Critical Capabilities for Enterprise Content Management

Published: 29 November 2016   ID: G00304085
Analyst(s): Karen M. Shegda, Gavin Tay

Summary

ECM solutions must address a range of user constituencies, within and outside the enterprise, while meeting a broad set of functional requirements. This document will help application leaders of ECM initiatives identify the solutions they can deploy to address uses important to their organizations.

Overview

Key Findings

One size does not fit all in content management. Organizations have many content-centric processes — formal and ad hoc, internal and customer facing — that enterprise content management (ECM) systems support.

The ECM vendor landscape is diverse, with some vendors’ products being platforms that are suited to a wide variety of use cases and others optimized for departmental applications and processes, or for worker-oriented activities.

Recommendations

For application leaders implementing ECM solutions within the broader context of a digital workplace program:

Work with business leaders to identify your dominant use case(s) for content management and build a vision and a roadmap for how you will support that use case.

Take into account the appropriate degree of autonomy applicable to users when they carry out their work.

Evolve content management use cases from pure back-office support to how content is used within and outside of the organization and lines of business (LOBs).

Use this document alongside the companion "Magic Quadrant for Enterprise Content Management" to facilitate product selection decisions, and identify key differentiators among the offerings.

Strategic Planning Assumptions

By 2019, the current enterprise content management market will devolve into cloud-based, content service platforms and purpose-built applications.

By YE20, 80% of content declared as records will be done so automatically via graphing technology and analytics.

What You Need to Know

Tools for creating, using and managing content in the enterprise are increasingly delivered as a set of services and components tailored to business outcomes. The best solution to meet those business outcomes depends on what they are trying to achieve. It may mean more than one solution is required.

This research is a companion document to Gartner’s 2016 ‘Magic Quadrant for Enterprise Content Management.’ The Magic Quadrant assesses the ECM vendors with respect to their ability to execute in the market and their vision. This Critical Capabilities document assesses the 15 vendors in terms of their ECM suites’ functional capabilities to support the following five use cases:

- Personal and team productivity
- Records management and compliance
- Process applications
- Content ecosystem
- Digital transformation/modernization

View the scoring in this research in terms of whether or not the featured products meet the requirements that your organization demands. A score of 3.0 means the offering is good and will meet requirements. If your organization has leading-edge requirements, focus first on products that score 3.5 or higher in the respective area of interest.

Analysis

Critical Capabilities Use-Case Graphics

Figure 1. Vendors' Product Scores for the Personal and Team Productivity Use Case
**Figure 2.** Vendors’ Product Scores for the Records Management and Compliance Use Case

**Figure 3.** Vendors’ Product Scores for the Process Applications Use Case

Source: Gartner (November 2016)
**Figure 4. Vendors' Product Scores for the Content Ecosystem Use Case**

**Figure 5. Vendors' Product Scores for the Digital Transformation/Modernization Use Case**
Alfresco

The Alfresco One content management platform has evolved from its initial focus on repository services to become a solution for individual and team productivity, records management and compliance, and process applications such as case management, sales enablement, customer onboarding and brand management. It lacks native imaging and archiving capabilities and has not traditionally been strong in process applications that are more transactional in nature, such as loan origination, claims processing or financial process automation.

The Alfresco Records Management module — an add-on to the core content server — is certified for the U.S. Department of Defense (DoD) Standard 5015.2. However, Alfresco's limited vertical industry expertise and support for industry-specific regulations means it is not as strong as other providers in meeting regulatory compliance needs.

With Alfresco Share, the vendor supports content-centric collaboration and file sync and sharing. These are key requirements for individual and team productivity. Alfresco does support the emerging content ecosystem, though it has limited out-of-the-box integrations beyond integrations with Salesforce, SAP, Google Docs, and Microsoft Outlook and SharePoint.

Dell EMC

Dell EMC's Enterprise Content Division (ECD) combines content management and industry offerings. Dell EMC has long been known for the strength of its core Documentum repository and its add-on Records Manager module, especially in highly regulated industries. It offers the basic retention module, Retention Policy Services, in addition to the full Records Manager, and provides content classification and categorization capabilities. These capabilities, along with support for regulations (FDA CFR 21: Part 11) and standards (ISO 9001), and comprehensive security and auditing, make this vendor well suited to the records management and compliance use case. Dell EMC's historical strengths in document management and imaging, its business process management (BPM) and case management features, and its integration and interoperability capabilities, also make the Documentum family a solid option for process applications.

