



# Advantages of a Decoupled CMS

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We do not live in the same Internet landscape we did a few years ago. Organizations can reach out and connect with their audiences on many different channels and devices, including websites, web and mobile apps, smartphones, wearables, social networks, digital signage, telematics, and more. These channels are only going to change and grow and **whatever is next will drive the way you plan, create, and distribute content in the future.**

What does this mean for content management? A lot. The growth of channels and devices impacts how you manage and deliver content in your CMS. You have to think strategically about how you can easily deliver to all these different channels in a personalized and contextual manner.

New technologies are laying the groundwork for how you can future proof your content and your content management platform. Technologies like NoSQL-based content databases, JSON, XML, and other formats support the creation and delivery of intelligent (structured) content that can be reused across a range of channels and in a variety of formats.

Your content management system needs to support solid backend content management capabilities and, at the same time, ensure you can easily update and create new front-end delivery formats without having to re-implement the backend CMS.

**What you need is a decoupled CMS architecture, separating content delivery from content management.**

# The Tightly Coupled CMS vs. Decoupled CMS

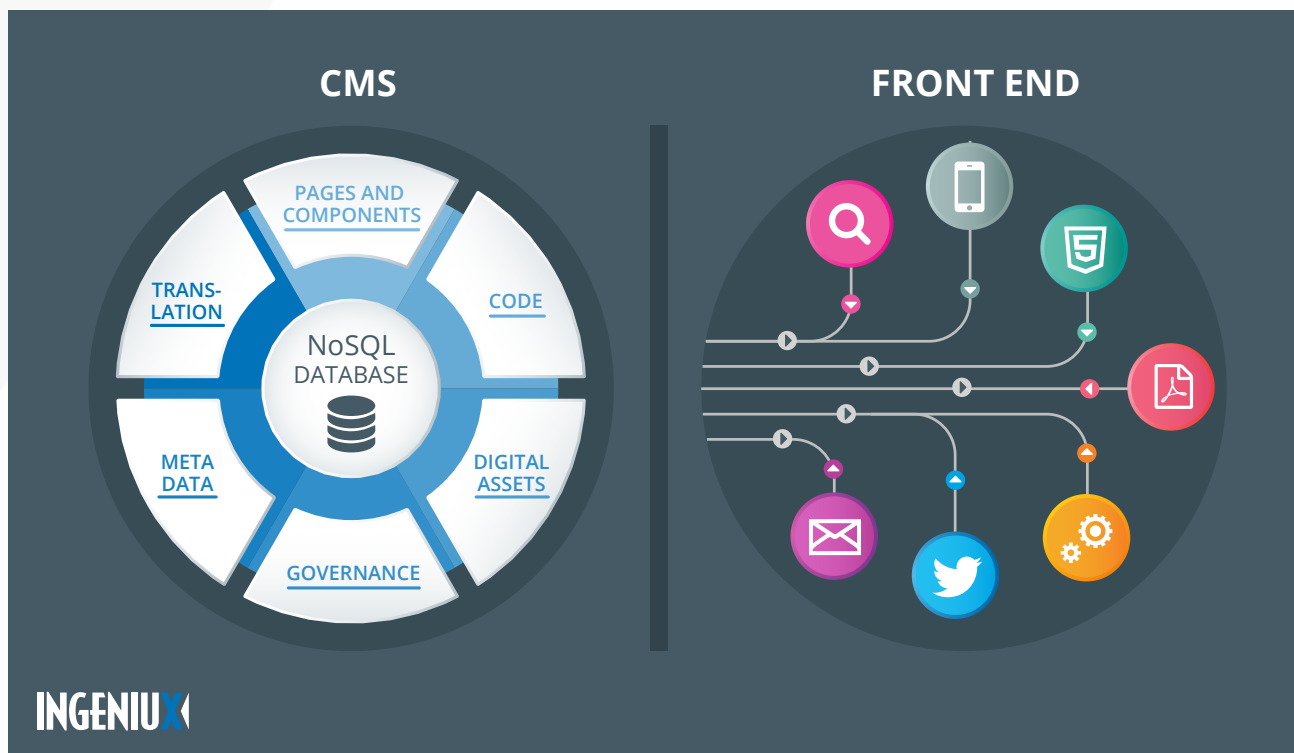
There are two main components to a web content management solution:

- **The backend, or internal, content management capabilities.** This is where content is created and managed by content authors and editors. It's where administrators define taxonomy, set up CMS access and define the permissions for people using the CMS.
- **The front-end delivery tier.** This is the external website where the content is published. The delivery tier could be a desktop or mobile website, mobile app, an online business application or some other channel.

