



TECHNOLOGY AUDIT

dotCMS v1.9; Web Content Management

dotCMS

SUMMARY

IMPACT

An organization’s corporate website is a business-critical communication channel because it is usually the first port of call for customers, partners, suppliers, and stakeholders looking for information relating to products, services, and company news. There is therefore a clear requirement for the content and information presented by corporate websites to be dynamic, relevant, and accurate. dotCMS, a provider of open-source, Java/J2EE web content management (WCM) solutions, aims to offer organizations a cost-effective open-standards-based WCM system that can be used by enterprise web content authors with little or no knowledge of HTML.

- dotCMS Community Edition (licensed under GPL 2.0) offers a free route to high-functionality WCM.
- Commercial versions of dotCMS enable organizations to choose between in-house or cloud-based deployments.
- Commercial organizations, educational establishments, and government sites are using dotCMS.

KEY FINDINGS

Strengths:	<ul style="list-style-type: none">✓ The free “download-and-run” Community Edition of dotCMS makes it a viable and attractive WCM for all but the most demanding of website requirements.✓ Supports multi-tenant virtual hosting, Amazon EC2 deployment option, and common enterprise IT infrastructure components.
Weaknesses:	<ul style="list-style-type: none">✗ Push publishing is a manual process.✗ Lacks strong integration with e-commerce suites
Key Facts:	<ul style="list-style-type: none">i Search capabilities are based on Apache’s open-source Lucene engine.i Solutions accelerators for health care, public information and higher-education sites.



OVUM VIEW

The WCM arena continues to be an interesting market to watch, with Ovum identifying two distinct vendor categories in the space.

First are the proprietary vendors that offer enterprise-class, functionally rich, platform-based WCM solutions. This category of vendor has been in the midst of considerable consolidation activity over the years as the move from stand-alone WCM solutions has evolved into enterprise content management (ECM) suites incorporating documents and records management, collaboration, workflow, messaging, and search.

The second category is populated by targeted offerings, and also includes open-source WCM solutions. Vendors in this space offer solutions that address a span of business and technical requirements. dotCMS participates in a segment that caters to those organizations with maturing WCM requirements.

dotCMS is a highly functional WCM solution and one of the most developed open-source offerings on the market. It benefits from a large developer community that contributes code to enhance and extend the product, and an annual developer conference encourages community participation. The product has been tailored so that content publishers with little or no knowledge of scripting languages can create, edit, and publish web content without having to involve the IT department (dotCMS states that 91% of its customers do not have a Java developer on their payroll). dotCMS does lack some key features such as push publishing and site-level versioning but overall the product is capable of meeting the requirements of most organizations.

Recommendations

- This WCM offering is worthy of closer examination by mid-sized organizations with significant numbers of content authors and diverse publishing requirements. It is relevant across a broad range of industry verticals.
- Organizations using dotCMS Community Edition should assess the business value afforded by the commercial versions of the product including the ability to deploy dotCMS in the cloud.
- Organizations seeking to establish an e-commerce presence on the Web should evaluate other offerings, as should businesses and institutions with complex publishing and/or staging requirements.



FUNCTIONALITY

SOLUTION OVERVIEW

The dotCMS WCM offering is available in both “community” (free) and “enterprise” versions, and addresses the requirement that all organizations have in creating, editing, managing, and publishing web-based content. The product was designed with simplicity, flexibility, and usability as its core themes. dotCMS is targeted at the business-user base across functional departments and does not require content authors or website managers to have knowledge of HTML or scripting languages even though these facilities are fully supported for advanced users or website developers. dotCMS incorporates a WYSIWYG editor that enables content authors across the organizations to create, edit, and modify content.

A web page created in dotCMS is comprised of components that can be reused across the entire WCM system.