Dell EMC's Documentum family has limited native capabilities for social content and collaboration, relying instead on integrations with Microsoft SharePoint and Syncplicity. It therefore lags behind other competitors in its ability to support personal and team productivity. The new Leap platform will support content sharing and external document exchange, thus making it better suited to this use case.

On 12 September 2016, OpenText announced its plan to acquire ECD and its software and solutions portfolio. The deal is expected to close within 90 to 120 days. Prospective customers should monitor the acquisition progress and ensuing product roadmaps.

Everteam

Everteam has traditionally sold its software to midsize organizations and some large enterprises, mostly in Europe and the Middle East. Everteam offers its ECM platform as on-premises and cloud delivery models, including cloud enterprise file synchronization and sharing (EFSS) capabilities.

In 2015, Everteam acquired a BPM provider, Intalio, and has since shifted its corporate headquarters to the U.S. and its focus to BPM, archiving and records management. With the content and process capabilities in its platform, Everteam is suited for process application support, particularly case management, claims management, contracts management and correspondence tracking. Its other top use case is records management and compliance, though it lacks certification for DoD 5015.2.

Everteam ECM has minimal out-of-the-box integration with external toolsets that are not web-based, limiting its use in content ecosystem scenarios.

Hyland
OnBase, Hyland's ECM suite, is appropriate for organizations interested in transaction-associated content and case-centric workloads. Hyland excels in document capture/ingestion, BPM/rule engine, integration/interoperability, and regulations/certifications. Hyland meets leading-edge customer requirements for all five ECM use cases, given its breadth of capabilities with the core product. Two primary focus areas for Hyland are process applications and content ecosystem uses. Hyland's integrations with LOB applications such as Epic, Guidewire and SAP let users view content in the context of their job roles.

IBM
IBM's ECM portfolio focuses on process applications, social content and other use cases. IBM Content Foundation and IBM Case Manager have been used to support a variety of industry-focused process solutions such as loan origination, claims processing and case management. IBM's content and predictive analytics capabilities, coupled with its integration strengths, enable it to support processes that cross corporate boundaries and information sources such as fraud detection. With Enterprise Records, IBM ECM solutions also are deployed to support records management and compliance uses.

Laserfiche
Laserfiche offers a comprehensive ECM suite that can be deployed on-premises or in the cloud (AWS). Laserfiche's greatest strengths and innovations lie in integration/interoperability through its Laserfiche Connector, and BPM/rule engine with its Business Process Library of industry solutions. This is followed closely by mobility with its secure offline access to documents and geolocation tagging capability.

Laserfiche supports compliance with records management and industry regulations, and with security standards, including DoD 5015.2, VERS, SOX, FDA CFR 21: Part 11, HIPAA, FFIEC, FINRA, ISO and NIST. While partnerships with Tableau, Microsoft SQL Server Reporting Services and SAP Crystal Reports/Business Objects are available, Laserfiche continues to build on these business intelligence (BI)/analytics capabilities, with the addition of process performance dashboards and plans to add predictive analytics.

Laserfiche meets the requirements of leading-edge customers across all five ECM use cases. It also ranks higher than the other vendors for the content ecosystem use case.

Lexmark
Lexmark Enterprise Software offers Perceptive Content for ECM needs around process applications such as patient records in healthcare, along with admissions, transcript processing and financial aid in higher education. In addition, separate offerings in the Lexmark portfolio — Kofax and ReadSoft — provide capture, recognition technologies and ERP integration capabilities that support financial process automation extremely well.

With Perceptive Workplace, Lexmark enables individual users and teams to share and collaborate on documents. Perceptive Content and Kofax TotalAgility have good integration with SAP and other horizontal and vertical LOB applications, making them suitable for content ecosystem uses.

