Demystifying headless content management

What it is, what it isn't and why
it matters for your business

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Creating conversations with content

Digital leaders are reimagining the way their businesses work with content. The focus is no longer just on how content is presented, but on how it's used. Presentation remains key to the overall experience for humans, but purpose and function are equally important.

So we see web pages composed on the fly based on who visitors are and what they're doing – creating a customer experience more like a conversation with your content than a passive experience of it. These conversations are increasingly immersive, and they flow from one touchpoint to the next as people switch device, channel or context.

We see customers conversing with brands 24/7, in more languages than ever before. They're not just having their questions answered – by humans or chatbots – but being offered integrated onward steps, such as moving instantly from a product query to an order. We see these conversations being boosted by the use of structured content to drive SEO and information findability.

And underpinning these conversations, increasingly, we see headless content management.

So what exactly is headless content management and why are digital leaders embracing it? To help you understand this rather murky area of the content management space and help you make the best choices for your organization, this guide will explore:

○ **Why headless content management developed and what it is**

○ **Its key benefits for your business and customers**

○ **Its limitations**

○ **Common misconceptions**

○ **Key factors to consider**

Headless content management: designed for an omnichannel world

A bit of context

In the early days of the web, when most online content was consumed through browsers, it was fine for web content management systems (CMSs) to have a monolithic application architecture, with the website – the front end – tightly coupled with the back end, designed for content input and organization. The back end would typically provide an editor where non-technical content creators could enter their content, then preview it to see how it would display. This developed into WYSIWYG (what you see is what you get) editing of pages, a more natural experience for content creators. We'll refer to this class of monolithic technologies as the 'traditional CMS'.

Today, the number of digital endpoints served by businesses has ballooned from the websites that started it all. Between social media, ecommerce sites, email, smartphone apps, IoT-connected products, OTT platforms, AR/VR applications and AI systems, suddenly there's a lot more content that needs to be delivered to multiple channels. Without the right tools for omnichannel content management, all organizations can do is manually copy/paste from one system to another, resulting in content duplication. Beyond being hugely inefficient, this creates real business risks from potential errors and the challenge of always keeping duplicate content up to date.

Enter the headless CMS

A headless CMS is one without a front end (or 'head'). It has a back end for content creation and management, but no way to turn that content into a particular presentation. It simply exposes content through an application programming interface (API), making it accessible to other technology that can query and use it.

This separation of content storage from presentation means that the CMS can offer its content to a variety of different front ends, for consumption in a variety of different ways. This is how organizations eliminate the arduous copy/paste work and make their content reusable in multiple channels and formats without duplication – known as COPE (create once, publish everywhere).
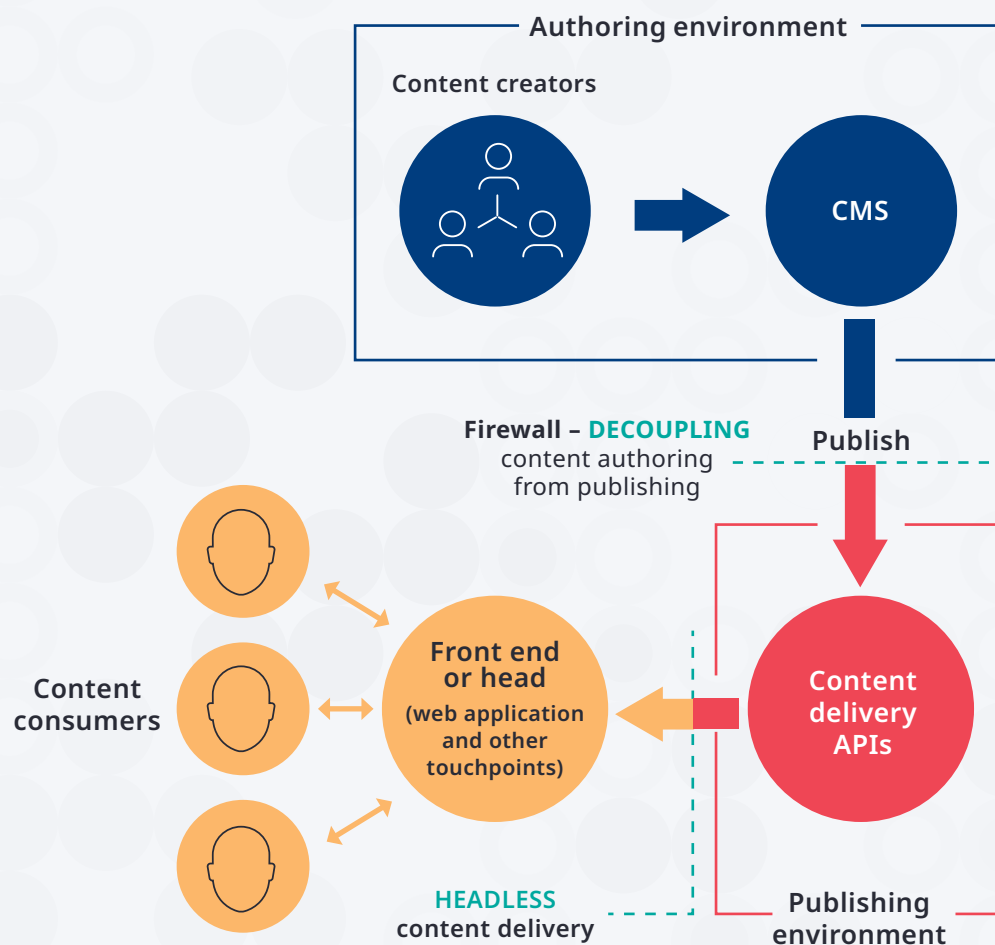
Decoupled vs headless

