

IDC MarketScape

IDC MarketScape: Worldwide Hybrid Headless Content Management Systems 2023 Vendor Assessment

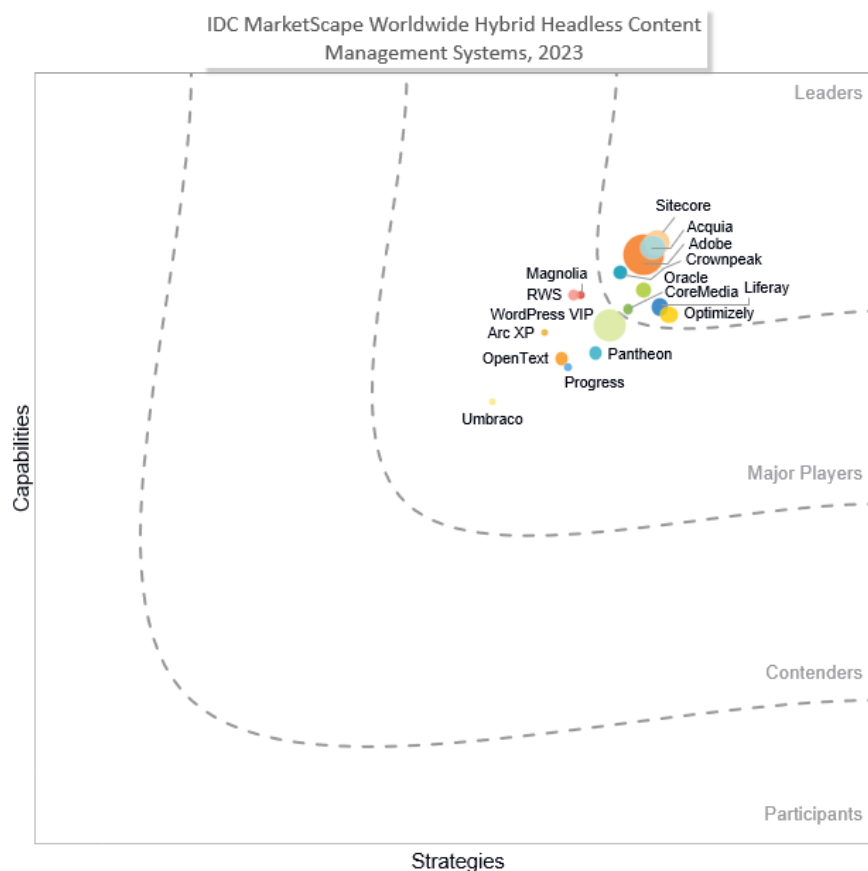
Marci Maddox

THIS IDC MARKETSCAPE EXCERPT FEATURES ARC XP

IDC MARKETSCAPE FIGURE

FIGURE 1

IDC MarketScape Worldwide Hybrid Headless Content Management Systems Vendor Assessment



Source: IDC, 2023

Please see the Appendix for detailed methodology, market definition, and scoring criteria.

IN THIS EXCERPT

The content for this excerpt was taken directly IDC MarketScape: Worldwide Hybrid Headless Content Management Systems 2023 Vendor Assessment (Doc # US50827823). All or parts of the following sections are included in this excerpt: IDC Opinion, IDC MarketScape Vendor Inclusion Criteria, Essential Guidance, Vendor Summary Profile, Appendix and Learn More. Also included is Figure 1.

IDC OPINION

From its inception, the content management system (CMS) was designed to create and manage web, mobile web, and other HTML browser-based experiences. Since then, CMSs have evolved to publish content into app experiences on mobile, IoT, and other connected devices. The shift to accommodate a variety of content owners, web developers, modular cloud-based architectures, and content services has expanded the software options beyond traditional web content management platforms to include new headless alternatives.

In its simplest form, a hybrid headless CMS is used to create and manage content in an API-accessible repository with the option for a connected front-end presentation layer. The main difference a hybrid headless system has over a pure headless application is that the hybrid headless system includes a managed presentation layer that end consumers engage with, whereas the pure headless system does not. The hybrid headless system offers two presentation options: *presentation controlled* and *presentation agnostic*. In the *presentation controlled* option, a publication workflow pushes content to a rendering engine, and it has full control over the design, layout, and presentation of the website, mobile application, or other device end-user interface, whereas in the *presentation agnostic* option, the content is API accessible for any front-end-built website or mobile app that needs to request the content to hydrate the page. The hybrid headless application must offer external public-facing APIs or pass-through APIs via private internal functions (e.g., database access may be limited to internal process pass-through for security reasons) to all features of the system. The code base for the front-end delivery application must be decoupled from the code for any other functions within the system. The vendor will build out the rendering engine and support the front-end presentation layer as part of the packaged application.

