

A Deep Dive into Hybrid CMS

A flexible platform that gives you the freedom to use the publishing model - or models - to fit your unique business needs.





The Digital Marketing Shift 03

The Digital Marketing Dilemma

When Pure Headless CMS Isn't Good Enough .. 06

Why Hybrid CMS Wins 08

Everything as a Service 10

Drag and Drop As Usual 12

Edit Mode Anywhere 12

Managing Business Outcomes 13

Total Cost of Ownership (TCO)

Return on Investment (ROI)

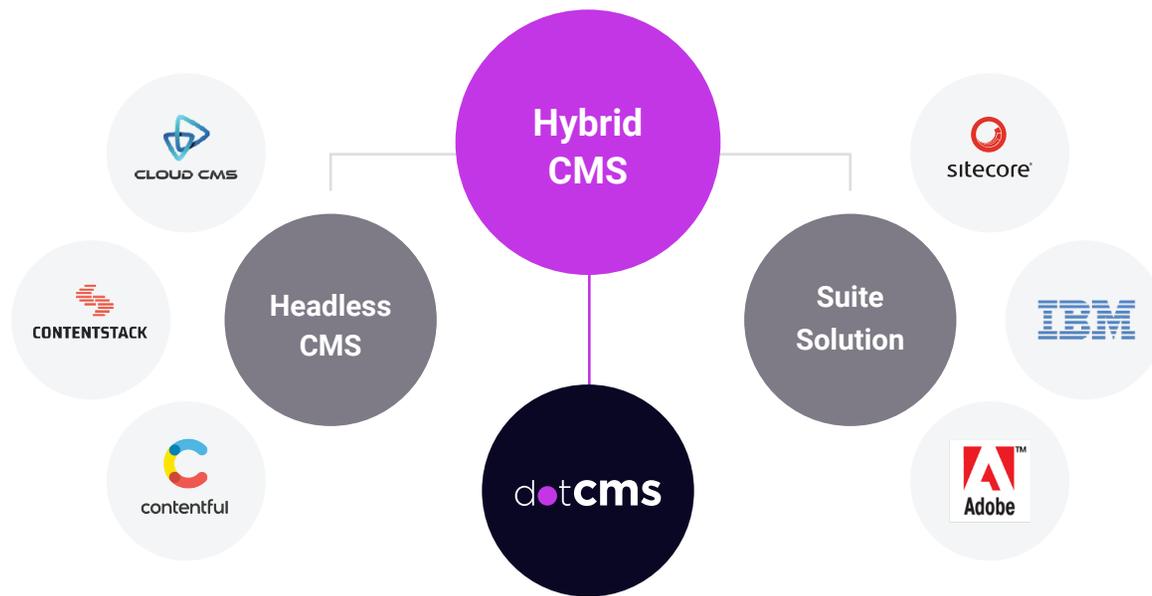
About dotCMS 16

References 17

The Digital Marketing Shift

Digital Marketing teams are moving away from monolithic and closed CMS solutions. It was great in the early 2000s, but now it limits teams with regards to time-to-market and the ability to differentiate within the expanding digital ecosystem. They face challenges that make it hard to keep up with their competition, let alone stay ahead of them. They need a flexible solution that allows them to **build and orchestrate digital experiences for every touchpoint** in their customer journeys, for every device, persona, touchpoint - with no limitations.





The Digital Marketing Dilemma

The life of a modern digital marketer is challenging, to say the least. In larger enterprises, **everything is siloed and disconnected:** the teams, the technologies, tools, data and as a result, the customer experience. It seems like such an easy idea to bring in a suite solution (like Adobe, Sitecore or even IBM) some years ago. However, it takes a little army (IT and business) to implement and even after install, the dependency on IT resources is too high, slowing time-to-market, return on investment (ROI), marketing agility and autonomy, therefore hindering business outcomes like

conversions, customer engagement, and retention.

On the technology side, the rise of cloud-deployed, customer-facing applications and the requirement to catering for flexible runtime environments for digital applications at a lowering IT budget, has put additional constraints for the digital enterprise.

