, you can easily collaborate with your teammates and stakeholders to get feedback, share content ideas, and make quick changes to content. This leads to faster decision-making and eliminates the need for multiple communication channels.

In addition, a headless CMS streamlines processes to accelerate time to market. With tools like content calendars and workflows, you can easily manage and monitor content production and approval processes. This eliminates the need for manual tracking and reduces the risk of missed deadlines, ensuring timely publication of high-quality content.

Content hub

Export

Website

Mobile app

Knowledge base

E-commerce

Editors
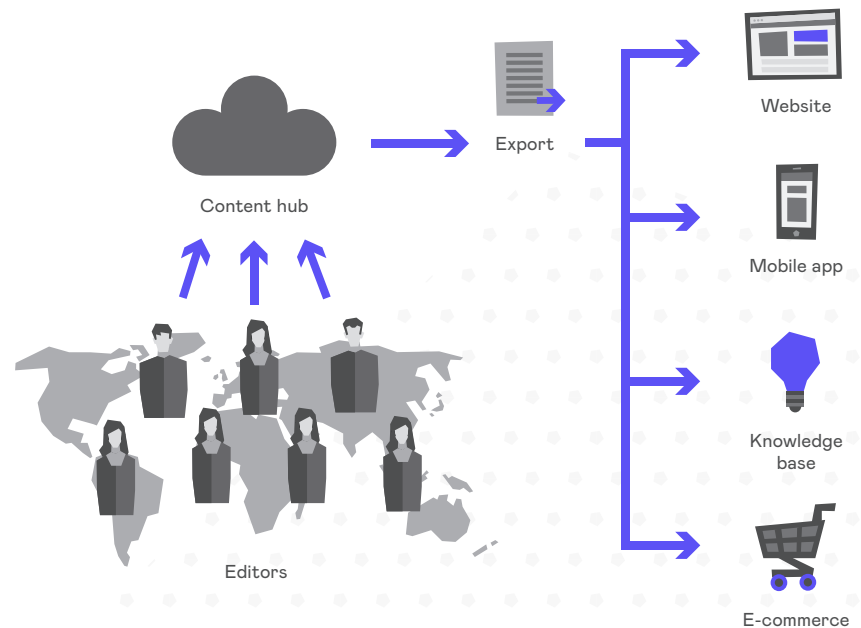
Need to provide localized content

Just like you wouldn't wear a swimsuit to a job interview or a suit to the beach, you wouldn't want to give your audience content that doesn't suit their cultural or linguistic context. Delivering localized content is like choosing the right outfit for the right occasion—it helps you make a good impression and ensures that your message resonates with your audience.

A headless CMS offers several benefits to organizations looking to maintain a consistent brand image across different regions. It enables governance for global content, ensuring that local teams comply with relevant regulations and policies. Additionally, headless CMSs like Kontent.ai offer AI translation so that content creators can effortlessly localize their message. With advanced machine learning algorithms, it provides accurate, context-aware translations that maintain the original tone and intent.

Overall, a headless CMS provides the tools needed to achieve a consistent brand image across regions while also empowering local teams to create content that connects with their audiences.