Digital Experiences Require a Modern CMS at Its Core

Rising customer expectations have organizations pivoting their business to a fully digital system. From retailers to restaurants, educational institutions, and government offices, every organization relies on its online presence to communicate, educate, and fulfill requests on an unprecedented scale across a hyper-connected digital environment. There is a renewed focus on customer experience, which is improved with the adoption of personalized, automated, and transformed digital experiences. Other trends of note include:

- **Content value streams:** Content is a core element of the digital customer experience. The modern CMS will orchestrate the content value stream across the various stakeholders in the organization with a seamless fluid motion. Also important is identifying the streams that provide an opportunity for the business and its customers to exchange value tied to the process by which data and information flows through an organization and along the way accumulates context and form to become enriched content elements. With each iterative touch point of activity along the customer data journey, content strengthens its value.

- **First-party data:** Driven by data trust and the impacts of evolving regulatory demands, there is a reduction in the utility of third-party data and cookie-based customer insight. Users are demanding greater privacy – including transparency, choice, and control over how their data is used – and it's clear the digital experience ecosystem needs to evolve to meet these increasing demands. As a result, businesses must take ownership in understanding and responding to user behavior and expectations.
- **Design systems:** As organizations manage an increasingly broad range of digital touch points with their audiences, more of them are investing in fully digital design systems that can accelerate development and improve brand consistency at the edge. Creative designers are teaming up with web developers to build engaging front-end digital experiences that leverage the back-end content engine of the hybrid headless CMS.

Architectural Considerations

The deployment options of a hybrid headless CMS are characterized by the level of control and technical skill needed at the content, design, and administration layers. Small to midsize businesses or independent departments wanting to streamline website operations will find using the full presentation controls of the hybrid headless system require little to no technical skills to create a page quickly. Hosted website solutions cater to the open source community, offering an ease of operations in the cloud by applying controls across three tiers (web operations, web development, and content management) for better resource and data isolation, utilization, and optimization. Large enterprises with heavy transactional activities or multiple data sources will find that they need a blend of presentation control and flexible front-end development in the same system. Organizations that have a large development staff and want full development control of the presentation front-end application will use the system in a headless mode.

The modern hybrid headless CMS will orient toward no-code or low-code content creation (drag-and-drop authoring and administration, intelligent content recommendations, roles/usage-based templates), presentation design freedom, automated decision-driven workflow, and contextual preview of delivery. Architectural elements of consideration include:

- **Componentized content:** Content relationships require a data structure that supports an object-level atomic design to prevent layered or circular content referencing. Every element needs to be independently assembled, allowing for reuse in either presentation mode and machine driven (e.g., automation, insight, and recommendations) to drive kinetic outcomes (e.g., engagement, conversion, learning).
- **Diverse content types:** The data layer must handle a diverse set of content formats (e.g., atomic fragments of content, text, images, videos, augmented reality/virtual reality [AR/VR], and audio).
- **Accessibility support:** Accessibility checkers quickly scan a website for on-page and technical accessibility issues and errors in readability or navigation based on recognized standards, like the Web Content Accessibility Guidelines (WCAG). With better content enrichment and presentation design, accessible websites provide an inclusive experience for everyone, optimized across device (desktop browser, voice browser, mobile phone browser, automobile displays) or operational constraints (noisy surroundings, limited lighting, hands-free driving environments).
- **Microservices and API frameworks:** Offering a set of small services, each running in its own process and communicating with lightweight mechanisms, often an HTTP resource API, such as REST or GraphQL, microservices are built around business capabilities that can be scaled

independently by distributing the services across servers and replicating as needed with explicit remote call mechanisms.

IDC MARKETScape VENDOR INCLUSION CRITERIA

The vendor inclusion list for this document was designed to accurately depict the vendors that are most representative of any given cloud-based hybrid headless content management system buyer's selection list. Vendors were then surveyed and further investigated to ensure that the offerings qualified with both capabilities and strategies related to the hybrid headless CMS market.