In order to mitigate these challenges and meet the requirements to differentiate with digital, **a full hybrid CMS is the only solution that avoids vendor locks, gives maximum flexibility and most importantly, drives ROI at a significantly lower cost.**

Hybrid CMS gives you the best of all worlds, however, there are only a few CMS vendors in the industry that can operate as a hybrid CMS by design, and dotCMS is one of them.

dotCMS defines a hybrid CMS as follows:

01. Content Delivery

Being able to operate **API-first/decoupled or head-optional**. It provides maximum flexibility and respects Total Cost of Ownership (TCO) and ROI of the platform, without compromising relevant marketing tools[i]

02. Content Publishing

Having multiple publishing models (static, dynamic, single-to-multi) that can be used in parallel across multiple publishing architectures, allowing for **global content consistency while respecting security and compliance guidelines**.

03. Infrastructure deployment

Deployment of digital marketing applications is changing rapidly. Moving to **cloud stacks – both private and public** – as well as having (temporarily) distributed application architectures between traditional on-premise and cloud, is currently not uncommon.

This white paper focuses on the Content Delivery aspect of a hybrid CMS since this has the biggest impact on business and IT teams.





When Pure Headless CMS Isn't Good Enough

A pure headless CMS avoids the traditional vendor lock that customers get with a suite solution. The IT team can develop their front-end applications in the framework of their liking (AngularJS, Node, and React are leading at the moment) where not only Single Page Applications (SPAs), but even entire websites can be built. Some of the digital marketing hang-ups that users encounter with suite solutions may even be resolved (marketing agility and for some, time-to-market), but some headless solutions still hold unsolved challenges with a major aspect of content management: **the authoring experience.**

In a pure headless CMS play, the authoring experience is disrupted by the lack of:

	Headless CMS	Hybrid CMS
• Preview Capabilities	✗	✓
• Drag & Drop Content Composition	✗	✓
• Channel-Specific Support	✗	✓
• Native Personalization & Content Targeting	✗	✓
• Native Experiments Capabilities	✗	✓
• In-line Editing	✗	✓



A pure headless CMS may be a setback for a non-technical marketing team. And to make it worse, fixing the above in the front-end or any other custom-built solution will increase the **dependency of IT**, shift the monolith from the vendor to an in-house technology team, increase time-to-market, and frustrate overall total cost of ownership (TCO).

As well as missing these authoring capabilities,

pure headless CMS solutions also lack capabilities to offer dynamic and static content rendering at the same time.

And, to top it off, most pure **headless CMS vendors are relatively young** and miss the development and experience of core CMS capabilities around flexible workflows and scalable content repositories. The CMS industry has many players, but only a few have been around long enough to have the experience to support enterprise-grade content requirements.



Why Hybrid CMS Wins

A hybrid CMS is the ideal solution for today's modern digital marketer and enterprise organization as **it combines the core foundation of CMS technologies with the evolved nature of scalable content management platforms**. At the same time, a hybrid CMS is architected¹ and engineered from the ground up to function as a complete CMS - it's not an add-on, it's in the DNA of the product, reflected at different levels:

01. Decoupled:

Having a strict separation between content and the presentation layer offers maximum flexibility, allows for **content reuse**, as well as **independent scalability** of authoring environment and run-time.

02. Open Source:

Software that is based on open standards and fully open source means **freedom of innovation and access** to the core software source code at all times. It eliminates the dreaded 'vendor lock' and any restrictions to drive enterprise innovation.

03. API-driven:

Exposing everything over APIs² allows for **seamless integration and blending of technology stacks** also leveraging previous

investments in legacy applications instead of a rip-and-replace strategy. RESTful³ is the standard for these APIs.