M-Files
M-Files' ECM solution can be deployed on-premises, in the cloud or hybrid and boasts a common code base that has a metadata-driven architecture across all three modes. M-Files has a strong presence among midsize organizations. Its ECM solution ranks the highest in supporting the classification/categorization critical capability. This is the ability to intelligently classify a document or email automatically by criteria. However, the M-Files solution also modernizes the traditional ECM construct with its dynamic views and virtual folders, facilitated by the embedded advanced text analytics. The analytics/BI capability in M-Files may not be suitable if it goes beyond what Microsoft Power BI, Tableau and QlikView offer. While its focus is predominantly on the records management and compliance use case, M-Files also meets the needs of customers in the four other use cases.

Microsoft
Microsoft offers SharePoint as either on-premises SharePoint Server (built on the Windows platform) or SharePoint Online, a cloud-based multitenant offering that is typically bundled with Microsoft Office 365 subscriptions. While using synchronized code bases, the two SharePoint products differ programmatically and functionally. SharePoint Server is widely deployed on-premises in enterprises to support personal and team productivity. Many organizations also have deployed it as a secure content repository, but it lacks full records management and compliance with standards for records management and industry regulations.

For both SharePoint Server 2016 and SharePoint Online, customers may need add-ons and third-party tools for a range of ECM capabilities such as records management, image capture, autoclassification, workflow and administration. SharePoint Server's lack of robust workflow and native document scanning software limits its suitability for structured process applications. SharePoint in all forms has limited integration with LOB applications outside of the Microsoft stack, making it weaker than many other providers for content ecosystem uses.

Newgen Software
Newgen's ECM suite consists of five components that can be deployed on-premises or in the cloud (public or private) — OmniDocs, OmniFlow, OmniScan, OmniAcquire and the Newgen Enterprise Mobility Framework (NEMF). Newgen's greatest strengths and innovations lie in BPM/rule engine (OmniFlow), with deep support for industry solutions. This is followed closely by document capture/ingestion (OmniScan, OmniAcquire) and mobility (NEMF), which facilitates real-time capture and processing. Newgen provides business activity monitoring and reporting capabilities that may not sufficiently suit the needs of leading organizations in the category of analytics/BI.

Newgen provides relatively strong capability with the process applications use case, for which it ranks highest among selected vendors.

Objective
Objective offers a full ECM suite that can also be used as a stand-alone document, records management and workflow solution on top of third-party repositories such as Microsoft SharePoint. Objective excels in content security, regulations/certifications, BPM/rule engine and classification/categorization through its use of the Exalead CloudView engine. Its industry focus, particularly for the public sector, is augmented by the support of international record-keeping standards for governments, as well as highly sensitive "national security" content.

Objective provides relatively strong capability in the records management and compliance use case, and is well-positioned to deliver digital transformation solutions where governance is a key driver.

OpenText
OpenText has a broad set of ECM capabilities and is well-suited for most use cases. The OpenText Content Suite (the current version is 16) has been aligned to vertical industries and focused on construction and operations, energy, engineering, financial services, government, healthcare, insurance, legal, life sciences, manufacturing, media and entertainment, and utilities. Its deep integration with, for example, SAP, SuccessFactors and Microsoft, make the OpenText Content Suite well-suited for supporting a diverse content ecosystem.

OpenText Records Management is a core component of the OpenText Content Suite, providing automated, information life cycle management of digital and physical content. OpenText Content Suite is certified for all the key industry standards for records management, including DoD 5015.2 v.3, VERS and MoReq2010, and also supports ISO and FDA CFR 21: Part 11 regulations, making it well-suited for records management and compliance needs.

Oracle

For Oracle, content management is considered infrastructure. Oracle WebCenter Content is a core part of the Oracle middleware platform and also supports back-office applications. WebCenter Content is often used to support organizations’ records management and compliance needs. It also integrates with many business applications to support back-office applications and enable the content ecosystem. Oracle Content Cloud is focused on collaboration and team productivity. Recently, Oracle announced the Content and Experience Cloud as part of its platform as a service (PaaS).

SER Group

SER Group offers the Doxis4 iECM suite, which encompasses ECM services and solutions deployable on-premises or in the cloud (public and private). SER's greatest strengths lie in BPM/rule engine with Doxis4 BPM, which supports adaptive processes (composed of three services — Workbasket, Task Management and Process Management). This is further augmented by its classification/categorization capabilities (Classification and Text Mining services), which uses machine learning and Elasticsearch CORE for Insight Engine.