Critical to this research effort was for the vendor to meet the inclusion criteria. Any vendor participating in this IDC MarketScape had to showcase that it met the following:

- Market presence and momentum based on IDC inquiry and three years of positive revenue growth
- Generate revenue from a commercially supported business-packaged offering
- Deployment in the cloud as managed hosted private cloud, PaaS, or SaaS in a public cloud
- Clients in cloud production for at least 12 months
- Targets and scales to meet the needs of midsize to large enterprise organizations supporting 500+ employees, with approximately 50% of customers in this range
- Provides capabilities to create and manage websites or authenticated workspaces with support for the following capabilities:
 - Creation, curation, and management of content that can be assembled and approved for publishing web pages, mobile websites, and web apps
 - Design/presentation controls such as layout, templates, menus, navigation, and widgets
 - Provides or assists in personalization of anonymous or authenticated user experiences
 - Content repository that provides library services to organize and maintain various content types and its metadata
 - Security, roles, and permissions management
 - Analytics and reporting at the infrastructure, content, and user experience layers
 - Interoperability with adjacent technologies via well-documented web services, open APIs (either GraphQL or REST API), or SDKs

ADVICE FOR TECHNOLOGY BUYERS

Content management systems are evolving in terms of advanced functionality and a shift to cloud-native microservice architectures. As organizations refine their digital experience strategy, buyers have a choice of CMS technology options that cater to the needs of the business. The modern hybrid headless CMS is designed to get business users up and running quickly with a connected presentation layer and supported custom-built, front-end-designed sites through API access points.

The vendor should provide the services and support to get you up and running quickly and continue to monitor your progress to success. Training and continuous education should be available as guided tutorials, hands-on training, and a community for self-help. The need to deliver more engaging digital experiences will demand more of the CMS systems in the coming years. IDC advises technology buyers to look for the following when selecting a hybrid headless CMS vendor:

- Global multisite management with support for multiple languages, persistent caching, local points of presence or datacenters, and adherence to regulatory guidelines
- A flexible architecture to support reusable atomic content, roles-based templates, and an authoring environment that makes it easy to create and publish content to multiple channels
- A cloud-native architecture, cloud-first strategy, and strong representation of customers that have deployed high-traffic content sites in the cloud
- Intuitive user interface (UI) for all users who interact with the CMS (e.g., marketers, brand managers, developers, and administrators)
- A modern, API-first, microservices-based architecture to ensure performance and ease of integration
- An innovation strategy with support for artificial intelligence/machine learning (AI/ML), conversational interfaces, personalized content, or intelligent search
- Innovation track record and a demonstrated ability to deliver enhancements on a regular cadence in a seamless manner, including automatic and frequent updates
- Supported connectors to adjacent applications such as a content delivery network (CDN), customer data platform (CDP), digital asset management (DAM), personalization tools, and commerce systems to minimize custom code required
- Industry-specific solutions and content taxonomies that align to the buyer's use cases (e.g., retail, manufacturing, financial services, healthcare)
- Financial stability and ability to support future solutions as user expectations evolve
- A strong partner and developer ecosystem for implementation, support, and technology integrations

VENDOR SUMMARY PROFILES

This section briefly explains IDC's key observations resulting in a vendor's position in the IDC MarketScape. While every vendor is evaluated against each of the criteria outlined in the Appendix, the description here provides a summary of each vendor's strengths and challenges.

Arc XP

After a thorough evaluation of Arc XP's strategy and capabilities, IDC has positioned the company in the Major Players category within this 2023 IDC MarketScape for hybrid headless content management systems.

Arc XP was established in 2012 and is headquartered in Washington, D.C. Arc XP offers a hybrid headless product under the name of Arc XP.

Quick facts about Arc XP include:

- **Employees:** 250-499 employees
- **Global sales/support:** Global direct sales/support except China
- **Cloud hosting presence:** Australia; Japan; Europe, the Middle East, and Africa; North America
- **Cloud type:** SaaS multitenant, SaaS dedicated environment
- **CMS presentation layer:** Decoupled

- **Supported frameworks, scripting, and coding languages:** Node.js, React, JavaScript, Sass, TypeScript
- **Pricing model:** Subscription, usage, license, maintenance, seat, transaction
- **Open source code base:** <10%

Strengths

- **Content streams:** Arc XP was created by The Washington Post to support content producers in streamlined publication. From this heritage, Arc XP offers advanced workflow capabilities for high-volume content producers.
- **Authoring environment:** Arc XP supports themes to configure styling at the design level to reduce the need for custom blocks. Custom CSS styles can override the theme blocks if needed. The publishing task generates both a unique ID and a URL for use in a headless configuration.
- **Front-end environment:** Arc XP provides a standalone front-end environment that is decoupled from the base CMS. The delivery tier can be integrated to other back-end CMSs and leverage the large number of native content blocks within Arc XP.