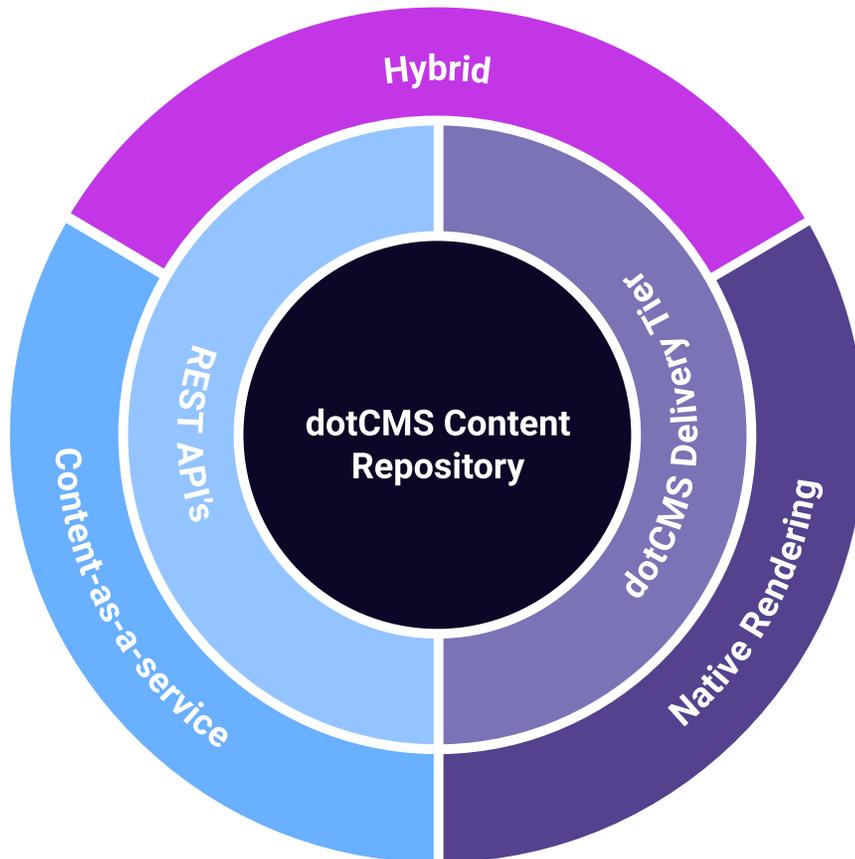
04. Containerized:

In a modern digital platform stack, it is the norm to leverage **containerization tools such as Docker⁴ and Kubernetes** to enable cost-efficient DevOps and optimized infrastructure utilization.

05. Lightweight Technologies:

Hybrid CMS platforms have underlying technology⁵ that is **robust, proven and supportive of enterprise-grade platforms**, without the burden of an entire data center and over-the-top infrastructure to make it perform⁶.

Flexible Content Rendering



A Hybrid CMS is the ideal solution for today's modern digital marketers & enterprise organizations



Everything as a Service

A hybrid CMS is only as strong as the level of “Fill in the Blank” as a Service it brings to the table. Unlike other vendors in the space, **with dotCMS, everything means everything:**



03. Language Variables

Adding multiple languages in dotCMS is easy as **language variable¹⁰ are content types** in dotCMS and available over the REST API.



01. Content

One of the first areas to expose over API's in many CMS solutions is content itself. In dotCMS this extends to **content types⁷, content by date range⁸, & content relationships.**



04. Permissions

Roles¹¹ in the CMS have an API too in order to make sure content is only consumed with the proper authorization. The REST API is fully integrated with the **dotCMS Permissions Module¹².**



02. Vanity URL/URL Rewrite

In dotCMS, **Vanity URL's⁹ and URL rewrites are content types** and therefore can be exposed over REST APIs.



05. Images

Images stored in the dotCMS content repository are **directly accessible** over REST and manipulated 'on-the-fly'¹³.



06. Indexes

In dotCMS indexes can be fully managed via the REST APIs.



07. Layout-as-a-Service

Page layouts and templates are available over REST ¹⁴- a key feature in hybrid CMS deployment.



08. Personalization and Content Targeting Rules

Personalization and content targeting settings are **determined by rules** which have a dedicated REST API ¹⁵.



09. Experiments as a Service

(Scheduled for release in dotCMS 5.1)

dotCMS will address experiments and **A/B testing** in release 5.1 and this will be available over REST as well.



10. Content Consumption

(Scheduled for release in dotCMS 5.1)

Reporting on content is key for marketers and even in a headless deployment, it's crucial to have **insights in the content consumption** by the front-end applications. This is addressed for release 5.1 as well.



Drag and Drop As Usual

In a hybrid CMS, the digital **marketing team will still have all drag and drop capabilities** at their disposal, just like if the CMS is running in a native fashion (i.e. using the proprietary delivery tier). This is fundamental for an efficient and streamlined authoring experience in a CMS.