A decoupled CMS is not the same as a headless CMS, though there are similarities between them.

Traditionally, a decoupled CMS is one where the back-end authoring environment is separated from the front-end publishing environment by a firewall, and sometimes also a geographical separation (such as servers being in two separate buildings with a secure connection between). Publishing content involves transferring it from one environment to the other – a highly secure setup making it much harder to compromise the authoring environment by hacking the website.

With a headless CMS, the front end – your website or any other touchpoint – is also separated from the back end because there's an API layer between them. Although one could argue this is also decoupled, it doesn't reflect the original use of the term.

A CMS can be both decoupled (in the traditional sense) and headless. This means the authoring environment is strictly separated from the publishing environment (decoupled) and the publishing environment has an API layer to serve content to any digital touchpoint (headless).

Architecture of a CMS that is both decoupled and headless

Authoring environment

Content creators

CMS

Firewall – DECOUPLING content authoring from publishing

Publish

Content consumers

Front end or head (web application and other touchpoints)

Content delivery APIs

HEADLESS content delivery

Publishing environment

A headless CMS is good for business

Benefits of core content management efficiencies

COPE's most obvious business benefits are:

Significant time and effort saved
Thanks to content reuse without duplication, content managers no longer have to copy/paste content across multiple systems or struggle to keep duplicate content up to date.

Content reliability and accuracy
By eliminating the challenge of keeping duplicate content up to date, you reduce the risk of people coming across different versions of the same content and becoming confused. COPE allows you to provide a single source of truth and deliver more consistent, reliable experiences.

Improved compliance
Having a single source of truth that is easy to update tends to improve regulatory compliance for businesses. The right kind of headless CMS can also improve compliance through granular control over access to content, along with an audit trail of changes made.

Technology-related business benefits

Many IT and development teams also love headless content management because it offers:

Freedom of choice
A headless CMS allows developers to use the front-end tools that are best for their purposes – whether they be Java, .NET or more modern JavaScript frameworks – empowering them to create custom experiences and achieve better performance on the front end.

Flexibility to evolve and scale
Front-end freedom also brings with it the flexibility to make a change in response to new requirements, or if you grow beyond the scalability of your original framework. Or simply because a better front-end tool comes along that lets you do new things or do the old things more efficiently. With the right headless CMS, you can swap out the front end without affecting content creators and managers at all. It's the best way to future-proof content management and use.