While SER may not sufficiently suit the needs of leading organizations for the personal and team productivity use case, it provides relatively strong capability in the content ecosystem, process applications, and records management and compliance use cases.

Xerox

Xerox’s ECM portfolio centers on DocuShare and purpose-built LOB solutions to provide value-added services to its fleet management and multifunction product contracts through managed content services (MCS), as well as stand-alone ECM on-premises and cloud solutions. Xerox's greatest strengths lie in mobility (DocuShare Mobile), document capture/ingestion (direct scan from multifunction product [MFP]), classification/categorization, content security, integration/interoperability and BPM/rule engine.

Xerox is weak in regulations/certifications and analytics/BI as DocuShare Record Manager's DoD 5015.2 certification has lapsed, though the DocuShare Life Cycle Manager offers a simpler approach for review and disposition of documents. DocuShare's integration with Xerox CompleteView Pro (CVP), to provide analytics on content usage in the repository, may not sufficiently suit the needs of all organizations.

Xerox meets customer requirements in all five ECM use cases, with the content ecosystem use case being its strongest.

Context

ECM program managers must build a strategy and a portfolio of solutions to address the spectrum of user needs and enterprise requirements when it comes to content management. Some content needs and requirements are geared more toward flexible knowledge worker access and value inside the enterprise. Most organizations also must address content that needs to be accessed, shared or delivered outside the enterprise.

Still other content needs are more focused on regulatory compliance or transactional use cases. It is critical to map these needs and requirements to the right tools as some solutions are optimized for certain use cases. This document provides that guidance.

Product/Service Class Definition

Content is a critical asset, an outcome and driver of processes, and a source of business insight. Yet how organizations create, manage, disseminate and exploit their enterprise content has changed in response to external forces and internal drivers. ECM is both a strategy and a suite of applications that provides value in many ways. It helps organizations to:

- Grow the business via measurable productivity increases
- Run the business through cost avoidance or reduction
- Transform the business by treating content and information as an asset, encouraging collaboration and decision making and creating new business opportunities
- Meet regulatory compliance requirements and support business continuity

In the future, the practice of ECM will be enabled through a set of services that coordinate content usage by all parties: users, systems and applications. Gartner has recast its definition of ECM in 2016 to emphasize the strategic need for a more dynamic, flexible and adaptable approach to content in the enterprise (see "Content Management for the Digital Era: Rethinking Strategies Beyond 2016"): ECM is a set of services and microservices, embodied either as an integrated product suite or as separate applications that share common APIs and repositories to exploit diverse content types, serve multiple constituencies and numerous use cases across an organization.

Critical Capabilities Definition

Document Capture/Ingestion

This refers to the ECM solution's ability to capture and transform paper documents and to ingest electronic content from a variety of sources, including authoring tools, email and bulk import from file shares and other systems.

Document capture and recognition technologies are often critical because many organizations still have manual processes or depend on employees, customers and constituents submitting paper documents. Capturing, transforming and managing images of paper documents are important requirements for automating mission-critical business processes, as well as for compliance and records retention. The ability to ingest
content from other sources is also important for records management and compliance as, increasingly, records retention programs must incorporate application data and social media content. Document capture and ingestion, particularly from mobile devices, geolocation services and other content sources, are important capabilities for process applications and digital transformation/modernization projects.

Classification/Categorization

Classification and categorization capabilities are applied to content to facilitate getting it into a repository or tagging it for records management purposes.

Classification and categorization are critical for records management and compliance. Organizations have struggled with their records management deployments because of the sheer difficulty of the classification process of records in this age of electronic information. Often, they rely on users to manually classify records. Look for content management systems that include some automation for categorization and classification. Consider whether categorization is available out of the box or via a partner and how easy the solution is to use. The degree to which content can be automatically classified and categorized is also important in the personal and team productivity and digital transformation/modernization use cases.

Insight Engine

Search capabilities are necessary for enabling users to find relevant content. Insight engines expand traditional search technologies to include analytics and machine learning.