Regional Iteam

Global team

Regional content

Global content

Regional website

Global website
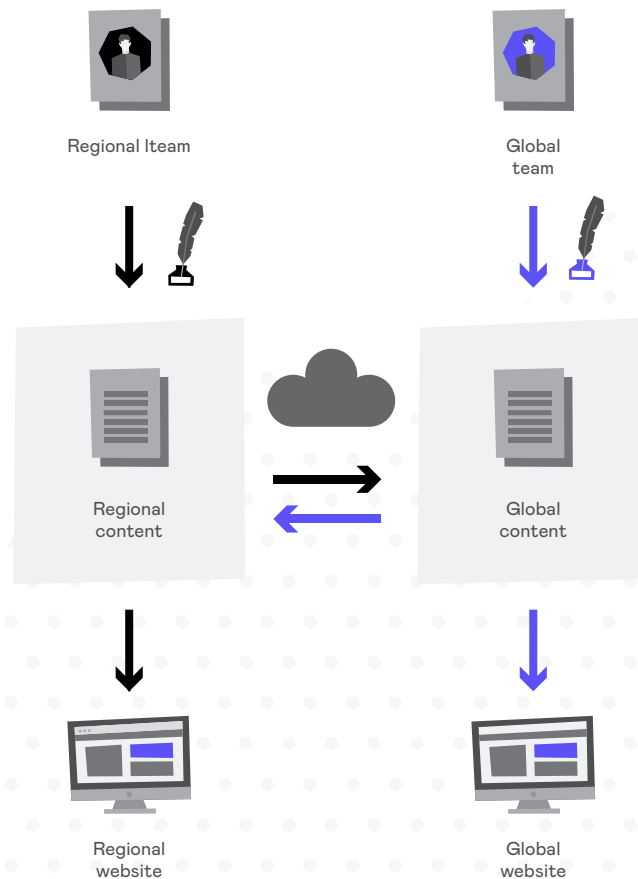
E-commerce

One of the key advantages of a headless CMS is that it enables businesses to create custom digital storefronts with a modern API-first approach. This means that businesses can create unique and engaging customer experiences that are tailored to their specific needs and preferences, whether it be through desktop, mobile, or other devices.

Moreover, e-commerce solutions built on headless CMS platforms make it easy for customers to discover and buy products. With the ability to personalize content and provide relevant product recommendations, businesses can make the shopping experience more enjoyable and increase customer loyalty.

Finally, a headless CMS provides businesses with a future-proof and secure e-commerce solution that can easily adapt to changing market conditions and customer needs. With its scalable architecture, a headless CMS allows businesses to add new features and functionalities as their needs evolve, making it a valuable long-term investment.
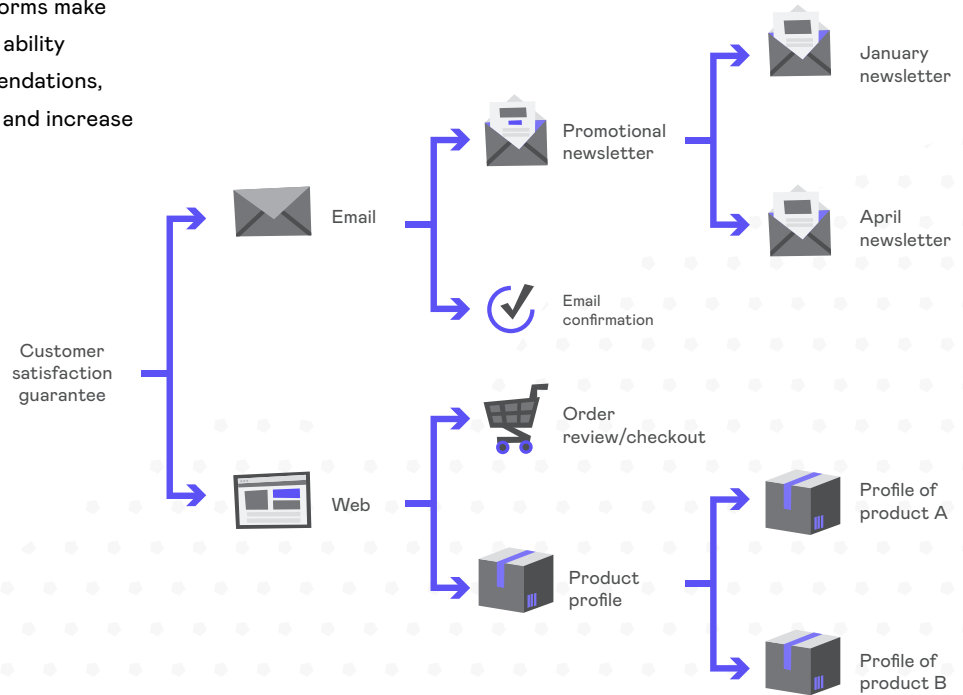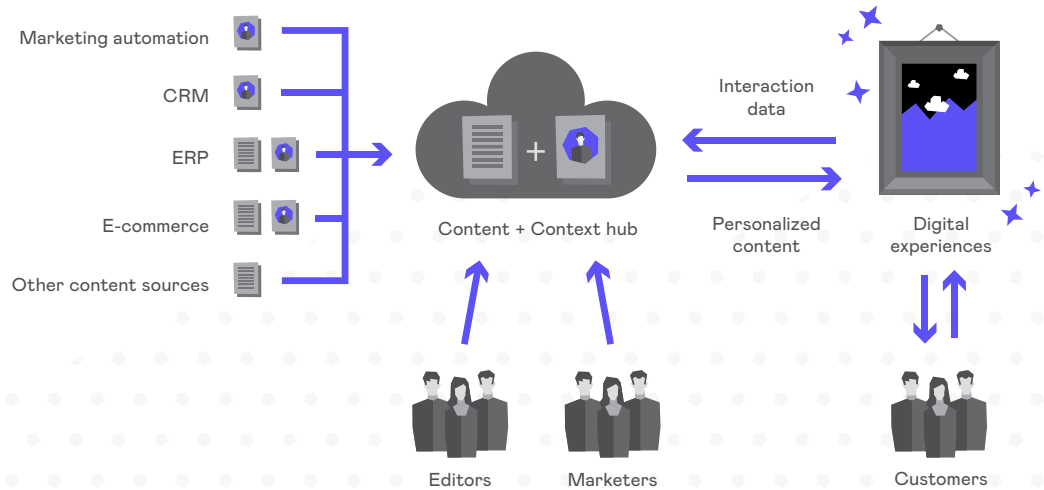
Personalized omnichannel experiences