Challenges

- **AI capabilities:** Arc XP does not provide native AI-based capabilities for content intelligence. Arc XP's road map will address ChatGPT, auto-summarized stories, and auto-tagging of content.
- **User interface:** Arc XP is shifting from a media focus to include other enterprise industries in its go-to-market plans. The editorial user interface is tailored for journalists and cannot be changed by the client to a more favorable vernacular.
- **Developer environment:** Arc XP does not offer an app store or marketplace for partner or customer-developed applications. Its platform supports a Java SDK and is adding Node.js SDK and additional event support like inbound webhooks.

Consider Arc XP When

Consider Arc XP if your organization is information heavy and needs strong front-end development support.

APPENDIX

Reading an IDC MarketScape Graph

For the purposes of this analysis, IDC divided potential key measures for success into two primary categories: capabilities and strategies.

Positioning on the y-axis reflects the vendor's current capabilities and menu of services and how well aligned the vendor is to customer needs. The capabilities category focuses on the capabilities of the company and product today, here and now. Under this category, IDC analysts will look at how well a vendor is building/delivering capabilities that enable it to execute its chosen strategy in the market.

Positioning on the x-axis, or strategies axis, indicates how well the vendor's future strategy aligns with what customers will require in three to five years. The strategies category focuses on high-level decisions and underlying assumptions about offerings, customer segments, and business and go-to-market plans for the next three to five years.

The size of the individual vendor markers in the IDC MarketScape represents the market share of each individual vendor within the specific market segment being assessed.

For this IDC MarketScape, vendor size was determined by IDC's 2022 Software Tracker and validated by each vendor on their revenue in the market. For details regarding the vendors and size of the market, see *Worldwide Website Software Market Shares, 2021: Headless Content Management Gains Traction* (IDC #US50451723, March 2023) and *Worldwide Persuasive Content Management Applications Market Shares, 2022: Data-Driven Personalization in Customer Experiences* (IDC #US50669623, May 2023).

IDC MarketScape Methodology

IDC MarketScape criteria selection, weightings, and vendor scores represent well-researched IDC judgment about the market and specific vendors. IDC analysts tailor the range of standard characteristics by which vendors are measured through structured discussions, surveys, and interviews with market leaders, participants, and end users. Market weightings are based on user interviews, buyer surveys, and the input of IDC experts in each market. IDC analysts base individual vendor scores, and ultimately vendor positions on the IDC MarketScape, on detailed surveys and interviews with the vendors, publicly available information, and end-user experiences in an effort to provide an accurate and consistent assessment of each vendor's characteristics, behavior, and capability.

Market Definition

Digital experience applications curate, manage, publish, and deliver editorial, image, rich media, and product content to omni-channel experiences including websites, mobile apps, social networks, digital signs, IoT apps, and conversational interfaces. IDC categorizes the CMS architecture as follows:

- **Application programming interface (APIs):** API frameworks allow communication between the back-end and front-end software as well as connection between data sources using RESTful, CLI, or GraphQL interchanges.
- **Front-end presentation layer:** The front-end applications control the design elements of how the data will be displayed to the end user (e.g., HTML controls the layout on a web page, the design is controlled by cascading style sheets [CSS], and basic logic would be enabled through JavaScript). Developers can build single-page applications (SPA) and progressive web applications (PWA) to control the end-user experience.
- **Full-stack CMS:** These systems are modular because the code base is broken into loosely coupled, partitioned internal modules as part of a services-oriented architecture (SOA). The APIs that connect the functional layer to the presentation layer are internal only, proprietary, or there are dependencies between the layers that are not abstracted.
- **Headless CMS:** The online presentation layer that end consumers engage with is not an embedded function of the application, but instead a standalone software application that is integrated to the functional logic via an abstraction layer, such as an API. The headless application must have 100% of its functionality accessible via external public-facing APIs, maintain design-agnostic raw content elements, and does not generate any front-end code.
- **Hybrid headless CMS:** Applications are a blend of full-stack and headless presentation experiences. The same functional logic and data storage are used regardless of the presentation. The multi-experience application can include internal APIs, but it must access the same functionality as the external APIs thereby supporting both a combined back end and

front end and act as a standalone headless option with API access to modules, components, and microservices.

- **Monolithic:** These applications provide convenient all-in-one functionality with easy integrations in a single code base. The presentation layer is tightly tied to the functional layer with dependencies and includes a data storage system. Because of the coupled nature of the internal modules, monolithic products cannot be considered true composable system because the modules are not independent nor are they interchangeable with alternatives.