Users want content to be available anywhere and anytime, in the context of their specific use case, so IT leaders must ensure that their content management strategies address analytics and search-based navigation. All ECM products ship with a search engine embedded as a core component so that users can create a full-text index and search the content stored in those repositories. A federated search tool can tie multiple content repositories together to increase your chances of finding what you need with less effort. Insight engines, as Gartner defines them, apply relevancy methods to describe, discover, organize and analyze data to allow for existing or synthesized information to be delivered proactively or interactively, and in the context of digital workers, customers or constituents at timely business moments. Insight engine capabilities are needed across all use cases, but are especially important in personal and team productivity, records management and compliance, and digital transformation/modernization.

Content Security

The features and capabilities to ensure that content is secure both at rest in the repository and while in motion (e.g., being routed through a process and collaborated on).

Content security addresses how the solution protects content within the repository via granular permissions and access controls, support for Lightweight Directory Access Protocol (LDAP)/Active Directory authentication, and encryption. Increasingly, being able to securely share content outside the firewall is a critical requirement. Digital rights management may be needed to protect the content from being forwarded, printed or downloaded beyond a period of time. Content security is critical for content ecosystem, personal and team productivity, and records management and compliance uses.

Regulations/Certifications

Support for records management standards and industry regulations like FDA, SEC and HIPAA.

The ability to meet international standards for records management is critical for an ECM solution that is intended to be the system of record or a trusted, secure content repository. It is necessary for regulated industries and those that are highly litigious, as well as for individual departments (HR, legal and finance) and processes (financial reporting) in every company. Highly regulated industries such as financial services, utilities and pharmaceuticals have always had records retention requirements. In addition, they typically must comply with legislation and regulations such as those related to the International Organization for Standardization, the Health Insurance Portability and Accountability Act (HIPAA), the Sarbanes-Oxley Act and FDA 21 CFR: Part 11. Increasingly, a broader range of industries are also finding themselves affected. Freedom of information legislation has also increased demand in government organizations to retain appropriate documents properly so that they can be produced as requested.

Mobility

The ability to support content access, creation, approval and sharing via mobile devices.

Today's geographically dispersed and increasingly mobile workforce expects to access content from anywhere, at any time, in the context of a business process. Beyond simply enabling mobile access to content, vendors must increasingly provide mobile applications to support review and approval of content, and with the ability to create content.

Use cases such as process applications, personal and team productivity and content ecosystem often require strong mobile apps (mobile capture, review and approval workflow), as well as mobile access to the repository and offline capability. Supporting internal or external file sharing in a more user-friendly manner is often a need. Application leaders should assess whether the ECM vendor they are considering has its own EFSS capabilities or integrations to tools like Box, Dropbox or Microsoft OneDrive for Business.

Integration/Interoperability

The capability and ease with which the content application can loosely and effectively couple with adjacent technologies, services and information sources (e.g., other content systems, LOB apps).

A content management solution must also work within your organization's infrastructure, including its email, ERP, portal and other LOB applications. Records management tools need to get to records in other systems. The ability to integrate these business applications allows users to extend records retention capabilities, support the content life cycle and makes it easier for users to declare records. Some tools can connect into different systems to declare records and apply retention policies to those records in place. Support for integration standards such as Content Management Interoperability Services (CMIS), RESTful APIs, and workflow and packaged connectors to other applications are necessary capabilities for many of the use cases, especially process applications, records management and compliance, and content ecosystem.

Social/Collaboration

Support for collaboration on documents and document sharing, along with social features such as voting tagging, rating and commenting.
Social and collaboration capabilities are critical for a variety of ECM use cases, especially personal and team productivity, process applications and digital transformation/modernization. They include document sharing (internally and outside the firewall) and file synchronization among devices (including mobile devices), co-authoring, expertise location, social mapping and support for social online interactions such as commenting, rating and tagging.

**BPM/Rule Engine**

Capabilities for supporting content-centric business processes, both routine and ad hoc, and routing content, assigning work tasks, states and creating audit trails.

ECM systems need to integrate with one or more LOB system and interact with, or be, the workflow system of choice. Many vendors are using stronger BPM capabilities to deliver frameworks or templates as content applications (e.g., for case management). Process applications depend on robust BPM capabilities and rule engines. Content ecosystems and digital transformation/modernization also heavily leverage BPM/rule engines.