As the headless CMS concept became more widely adopted, marketers also began to realize its potential. With a headless CMS, they can create and manage content more efficiently, and deliver it to any channel in a more personalized and engaging way.

By integrating with best-of-breed services, a headless CMS enables marketers to create targeted content that meets their customers' specific needs. With the ability to deliver personalized content based on visitors' behavior and preferences, businesses can tailor their content to different segments of their audience, driving engagement and building loyalty.

A headless CMS also empowers marketers and content editors to set up and view content recommendations using AI recommendation engines. This functionality helps businesses understand what content resonates with their audience and adjust their strategy accordingly. Marketers can use data-driven insights to optimize their content, making it more relevant, engaging, and effective. This level of personalization leads to a better user experience and can have a significant impact on conversion rates and customer satisfaction.

Marketing automation

CRM

ERP

E-commerce

Other content sources

Content + Context hub

Editors   Marketers

Interaction data

Personalized content

Digital experiences

Customers

Increase your
# digital agility with
a headless CMS

1 Replace waterfall with agile planning

Traditional CMS

With the traditional CMS, the project planning was driven by the technology. Since your content was tightly connected to your website design, you needed to figure out what the website would look like before you could start working on the content.

Moreover, you couldn't start entering the content into the CMS before developers had implemented the page templates.

This led to project delays and inefficiencies in content production: you either waited until the website was ready or you had to create your content in a temporary format, such as excel spreadsheets, and then copy & paste the content into the new CMS.