Software-as-a-service (SaaS) deployment
Most modern headless CMSs are deployed through a SaaS model, freeing your IT team from worrying about the back-end infrastructure or software upgrades. They do still need to host and run your front-end applications, but on the back end their responsibilities are reduced simply to initial configuration of the CMS (usually through professional services).
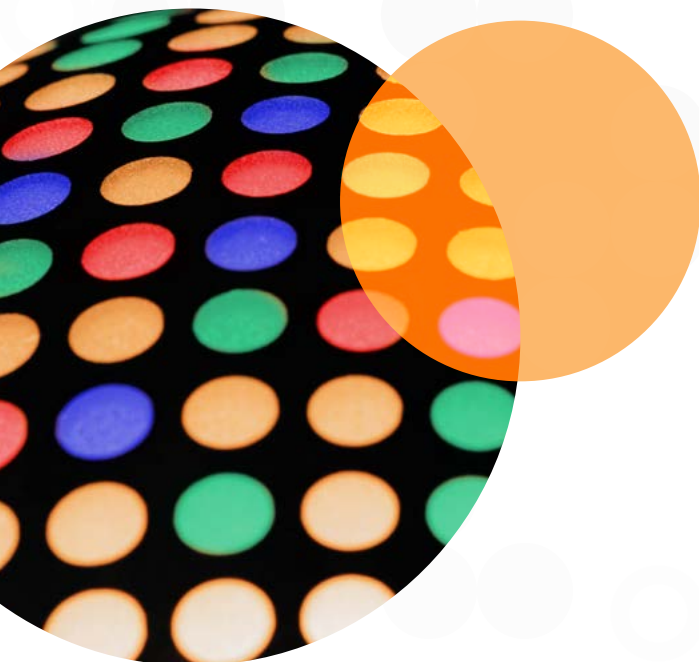
What it means for customers

The other key beneficiaries of a headless CMS are the consumers of your content and the experiences you create for them. Customers are the most obvious, but it could also be employees, partners or other audiences, depending on your use cases.

When you use headless content management to its full potential, your customers can:

Interact with you across a greater variety of channels, from the oldest (traditional websites, portals) to the newest (chatbots, virtual assistants, AR/VR)

Encounter a consistent brand experience everywhere and feel confident that the information they find is accurate and up to date

Experience smooth, reliable performance from the various applications and systems they interact with

Limitations of headless content management

The IT dependency isn't for everyone

It's a complex endeavour to deliver consistent, rich experiences through diverse channels. It's natural that the tools that help you do so – by making the complex more straightforward in various ways – nevertheless reflect some of the complexity of the overall task.

The flexibility of headless content management is a limitation for those without the coding and UX design skills to build front-end experiences themselves. A headless CMS out of the box is basically just a content repository. It takes active development effort to ensure that your content creators can click a 'publish' button and, hey presto, deliver brilliant experiences.

Headless content management is designed for organizations invested in putting in this effort, with the skills to build their own solutions to realize their digital vision. It can help, though, if your chosen headless CMS is developer-friendly, for example by offering a standardized integration framework or accelerators for common use cases.

What about content creators?

With a headless CMS you also need to give more thought to the experience of your content creators and what it means for them to have less – perhaps no – visibility of what their content will look like (in any channel). At its purest, a headless CMS offers neither WYSIWYG editing nor any preview capabilities because it ignores the presentation layer altogether. Authors simply fill in form fields with their content.

Businesses that can't work this way need to find an alternative. In particular, when creating personalized experiences it's normally crucial to be able to preview the result for different targets. Fortunately, the CMS market has responded with hybrid solutions designed to combine the flexibility of headless CMSs with the back-end user-friendliness of traditional CMSs.

Hybrid CMSs: technologies converge

In the market today, there are CMS solutions with different histories that are converging on delivering a combination of headless flexibility with visual capabilities:

- Some headless CMS solutions have added previewing or visual editing options, essentially retrofitting their solution with these core capabilities of traditional CMSs.

- Many traditional CMS solutions have added an API layer, enabling them to be a headless CMS as well. The integrated head – now effectively optional, so these are also known as head-optional CMSs – still provides full visual editing capabilities.

The hybrid solutions created by each of these approaches will be different, and you'll need to assess the best fit for your business. Headless-first CMSs have the challenge of matching the sophisticated visual editing capabilities that traditional CMSs have been refining for decades. On the other side, a technology purist might argue that traditional CMSs with added APIs are less 'clean', not designed from the outset with an API-first mindset. But if the APIs do the job, then business needs can be addressed.