In a tightly coupled CMS, both the backend CMS and the delivery tier exist on the same platform, often tightly integrated. In this model, there is typically a templating system that defines the structure of the

website. With administration and delivery on the same platform, you are required to have components of your backend CMS installed on the web servers that deploy your website. It's also difficult to support new delivery formats (such as a mobile app) or web-based applications that are not developed on the CMS platform directly.

With a decoupled CMS, the delivery tier is completely separate from the backend content management system, sometimes written in a completely different language or technology. In this model, you can deliver content to any delivery format you want via a content API.



*Ingeniux is a decoupled architecture that separates the management of content from its delivery.*

While there are instances where a tightly coupled CMS makes sense, most enterprises require a decoupled CMS solution. These enterprises deal with multiple channels and devices, including mobile apps, web-based applications and more.

The decoupled model supports the creation of content in a single location and publishing to multiple locations: a website on the CMS, a website on another platform, a web-based application, a mobile app and so on.

**Not sure if a decoupled CMS is the right choice for your organization? Let's go through some of the advantages of a decoupled CMS.**

# The Advantages of a Decoupled CMS

## Agile Content Updates

Most enterprises need to update their content on a regular basis. New content types may need to be added, or updates to existing content types done. With a decoupled CMS, you can make all your changes in the backend CMS without affecting the front-end website.

You can test your updates on a separate staging server, and when the updates are ready to go live, you simply publish out the changes to the delivery tier.

## Security

A decoupled architecture separates content development from content delivery. This separation enables you to set up a firewall between the two environments. The firewall protects your network and ensures that content will not be accessed by third-parties until it is published.

A decoupled architecture also reduces the risk of denial of service attacks (DDOS) because the software that delivers the content does not need to access the CMS database, eliminating the risk of SQL injection.

## Performance

With a decoupled architecture, you do not have the overhead of the CMS application on every web server. This improves the speed of the delivery tier. Separating the front-end delivery tier also allows you to scale your website using commodity hardware.

Depending on your CMS, you may deliver content as files, so you do not have the I/O read write overhead of a database.

Performance is an important focus for content management. The speed at which your website or web application loads has the potential to affect sales and other



campaign conversions. For example<sup>1</sup>, Firefox reduced average load time by 2.2 seconds and increased downloads by 15.4%. In another example<sup>2</sup>, Walmart did some performance testing on its site and found that for every 1 second of performance improvement there was a 2% increase in conversions.

## Ease of Upgrades

Upgrading a decoupled application is vastly easier than upgrading a tightly coupled CMS application. With a decoupled CMS, when you upgrade the software you are only upgrading the CMS application, not your live website. This allows your live website to continue running; there is no risk of breaking the site, or customizations to the CMS from the site implementation.

## Availability

With a decoupled CMS, if the backend CMS software were to go down or need maintenance, your live website would continue to operate.

Most enterprises also implement load-balancing software for the front-end web servers, so there's no reason for the website to have any downtime, even for scheduled server maintenance.

## Multi-Site Management

The publishing model for a decoupled architecture provides much more flexibility. You can publish multiple websites using different servers and technology for different sites. Your CMS should include a replication system that keeps content in-sync and provides much more flexibility.

## Headless and self-running deployment

With a decoupled CMS you can easily create and manage content for highly customized websites and rich web-based applications. These websites and apps may take advantage of new client-side JavaScript frameworks such as Backbone, Ember or AngularJS.

The decoupled CMS includes a RESTful API that provides content services to other websites and applications. This content is typically statically delivered (read-only) and consumed by the receiving website or web application.



For example, if you wanted to offer a digital signage solution or kiosk, you don't need to install the CMS on each kiosk. You simply pull content from the CMS using the API and store it within the front-end tier. Even if a persistent internet connection is not available, you can still deliver content to your kiosk application.