**Analytics/BI**

The capabilities for analyzing file content for discovery, interrogation, autotagging or transformation of enterprise text, video, image and audio content.

Mining information for business insights is an essential task that supports collaborative decision making, prediction of outcomes, and detection of trends and anomalies. Content will become even smarter as it is fueled by smart machines, graph engines and dynamic metadata, giving organizations a whole new playing field to fulfill digital business objectives. Increasingly, ECM products offer content analytics and/or BI capabilities either natively or through integration with analytics engines.

**Use Cases**

**Personal and Team Productivity**

This use case focuses on supporting individuals and knowledge workers who need access to relevant content in context of their project or work tasks.

Content can be the outcome of collaborative processes and tasks, and is often the evidence or substance of decision making. Content can be the product itself and is often generated by high-value workers. Consider how people team up to get work done in your enterprise. Social content is created, vetted, marked up or delivered through a social process or channel and can be personal- or team-oriented. Typical social content scenarios include the use of blogs, wikis and similar channels for document sharing, collaboration and knowledge management. Groups of employees may form communities of interest to facilitate knowledge sharing and ideation. Cloud technologies, document sharing, mobile applications and social tagging are key features for personal and team productivity.

**Records Management and Compliance**

One of the most basic and common use cases for an ECM suite is as a secure repository to support records management, regulatory compliance and business continuity.

Risk management and regulatory compliance continue to be critical drivers for ECM adoption. Lost documents have a cost and so too can retaining content longer than is absolutely necessary. That cost can be high if the lost document is required by tax authorities or regulatory agencies, or the content is needed as evidence in litigation. Legal and regulatory drivers require organizations to keep tight control of their information assets, and to provide a full audit trail of how, when and where those assets were accessed. Records management modules provide the policies, processes and certifications for complying with industry-specific regulations.

The most critical capabilities for this use case are regulations/certifications, classification/categorization and content security.

**Process Applications**

Much of the content that comes into the organization, or that is generated by applications or employees, is directly or indirectly linked to processes.

Content technologies have long been used to automate content-centric processes, both employee-facing and customer- or constituent-facing. These can be departmental or mission-critical processes that require digital content — often times more than a single asset or file — that progresses through a set of steps, modifications and contingencies.

ECM technologies are used to automate vertical business processes like claims processing or new loan origination, thus reducing cycle times. ECM also is used to support automating horizontal processes like accounts payable invoice processing, case management, contracts management or correspondence management. Content and processes increasingly cross company borders in uses such as fraud detection, collaborative decision making, deal rooms, merger and acquisition activities, and case management (legal, social services).

For many processes, imaging, document management, integration with business applications such as ERP or CRM systems, and the ability to support multistep processes and exception handle, are critical. Mission-critical business processes can also include those of a more dynamic nature, such as engineering drawing management, proposal management and technical document publishing. As these types of content-centric processes are evidence of a business transaction or legal activity, a focus on records management and compliance is often needed. Content security is especially critical for cross-organizational processes.

**Content Ecosystem**

Content services and functionality embedded into everyday tools: portals, ERP systems, CRM applications, productivity suites, EFSS and mobile apps as a native experience.

Content does not exist in a vacuum. Many users require content in support of their day-to-day responsibilities and often need to access it from the LOB applications they use on a daily basis, such as their CRM, ERP and financial applications. Increasingly, users expect transparent access to content regardless of where it is stored. They want to work in tools like Salesforce, SAP, Office 365 and Google, and have the appropriate content surfaced in the context of the business task at hand.

In addition, processes, content and collaboration are increasingly crossing enterprise boundaries in the execution of business needs. This is a fundamental characteristic of digital business. A digital business must include the connection or integration with assets beyond IT and beyond the control of any one company. The cross-repository search and access capabilities of insight engines, external document and file sharing, as well as integration and interoperability, are important functional requirements in supporting the content ecosystem.
Digital Transformation/Modernization

ECM technologies can be a foundation for digital transformation and modernization efforts.