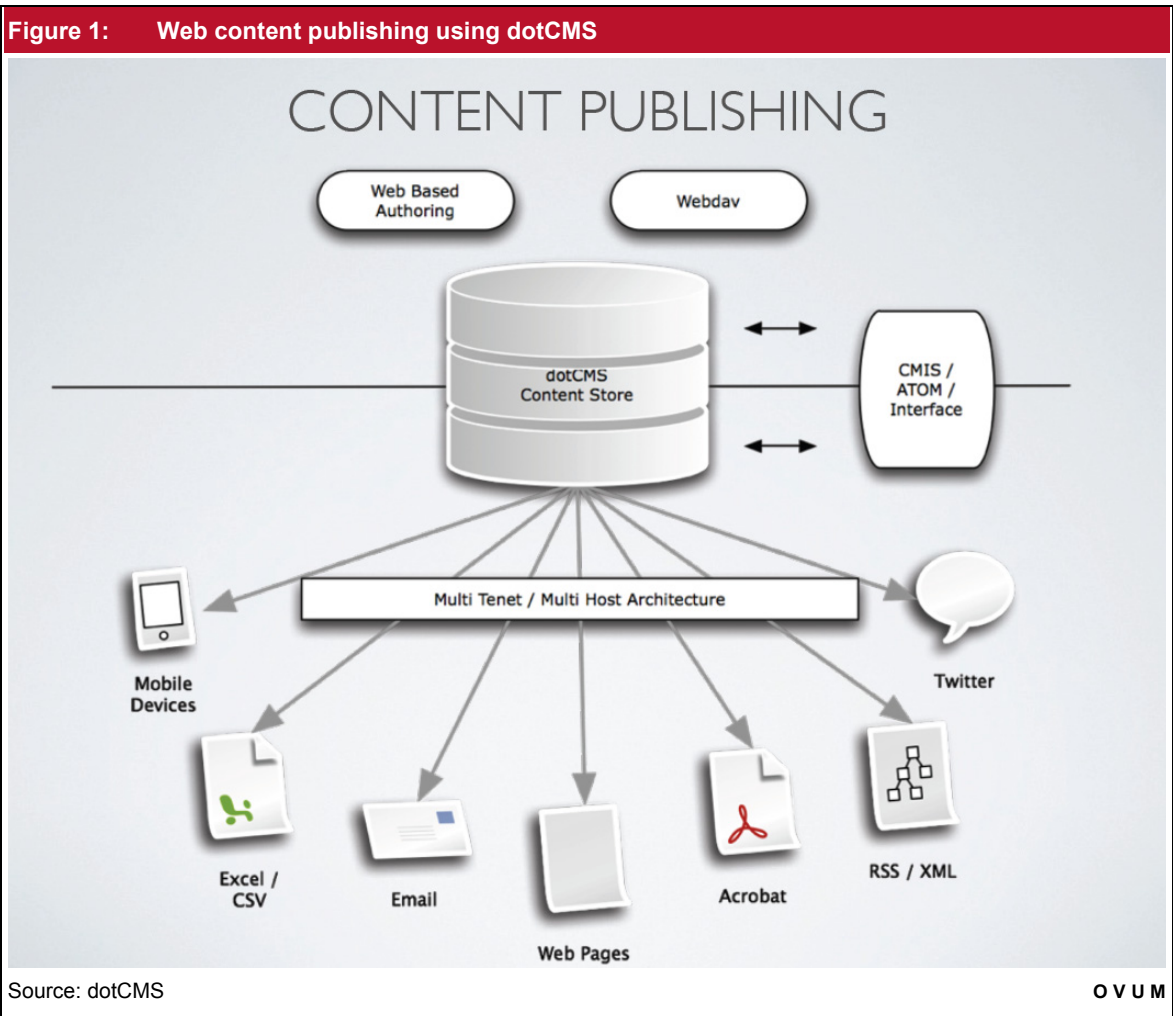
- **Content** is added and organized through the use of content “structures” that are used to form pieces of “content”. Each piece of content that is made through the use of a particular content structure belongs to the same content type. It resides in a content repository and can be reused as needed across all websites maintained by the same dotCMS installation.
- **Containers** in dotCMS perform two functions. First, they can be used to place reusable HTML elements across templates and pages. Second, they can define where content from the content repository can be placed on a template, how that content should be formatted, and whether it can be edited through the inline editing mode.
- **Structures** hold and organize information in fields created within dotCMS. Structures break up information into fields such as title, subtitle, description, or body, and then display some or all of these fields when the content type is associated with a page on a website.
- **Templates** are layouts available to users when building new HTML, XHTML, or XML pages. The templates provide a webpage layout and link the containers to the HTML page.