Another example is a rich web application for a financial loan solution. You may want to offer a series of guides or posts that discuss the application processes, or loans in general within the application. To ensure you have a way to update this content easily without needing to rebuild the web application, you manage the content in the CMS and deliver it to the loan application using the CMS content API.

## Flexible deployment

Flexible deployment means that you can deploy your content anywhere, to a website on another server in your environment, to a cloud-based environment or a CDN (content delivery network). A decoupled architecture enables you to set up multiple publishing locations and deploy your content quickly.

With some CMS you can also set up development, test, staging and publishing servers as deployment locations. This allows you to develop new content, websites or applications and easily move them through the development lifecycle without a lot of manual, time consuming effort.

# Future Proofing Your CMS

As the Internet continues to grow, new channels and devices will become available, and enterprises will need to adapt their content delivery to support them.

A decoupled CMS ensures you can deliver to the wide array of channels and devices in use today and prepares you for what may come in the near future.

A create once, publish anywhere strategy.

But it's not just the decoupling of content administration from content delivery that's important. You need to create your content so that it can be used anywhere - your website, your customer-facing business application, your social networks, a mobile device - essentially a create once, publish anywhere strategy. Each channel/device requires content to be displayed differently, whether it's how the content is formatted or how much of the content is shown.

A structured (or intelligent) approach to content is required. Structured content is content stored in a format that defines and describes it. This has nothing to do with where the content is displayed or how it will look but is about the type of content it is.

Take the time to understand all the content your organization creates and manages. Define detailed content types, including their metadata elements and how they are related to each other. Your content model should be able to describe how your content is created and can be reconfigured and reused.

Together, a decoupled architecture and intelligent content model enable you to handle any new channel or device that comes along.

# When Decoupled isn't the Right Choice

Are there situations when decoupled isn't the right decision?

If you only deal with a one or two websites and implement a responsive design approach for mobile, then you likely don't need a decoupled architecture. This situation is more often true of small business than it is of mid-to-large organizations.

Sometimes you want a combination of decoupled and tightly coupled. In this case, you might consider a third option – loosely coupled.

## A Third Option: Loosely Coupled CMS

A loosely coupled CMS gives you the option of tightly coupled or decoupled.

In some cases you might want your CMS to support the creation of templates for your website and provide the ability to quickly publish your website out to a web server. This option gives you centralized control over the presentation of your website. However, you might also have a mobile app or a web-based application that requires content. You'll want to manage this content in your CMS and then be able to quickly deliver it to the application. This requires a decoupled architecture with a content API.

Both cases are relevant to many organizations—having a single CMS that can support both options eases content administration and content delivery greatly.

# In Summary

Step back and take a look at the range of channels and devices you use to engage with your customers and prospects.

That content needs to be consistent and quickly updatable. You may also want to personalize it to the visitor's context. This requires a CMS that can support the creation and delivery of content to multiple channels. It requires a decoupled CMS.

The time and cost benefits of a decoupled architecture are hard to underestimate. Updating individual channels one by one is not only time consuming but prone to human error.

A decoupled CMS also enables you to take advantage of new and innovative technologies for creating rich web and mobile experiences, while ensuring your content authors and editors have a consistent approach to content management.

The benefits of a decoupled CMS are clear.

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1 <http://www.webperformancetoday.com/2014/04/09/web-page-speed-affect-conversions-infographic/>

2 <http://www.webperformancetoday.com/2012/02/28/4-awesome-slides-showing-how-page-speed-correlates-to-business-metrics-at-walmart-com/>

## About Ingeniux

Ingeniux is the leading provider of web content management and digital experience software. We enable organizations to orchestrate the entire customer experience from acquisition through to sales to support and service, across any device, application, or website.

We build content management software with an unparalleled focus on the content itself. The Ingeniux CMS is designed to manage and deliver modern websites, customer support portals, online communities, and other customer touchpoints.

We believe in intelligent “structured” content. We design our software to enable content reuse, enable true mobile and multi-channel content delivery, and insightful content discovery. Our unique content-as-a-service capabilities deliver content into web and mobile applications, and other key channels.

Ingeniux software is available as a fully managed software service or an on premise application. Ingeniux delivers unparalleled service and support to customers worldwide.

To learn more, visit us at <http://www.ingeniux.com>.

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