Brief

Content strategy

Design

HTML templates

Development

Content production
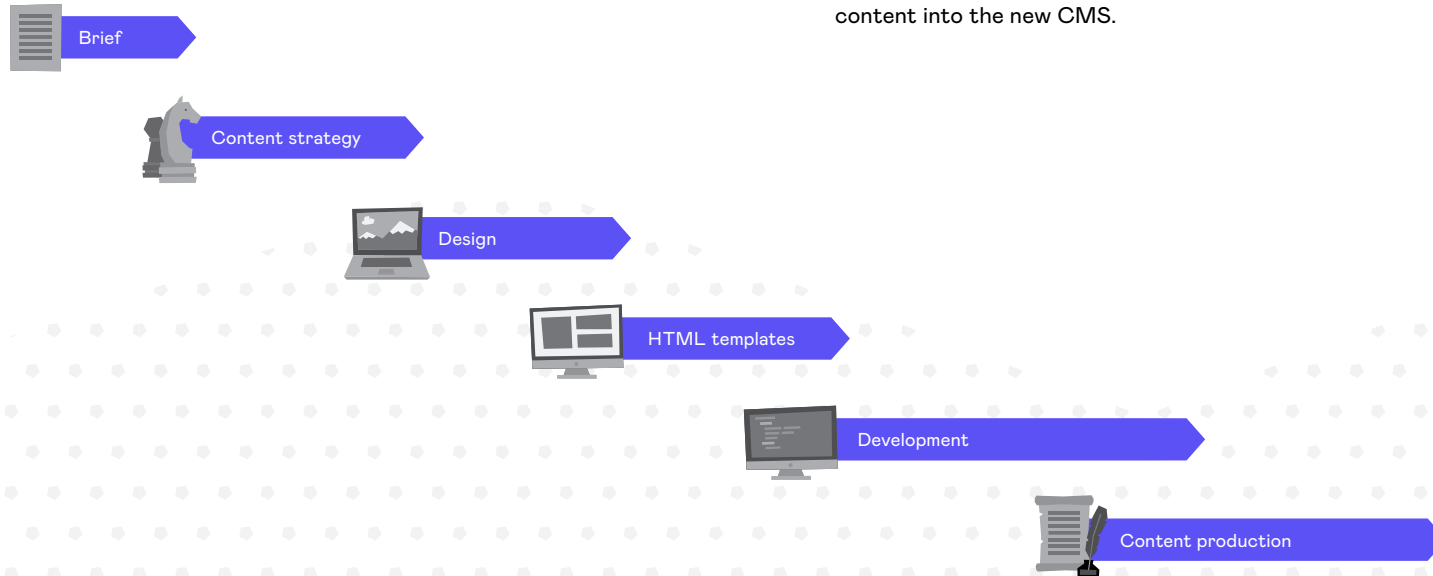
Headless CMS

The headless CMS naturally leads you to a content-first approach. Once you have a proper content strategy in place, you can start creating content in a structured format that can be used for any channel.

This means you don't have to wait for the CMS to be set up—you can produce content while developers create the website and other applications.

Moreover, the headless approach enables front-end and back-end developers to work more independently, allowing for better people allocation on the project.
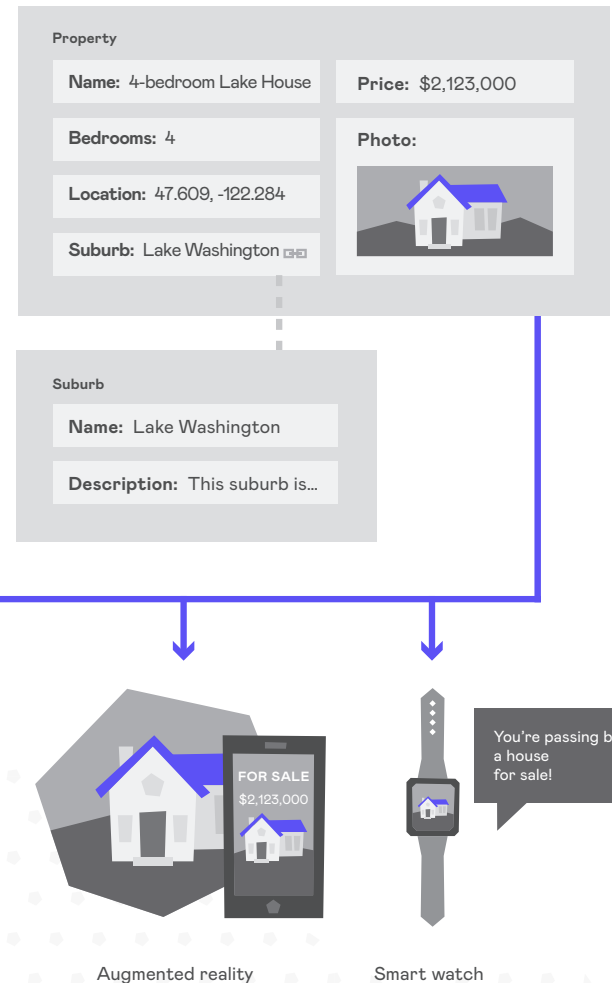
Overall, the headless approach shortens your time to market and makes your process much more agile.