dotCMS Community Edition (CE) is available free of charge and is licensed under GPL 2.0. dotCMS is also offered under commercial licensing terms that extend support to a greater range of IT infrastructure components and full product support from the vendor. dotCMS states that most if not all of its enterprise customers elect to license one of the commercial editions. These are: dotCMS Enterprise Standard, dotCMS Enterprise Pro, or dotCMS Enterprise Prime. The commercial versions of dotCMS offer elements of functionality not available in the dotCMS CE such as support for IBM WebSphere and Oracle Weblogic application servers, support for IBM, Microsoft, and Oracle databases, and support for clustering and high availability. Active Directory and LDAP authentication support requires dotCMS Enterprise Standard as does the ability to deploy to the cloud through Amazon EC2. Ovum is surprised that dotCMS CE is not deployable to the cloud because this would seem to offer the easiest of start-up options.

SOLUTION ANALYSIS

Architecture

dotCMS is a multi-platform WCM solution that offers support for multi-tenant virtual hosting. Ovum believes that the architecture of the product, including full support for cloud-based deployment, lends itself to use by agencies or businesses looking to offer WCM as a managed service. dotCMS would also sit well with organizations (such as local authorities) that want to host multiple websites.



Authors have the option of submitting content to the dotCMS repository either via HTTP (web-based authoring) or WebDAV. With WebDAV, users can create a connection between their local computer and the server, and access content from within the dotCMS repository as they would access files or content from their local hard drive. Content displayed on HTML to users does not actually reside in the dotCMS content repository. The dotCMS repository is compliant with CMIS standards and offers support for multiple content types including content submitted via mobile devices, MS Excel, CSV files, email, HTML, PDF, RSS, and XML.

dotCMS has three user-interaction layers. The first is the “content contributor” layer, which is the UI that enables users to upload and author files, pages, and other content. The second is the “web developer” layer, which includes templates, containers, widgets, and the UI for velocity scripting language. The third layer, is known as the “Java developer” layer, offers developers access to the dotCMS platform, as well as APIs and plugins.

Interoperability

dotCMS was built using technologies that are widespread in the context of J2EE development.

Lucene: dotCMS uses Lucene, a Java-based cross-platform text search engine library, to provide search capabilities for the product. Lucene is widely used in a variety of open-source and commercial products where search capabilities are required.

Apache Struts: dotCMS uses Apache Struts, a web application framework also from the Apache Software Foundation.

CMIS: dotCMS offers support for Content Management Interoperability Services (CMIS), a Restful Access to Content specification for improving interoperability between ECM systems. Ovum has noted that CMIS is gaining significant interest from both the demand and supply sides of ECM technologies. Analogous to how most database vendors standardized on SQL in the 1980s, the CMIS specification (ratified in May 2010) aims to standardize information access and delivery by enabling content-sharing across multi-vendor repositories. CMIS is backed by most major ECM vendors including EMC, IBM, Microsoft, Open Text, Oracle, and SAP.

Hibernate: dotCMS uses hibernate to abstract the database layer, which allows customers to run dotCMS on the database of their choice

JBoss: dotCMS leverages JBoss Cache to provide the caching layer so necessary to insure optimum performance. The product also uses JBoss Rules to allow administrators to create rule-based triggers across the site to provide implicit and explicit personalization.