CMS solutions can also be deployed on premises or in multiple cloud configurations. IDC defines its cloud taxonomy with the following:

- **Multitenant software-as-a-service applications (SaaS apps)** services are based on a service composition and delivery model made up of a utility computing environment in which unrelated customers share a common application and infrastructure resources that is managed by an independent software vendor (ISV) or a third-party service provider.
- **Platform-as-a-service (PaaS)** solutions are designed and offered as private cloud-ready solutions, IT assets are typically owned and managed by the customer and dedicated to a single customer. Whether designed for public or private cloud, all PaaS, at a minimum, must conform to IDC's eight basic cloud characteristics: packaged solutions; shared/standard services; elastic resource scaling; self-service; elastic, term-based pricing (no perpetual license); ubiquitous (authorized) network access; standard UI technologies; and published service interface/API.
- **Single-tenant software** can be deployed in either a public or private cloud where each instance of the software is dedicated to a single customer for an extended duration.
- **Public cloud** services are shared among unrelated enterprises and/or consumers, open to a largely unrestricted universe of potential users, and designed for a market, not a single enterprise (e.g., AWS, Azure, GCP).
- **Private cloud** services are shared within a single enterprise or an extended enterprise, with restrictions on access and level of resource dedication, and defined/controlled by the enterprise, beyond the control available in public cloud offerings (e.g., vendor or partner-dedicated cloud).

LEARN MORE

Related Research

- *IDC MarketScape: Worldwide Headless Content Management Systems 2023 Vendor Assessment* (IDC #US50826923, June 2023)
- *IDC MarketScape: Worldwide Full-Stack Content Management Systems 2023 Vendor Assessment* (IDC #US50827723, June 2023)
- *Worldwide Persuasive Content Management Applications Market Shares, 2022: Data-Driven Personalization in Customer Experiences* (IDC #US50669623, May 2023)

- *Worldwide Website Software Market Shares, 2021: Headless Content Management Gains Traction* (IDC #US50451723, March 2023)
- *Customer Data Influences on Content Marketing and the Customer Experience* (IDC #US50455223, March 2023)
- *Top 10 IDC FutureScape Predictions Influencing Content Management Technology and the Customer Experience* (IDC #US50414323, February 2023)
- *The Unified Content Model – A Modern Approach for the Digital-First Business* (IDC #US49880522, December 2022)
- *IDC Market Glance: Persuasive Content and Digital Experience Management Software Ecosystem, 3Q22* (IDC #US48611022, August 2022)

Synopsis

This IDC study provides an assessment of the hybrid headless content management systems used for persuasive digital experiences and presents the criteria most important for companies to consider when selecting a hybrid headless content management solution. This assessment discusses both quantitative and qualitative characteristics that explain success in the authoring of personalized content to be delivered by a custom-developed front-end brand or consumer website, mobile web app, or other digital delivery channel. The evaluation is based on a comprehensive and rigorous framework that assesses vendors relative to the criteria and one another. The study highlights the factors expected to be the most influential for success in the market during both the short term and the long term.

"Organizations are adopting hybrid headless CMSs because they want both the ease of the full-stack presentation control and the flexibility of a presentation-agnostic headless CMS to support the variety of digital experiences the business demands and consumers expect," said Marci Maddox, research vice president, IDC's Persuasive Content and Digital Experience Strategies program. "Organizations are recognizing the value that the hybrid headless CMS brings to use one content source to publish across many digital channels."

About IDC

International Data Corporation (IDC) is the premier global provider of market intelligence, advisory services, and events for the information technology, telecommunications and consumer technology markets. IDC helps IT professionals, business executives, and the investment community make fact-based decisions on technology purchases and business strategy. More than 1,100 IDC analysts provide global, regional, and local expertise on technology and industry opportunities and trends in over 110 countries worldwide. For 50 years, IDC has provided strategic insights to help our clients achieve their key business objectives. IDC is a subsidiary of IDG, the world's leading technology media, research, and events company.

Global Headquarters

140 Kendrick Street
Building B
Needham, MA 02494
USA
508.872.8200
Twitter: @IDC
blogs.idc.com
www.idc.com

Copyright and Trademark Notice

This IDC research document was published as part of an IDC continuous intelligence service, providing written research, analyst interactions, telebriefings, and conferences. Visit www.idc.com to learn more about IDC subscription and consulting services. To view a list of IDC offices worldwide, visit www.idc.com/offices. Please contact the IDC Hotline at 800.343.4952, ext. 7988 (or +1.508.988.7988) or sales@idc.com for information on applying the price of this document toward the purchase of an IDC service or for information on additional copies or web rights. IDC and IDC MarketScape are trademarks of International Data Group, Inc.

Copyright 2023 IDC. Reproduction is forbidden unless authorized. All rights reserved.