Brief

Content strategy

Agile iterations

Content production

Design

HTML templates

Development
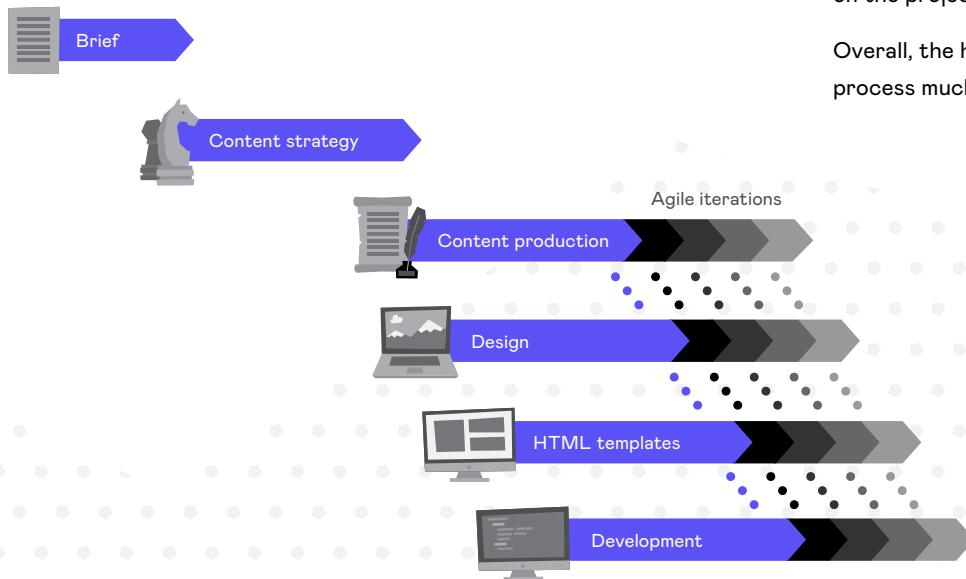
2 Replace "website" with "omnichannel"

The new multichannel world requires a major shift in how you think about content. In the web-only world, it's common that you organize your content based on pages and their layouts.

In the new omnichannel approach, content needs to be ready for any presentation, meaning you need to structure content in smaller chunks that provide semantics to each piece of content and allow for its reuse.

Property

Name: 4-bedroom Lake House   Price: $2,123,000

Bedrooms: 4   Photo:

Location: 47.609, -122.284

Suburb: Lake Washington

Suburb

Name: Lake Washington

Description: This suburb is…

Any houses for sale near Lake Washington?

Yes, how about this?

FOR SALE
$2,123,000

You're passing by a house for sale!

4-bedroom Lake House

Website   Virtual reality   Real-estate chatbot   Augmented reality   Smart watch

3 Replace your rigid IT process with mode 2 IT and DevOps

A traditional safety-first approach to IT has become a struggle for organizations that go through a digital transformation and need to become more agile.

Bringing up a new website or digital initiative in such an environment often takes many months, whereas marketers expect weeks.