Velocity: dotCMS uses Velocity, a Java-based template engine that provides a scripting language to reference objects defined in Java code.

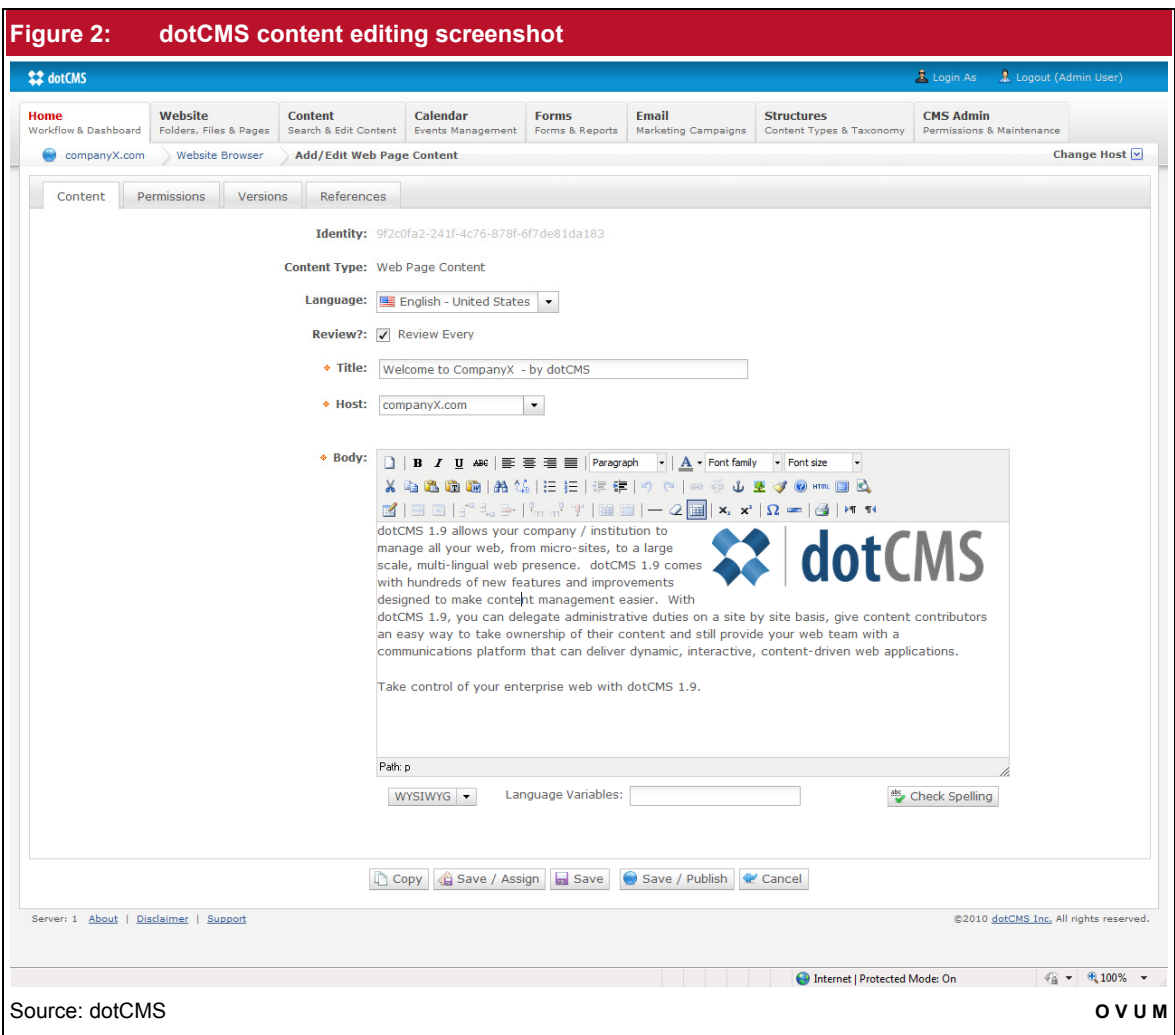
Usability

dotCMS offers many capabilities that contribute to the solution’s overall usability, and in Ovum’s opinion the solution offers the kind of neat non-cluttered user interface that business users require in order to successfully use the product. Although the rich editing facilities with dotCMS have a familiar look-and-feel (see Figure 2), some users will still want to author and edit content by using familiar editing tools such as Microsoft Word. Those evaluating dotCMS would be advised to explore the Microsoft Office integration opportunities and work with content authors to make sure the user interface is suitable for all users. Unlike some products on the market, dotCMS offers in-place editing of content.

dotCMS provides a range of web administration and maintenance capabilities such as content tagging, content categorization, relating content (by defining relationships), defining content, widgets, and forms structures. These capabilities can be delegated to content contributors by the web administrator. dotCMS also offers the ability to check in and check out content, providing essential content-management and control facilities. In addition, dotCMS is equipped with version-control features that ensure the version number is automatically updated when a user makes changes to an asset.

dotCMS does not yet offer strong support for staging and push publishing, and so complex publishing regimes might struggle with the current version. The vendor has identified enhancements to this area on its product roadmap.

Another capability that Ovum believes contributes greatly to the perception of greater usability is support for tag clouds. This feature is particularly useful for visualizing tag words associated with a significant quantity of static content. The solution also facilitates the creation of widgets, which are reusable pieces of dynamic content. Widgets can be created by users with little or no knowledge of HTML and/or Velocity.





Workflow