Busting headless CMS myths

"Content delivery is much easier with a headless CMS"

Designed to support the principle of COPE, headless systems are all about simplifying omnichannel content delivery. But, as explained in the previous section, this does require active development to get your content from the headless CMS to your various points of content consumption. Headless content management isn't easier out of the box; it's easier in the long run, once the work has been done to deliver on your omnichannel vision.

"A headless CMS is cheaper than a traditional CMS"

Even though a SaaS-based headless CMS may look financially more attractive than a traditional CMS, it's too simple to base your calculations on the monthly fee for the core service. As with any software, you need to take proper account of the total cost of ownership (TCO), over at least a three-to-five-year period. In particular, professional services and development resources, whether in-house or through a partner, will impact the TCO substantially.

Because there's much more to implementing a headless CMS solution than just the SaaS back end, you'll likely find that its perceived lower cost turns out to be a myth.

"Content creation is tough with a headless CMS"

There's a kernel of truth to this that we've already covered when addressing whether a headless CMS can give your content creators sufficient visibility of how their content will be experienced. It's a known limitation – but hybrid CMSs offer a possible solution.

More broadly, while it's true that headless content management is designed to solve a content delivery challenge, this doesn't mean it necessarily leaves authors, editors and reviewers behind. It's perfectly possible for an enterprise headless CMS to give them great control, and the tools and workflows to create great content more quickly – for any channel, at any scale, in any language.

"For technical authoring, a headless CMS is as good as – it effectively is – a component content management system (CCMS)"

A headless CMS allows you to define how you'd like to model your content. An article will have a heading, probably an intro, body text, summary, some keywords, and so on. These can be regarded as content components, and quite likely they're stored or can be exported as (structured) XML. So why not use your headless CMS as a component content management system (CCMS), a system commonly used to manage highly structured information such as technical documentation, policies, procedures and similar?

Well, it all depends on the requirements you have for a CCMS; but generally, standard headless CMSs aren't nearly as sophisticated in dealing with structured content as mature CCMSs are. If, for example, you need to pull content components together into complex publications with variations and versions (including different language versions) that evolve over time, you'll need CCMS capabilities that standard headless CMSs can't offer.

What you'll want, instead, is a modern CCMS with headless publishing capabilities: a headless CCMS. Which brings us to another persistent myth.

"Headless delivery doesn't work with structured content"

While there are those who believe that any headless CMS is a CCMS, there are also those who believe that there are no mature CCMSs with headless delivery capabilities.

It's true that traditionally, CCMSs had limited content delivery options. They weren't designed to be truly front-end agnostic and, unlike headless CMSs, didn't use APIs to get content to endpoints. They were often used to deliver print-ready files, PDFs or help files, to name a few. But CMS convergence is affecting CCMSs as well, and today it's certainly possible to find a headless CCMS.