As a result, marketers increasingly avoid their IT and choose sub-optimal technical solutions that consequently become a nightmare to manage.

The solution is what Gartner describes as bimodal IT: Mode 1 is focused on what is known making incremental improvements. Mode 2 is focused on exploring and experimenting.

A prerequisite to Mode 2 IT is embracing the DevOps approach. DevOps is a crossfunctional mode of working between product management, software development, and operations that is focused on rapid development with frequent releases.

Such an approach allows you to quickly test new ideas and change your direction as often as you need to.

As it's provided as a cloud service, you can avoid troublesome installation, maintenance, and upgrades and can rely on the vendor to take care of CMS security and performance for you. At the same time, you can easily integrate it into your environment through its API. The API-first architecture that clearly separates CMS from your code makes your continuous deployment process much easier compared to a traditional installed CMS.

A headless CMS represents a perfect fit for organizations seeking more agility.
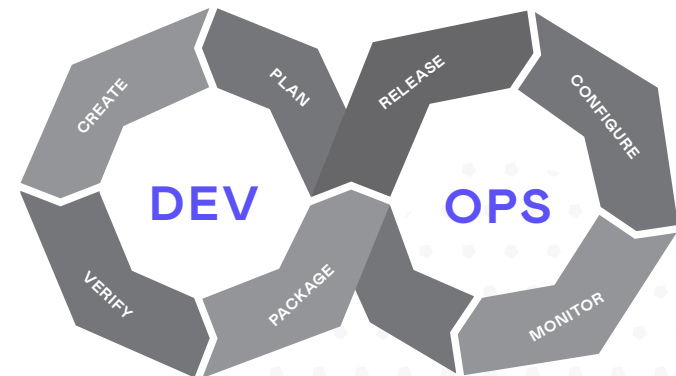
4 Replace a monolith with microservices

In the past, the only digital experience most companies provided was their website, typically built on top of a CMS. Any custom code was tightly connected to a CMS and glued to its monolithic architecture.

Today, brands need to provide a seamless experience across multiple channels, such as mobile applications, point-of-sale systems, social media, Internet of Things devices, virtual reality, digital assistants, and chatbots.

The growing number of customer touchpoints requires companies to provide a much broader set of applications.

This has lead developers to rethink their architecture and adopt the microservices approach where, instead of building a website on top of a CMS, they create their applications as a combination of multiple services.

They can create their own microservices, or they can use external services through their API as building blocks for their application. Instead of writing code from scratch or including third-party libraries in their code, they can simply call cloud-based services that do the job.