A headless CMS can't beat that. Ever.

Edit Mode Anywhere

In dotCMS 5.1, it's possible for marketers to have **in-context editing capabilities** for apps that are rendered outside the CMS using the new Edit Mode Anywhere feature. Marketing teams can modify the layouts, themes, content, and more of client-rendered apps directly in dotCMS without the need for developers.

Edit Mode Anywhere gives content authors back the authoring experience that they'd lost with pure headless solutions.

Marketing teams can modify the layouts, themes, content, and more of client-rendered apps directly in dotCMS without the need for developers.

[Learn More>>](#)



Managing Business Outcomes

dotCMS ticks all the boxes for a leading hybrid CMS and helps digital enterprises to focus on business outcomes. Most notably, **TCO and ROI are impacted in several ways** directly by the fundamental capabilities that make up a hybrid CMS.





Hybrid CMS capability	Result	Business Outcome
NoCode Compliance	Significant reduction of IT resources for digital due to self-sufficient marketing operations that allow IT to focus on innovation	 <p>Total Cost of Ownership (TCO)</p>
High Interoperability	Best-of-breed allows for reuse of legacy investments and tailored-to-fit digital experience platform capabilities	
Containerization	Agile DevOps operations as well as optimized infrastructure utilization	
Hybrid-Compliant Authoring Environment	Increasing content velocity and time-to-market	

Hybrid CMS capability	Result	Business Outcome
Everything As a Service	More flexibility - with no vendor locks - to build a digital experience platform that drives conversion, customer retention, and up-sell opportunities.	 <p>Return on Investment (ROI)</p>
Personalization & Content Targeting	Personalized experience (native and headless) drive relevance and conversion	
Experiments	Optimized experienced drive more relevance and conversion	





About dotCMS

dotCMS is a leading, open source content and customer experience management platform for companies that want innovation and performance driving their websites and other content-driven applications. Extensible and massively scalable, both small and large organizations can rapidly deliver personalized and engaging content across browsers, mobile devices, channels, second screens and endpoints -- all from a single system.

Founded in 2003, dotCMS is a privately owned US company with offices in Miami, Florida; Boston, Massachusetts and San Jose, Costa Rica. With a global network of certified development partners and an active open source community, dotCMS has generated more than a half-million downloads and thousands of implementations and integration projects worldwide. **Notable dotCMS customers include:** Telus, Standard & Poors, Hospital Corporation of America, Royal Bank of Canada, DirecTV, Thomson Reuters, China Mobile, Aon, and DriveTest Ontario.

Miami

3059 Grand Av.
Miami, FL, 33133
U.S.A

Boston

200 Portland St.
Boston, MA, 02114
U.S.A

Heredia, Costa Rica

Eurocenter
Primera Etapa, 2nd Floor
106 Heredia, Costa Rica

ON-DEMAND DEMO



dotcms.com



+1-305-900-2001



sales@dotcms.com



References

- 1 <https://dotcms.com/cms-platform/technology/architecture>
- 2 <https://dotcms.com/blog/post/what-is-an-api-and-how-is-it-changing-content-delivery->
- 3 <https://dotcms.com/docs/latest/rest-api>
- 4 <https://dotcms.com/landing-pages/webinars/hands-on-training-with-dotcms-and-docker>
- 5 <https://dotcms.com/cms-platform/technology/>
- 6 <https://dotcms.com/marketing/pdf/dotcms-performance.pdf>
- 7 <https://dotcms.com/docs/latest/content-type-api>
- 8 <https://dotcms.com/docs/latest/content-by-date-range-rest-api>
- 9 <https://dotcms.com/docs/latest/vanity-urls>
- 10 <https://dotcms.com/docs/latest/global-language-variables>
- 11 <https://dotcms.com/docs/latest/role-api>
- 12 <https://dotcms.com/docs/latest/permissions>
- 13 <https://dotcms.com/docs/latest/image-resizing-and-processing>
- 14 <https://dotcms.com/docs/latest/page-rest-api-layout-as-a-service-laas>
- 15 <https://dotcms.com/docs/latest/managing-rules-via-rest>