So if you're interested in headless delivery and structured content, it's perfectly plausible to combine both in one solution.
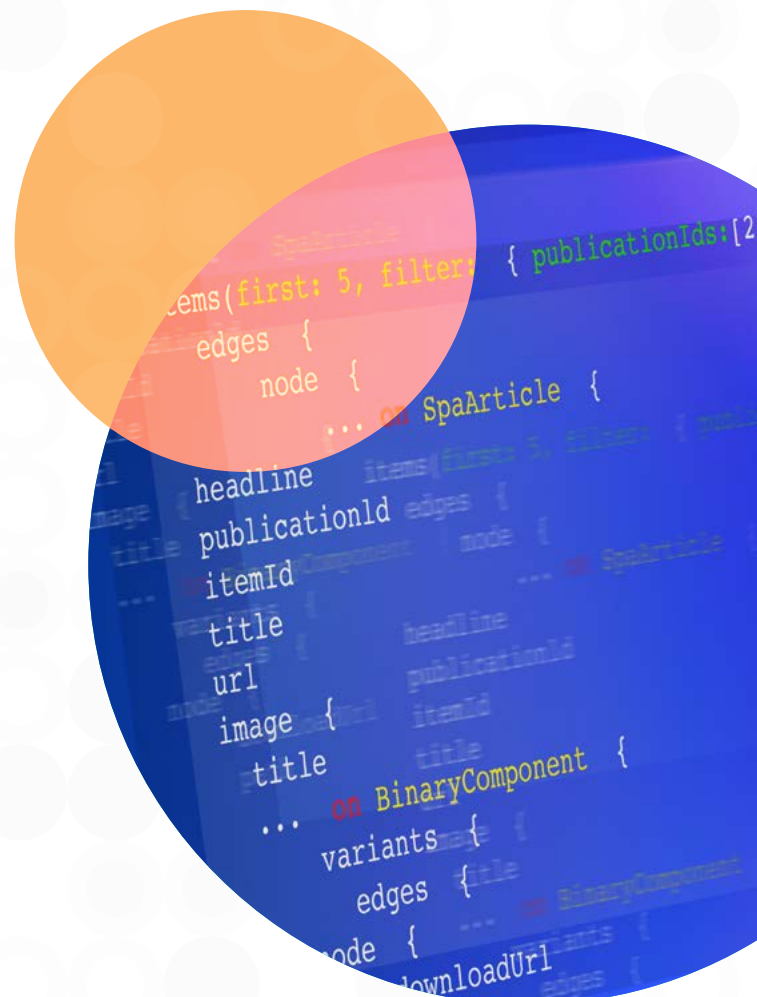
Making the right choices

Key considerations

Assuming headless content management is the right choice for your organization – which means you have both the use cases to realize its value and the skills to take advantage of its flexibility – here are some of the key factors worth thinking about when considering your options:

How important is ease of use and WYSIWYG for your content creators?

If WYSIWYG editing or accurate preview is a requirement, it will obviously narrow your choices to solutions that offer what you need – or you could potentially develop your own visual editing capabilities. There are also other user considerations, such as the type of content management workflows the solution supports, the level of integration with localization technology, and personalization capabilities that drive (or hinder) adoption by users.

How well does it scale?

Headless CMSs often start as departmental implementations – only for performance and scalability to become issues when extended to the larger enterprise. Because caching at the front end is a custom development exercise, and caching at the API level doesn't always deliver the desired performance, this is a critical consideration that your IT team should be involved in. Before committing to a solution, verify its scalability or ask for customer references that reflect your potential scale of use.

How do you want to deploy your CMS?

Yes, cloud deployment is popular these days; but we still see many organizations that have good reasons to keep certain elements of their technology stack on-premises. With most headless CMSs this isn't possible since they are offered only as multitenant cloud solutions. So make sure you speak to your IT and security teams first.

Should structured content management be part of your headless solution?

Component content management comes into its own for a variety of use cases beyond the traditional 'technical documentation' use cases (shorthand for any long-form content with a high level of reuse of content components). The right CCMS can be used to transform both customer and employee digital experiences, but you should assess whether a standard headless CMS can do the job you need, or if you need a more sophisticated headless CCMS that supports XML schemas such as DITA or S1000D.

What can you do with Tridion?

The Tridion intelligent content platform is designed to help you manage and deliver content across both traditional touchpoints and new and emerging channels. Uniquely, it combines two types of headless solution in one platform, both offering headless publishing capabilities through a state-of-the-art GraphQL API:

- A hybrid CMS with traditional CMS capabilities, including WYSIWYG editing and support for personalization

- A sophisticated headless CCMS for more mature structured content management, along with stringent access controls (down to component level if necessary) and audit trails for greater security and governance

Because Tridion is a decoupled as well as a headless CMS, it also offers the greater security that comes from firewalled separation of the authoring and publishing environments.

Tridion's standardized integration framework unlocks multiple content repositories in your organization, allowing content and data from different sources to be combined and delivered to your digital touchpoints. It allows your developers to build experiences using React, Vue.js, Angular and other front-end frameworks.

Tridion's semantic AI capabilities make it easier to uncover user intent and match content to user need through clever built-in search, helping you to deliver better personalized experiences and recommendations. On the content creation and management side, this is enabled through smart tagging on top of flexible metadata and taxonomy management, helping authors to make relevant information discoverable by content consumers.

Learn more about Tridion and headless content management. Or contact us to discuss your requirements and how organizations like yours are making the most of headless content management.

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