The question is no longer "Which plugins do we use for this website?", but "Which APIs do we use for our applications?"
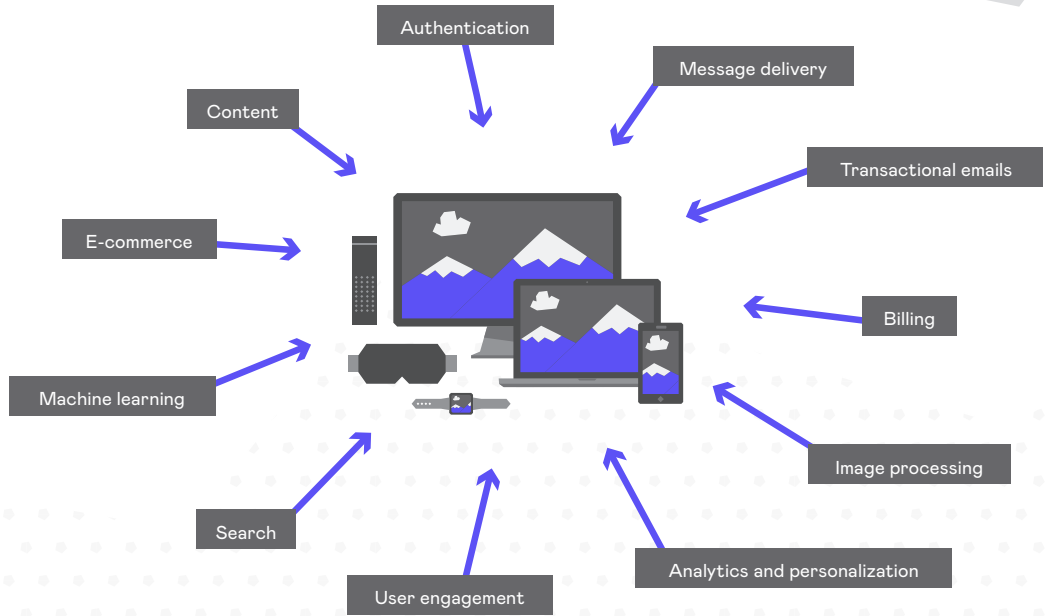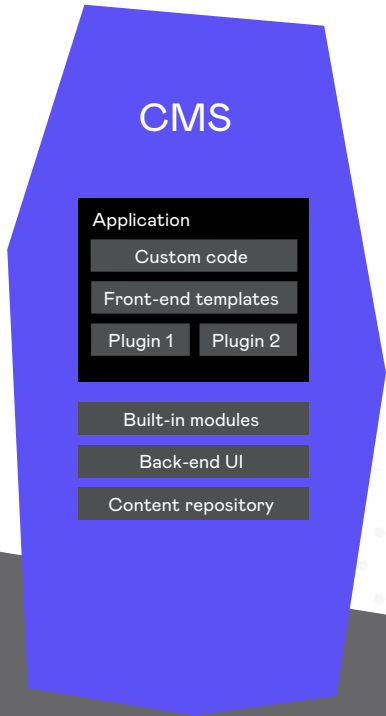
The use of microservices allows you to quickly assemble applications using multiple APIs from different vendors. What used to be a tedious integration task is now much easier.

These APIs are provided as a service which means you don't have to worry about running any software and you can benefit from ongoing innovation without complex upgrades.

The fact that you no longer build your application on top of a proprietary CMS platform, but rather as a compilation of easily replaceable APIs, means that you avoid vendor lock-in and extend the life of your code, thus protecting your investment in development.

CMS

Authentication

Message delivery

Content

Transactional emails

E-commerce

Application

Custom code

Front-end templates

Plugin 1   Plugin 2

Billing

Built-in modules

Back-end UI

Content repository

Machine learning

Image processing

Search

User engagement

Analytics and personalization

Summary

If you want to take control of your content operations and create a great digital experience for your customers, a headless CMS is the solution you need.

Now is the time to act: go to kontent.ai and see what an AI-powered headless CMS can do for you!

About the author

Petr Palas has one passion—Content Management Systems. In the past 20 years, he has written five CMSs. He's the founder of the leading headless CMS software company—Kontent.ai.

Petr Palas
Kontent.ai founder

The ultimate guide
to a headless CMS

Written by Petr Palas

About Kontent.ai

Kontent.ai's mission is to help the world's leading organizations achieve an unparalleled return on their content. In the industry's first AI-powered CMS, content teams plan, create, and optimize content and deliver it to any channel—quickly, securely, and flexibly. Kontent.ai is designed to support organizations with exacting governance requirements, often in highly regulated industries and with complex content supply chains.

Tight permissions control all operations; enterprise-grade security and privacy keep content safe. With a demonstrated ROI of 320%, Kontent.ai customers, including PPG, Elanco, Zurich Insurance, Cadbury, and Oxford University, benefit from a measurable step change in how their teams operate, increasing content velocity, mitigating risk, and maximizing yield. Kontent.ai is a Microsoft partner, MACH Alliance member, and recognized vendor by Gartner and Forrester. Learn more at: kontent.ai.

Want to see Kontent.ai in action?

Schedule a Demo