dotCMS has a built-in workflow that enables tasks to be created that are related to a specific piece of content or HTML page. With the exception of administrators who can see all workflow tasks, users see only the tasks assigned specifically to them. Roles can also be used for task assignment, and dotCMS offers multiple features to filter workflow-related activities and to track task-completion status. Notifications can be generated when a task is modified, and due dates can be assigned to tasks with email reminders generated automatically if desired.

Forms Creation

dotCMS offers native support for forms, enabling business users and non-technical users with minimal knowledge of HTML to create and roll out web-based forms. dotCMS was designed to facilitate the easy creation and deployment of forms, and works in a similar way to normal publishing processes. Users can set forms-related permissions, view submissions, and export submissions to Microsoft Excel format for further analysis.

PRODUCT STRATEGY

Market focus

This WCM offering is suited to general use and is already used in a variety of industries including the healthcare, manufacturing, financial services, higher education, professional services, and pharmaceutical sectors. According to the vendor, dotCMS is particularly applicable to marketing departments that need to provide publishers and content contributors with a unified web-authoring tool that integrates with third-party systems and data repositories. A clear pointer to the target market of this offering are the dotCMS “accelerators” that have been developed for public-sector information sites, higher education, and associations (.org).

According to dotCMS, the key market opportunity for dotCMS is linked with an organization’s need to eliminate the typical bottlenecks that occur in publishing content to the web. Like other WCM solutions on the market, dotCMS aims to address this by targeting the average business user or knowledge worker who needs to author and/or publish web content. dotCMS delivers strong functionality without being overly complex, making good use of open-source technology and adhering to established and emerging web standards.

The route to market is a mix of both direct and accredited partner-based sales. Direct sales are predominantly within the US and account for almost 90% of the company’s revenues. The remaining 10% comes from accredited partners that sell dotCMS outside of the US. The company’s key technology partners are RedHat, KonaKart, Apache, OASIS, Oracle, and Ebsco.

Licensing

Product pricing and licensing is very straightforward:

- dotCMS Community Edition is free and is licensed under GPL 2.0
- dotCMS Enterprise Standard is \$4,750 per server (dotCMS Open License)
- dotCMS Enterprise Pro is \$9,750 per server (dotCMS Open License)
- dotCMS Enterprise Prime is \$14,750 per server (2 JVMs) (dotCMS Open License)



Note: dotCMS defines a “server” as a single box running a single JVM.

In terms of software and services deployment costs, dotCMS says an entry-level deployment might be in the region of \$26,000, while a typical mid-sized deployment would be closer \$52,000. A large-scale implementation would be in the region of \$130,000. The ratio of software to service is 20:80.

Product Releases

dotCMS has adopted a multi-phased product release strategy for dotCMS.

- **QA and internal release:** The internal release phase is a release of the developed product to the QA team, internal constituents, and training/documentation teams. Partners and members from the open-source community also participate in this phase and have access (for testing purposes) to pre-release builds. This phase deals predominantly with quality-assuring the product and verifying its functional completeness.
- **Limited pre-release:** In the limited, pre-release phase, dotCMS chooses specific partners and clients to begin guided deployments of the new dotCMS release. These deployments benefit from working closely with the product-development team and are executed in controlled environments with implementation teams working directly with dotCMS. This phase enables the vendor to ensure the quality of the solution’s release in production and integrated environments.
- **Community release:** The community release phase sees the availability of dotCMS to the open-source community. In this phase the dotCMS Community Edition is available for general consumption and can be used where applicable and in production environments. The company continues to test, bug-fix, and quality-check the product in real-world production environments.
- **Enterprise release:** The enterprise release sees the general availability of the software released to customers. After release the software version is transitioned to support-and-maintenance mode for ongoing support and development.

IMPLEMENTATION

With respect to implementation timeframes and resources required during implementation, dotCMS says an evaluation/pilot project or small-scale implementation of dotCMS has a deployment timeframe of about 30 days and requires three full-time equivalents with knowledge of HTML/CSS, JavaScript, Velocity, and project management.

A mid-sized implementation/departmental roll-out has a deployment timeframe of approximately 90 days and requires four full-time equivalents with knowledge of HTML/CSS, JavaScript, Velocity, and project management.

A large-scale deployment would take about six months and require six full-time equivalents with knowledge of HTML/CSS, JavaScript, networking, Velocity, and project management.

There are several technical-support packages for organizations purchasing the commercial editions of dotCMS.



The Economy package entitles the customer to two tickets/support enquiries per month, with a two-hour response time SLA during business hours (9am to 6pm EST). This option costs \$1,800 if licensed quarterly and \$6,600 if licensed annually.

The Standard package entitles the customer to five tickets/support enquiries per month, with a two-hour response time SLA during business hours (9am to 6pm EST). This option costs \$3,700 if licensed quarterly and \$13,500 if licensed annually.

The Performance package entitles the customer to 10 tickets/support enquiries per month, with a two-hour response time SLA during business hours (9am to 6pm EST). This option costs \$6,000 if licensed quarterly and \$21,000 if licensed annually.

Three deployment options are available for dotCMS: on-premise, on-premise (managed), and cloud.

The on-premise model involves the installation of dotCMS in the customer's own data centers. It can be architected so it can be deployed on one or more servers depending on the volume of content to be fed into and published by the WCM system.

The on-premise (managed) deployment option typically involves dotCMS staff (or staff from a partner) managing the dotCMS installation at the client site.

There are two cloud implementation options: hosted with dedicated hardware, or cloud on shared hardware (Amazon EC2).

The dotCMS CE can be deployed as an on-premise or a managed on-premise model, and the commercial editions can be deployed as an on-premise, managed on-premise, or SaaS model.

dotCMS is supported on the following platforms: Microsoft Windows (Windows Server 2003 upwards), Linux (Debian and its distributions as well as Red Hat Enterprise), Solaris (10+ on Intel and Sparc), and Mac OS (OS X – 10.5)

dotCMS has 45 customers using the supported version of the solution.



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