Digital transformation is one of the unifying principles behind the adoption of new technologies and services. Organizations look to transform their business to be more innovative or gain competitive advantage by treating content as an asset, encouraging collaboration and decision making, and creating new digital business opportunities. Traditional content management technologies such as imaging and workflow can kick-start an organization's digital transformation efforts. Eliminating paper and embracing digital processes end to end is often a starting point for transformation. Advanced and emerging content technologies such as content analytics, natural-language generation, voice services and geolocation services are enabling their ability to drive innovation, reduce costs and gain better insight and intelligence from enterprise content. The shift toward cloud-based content platforms and services-oriented approaches to content solutions enables organizations to modernize their architecture and tools.

Inclusion Criteria

To be included in this Critical Capabilities assessment, vendors had to meet the criteria Gartner outlined for inclusion in the related "Magic Quadrant for Enterprise Content Management" — revenue, geographic presence, essential functional components and proof of use in production scenarios.

Specific criteria were as follows:

**Revenue** — Vendors must have at least $15 million in total revenue derived from ECM with at least 5% ($750,000) of overall revenue derived from cloud-based content management services. Total ECM software revenue includes the revenue generated by sales of ECM software and software maintenance and support services.

**Geographic presence** — Actively market their products and have an established customer base in at least two major regions — for example, North America and the Middle East and Africa (EMEA), or Asia/Pacific and Latin America. At least 10% of overall revenue must come from outside the vendor's home market — if the vendor has presence in North America and Europe and North America is the home market, then 10% of revenue must come from Europe.

**Functionality** — Have at least four of the eight ECM essential functional components supplied natively (see Note 1: The Eight Essential Functional Components of ECM Software in the companion Magic Quadrant); other components may be supplied through partners.

**Integration** — Vendor products must have integration with at least five business applications (ERP, CRM, HR, productivity suites or other business process apps) natively, through connectors or add-on components.

**Packaged apps** — Offer at least three packaged apps that provide vertical or specialized industry solutions.

**Analytics/BI** — Must offer content analytics and/or BI capabilities either natively or through integration with analytics engines.

---

### Table 1. Weighting for Critical Capabilities in Use Cases

<table>
<thead>
<tr>
<th>Critical Capabilities</th>
<th>Personal and Team Productivity</th>
<th>Records Management and Compliance</th>
<th>Process Applications</th>
<th>Content Ecosystem</th>
<th>Digital Transformation/Modernization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Document Capture/Ingestion</td>
<td>5%</td>
<td>10%</td>
<td>15%</td>
<td>5%</td>
<td>15%</td>
</tr>
<tr>
<td>Classification/Categorization</td>
<td>8%</td>
<td>20%</td>
<td>5%</td>
<td>2%</td>
<td>10%</td>
</tr>
<tr>
<td>Insight Engine</td>
<td>20%</td>
<td>10%</td>
<td>5%</td>
<td>8%</td>
<td>10%</td>
</tr>
<tr>
<td>Content Security</td>
<td>15%</td>
<td>15%</td>
<td>10%</td>
<td>20%</td>
<td>5%</td>
</tr>
<tr>
<td>Regulations/Certifications</td>
<td>0%</td>
<td>25%</td>
<td>8%</td>
<td>2%</td>
<td>0%</td>
</tr>
<tr>
<td>Mobility</td>
<td>15%</td>
<td>1%</td>
<td>5%</td>
<td>2%</td>
<td>0%</td>
</tr>
<tr>
<td>Integration/Interoperability</td>
<td>7%</td>
<td>10%</td>
<td>15%</td>
<td>20%</td>
<td>15%</td>
</tr>
<tr>
<td>Social/Collaboration</td>
<td>25%</td>
<td>1%</td>
<td>2%</td>
<td>8%</td>
<td>5%</td>
</tr>
<tr>
<td>BPM/Rule Engine</td>
<td>3%</td>
<td>5%</td>
<td>25%</td>
<td>20%</td>
<td>10%</td>
</tr>
<tr>
<td>Analytics/BI</td>
<td>2%</td>
<td>3%</td>
<td>10%</td>
<td>5%</td>
<td>15%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

*As of November 2016*

*BI = business intelligence; BPM = business process management*

---

**Source:** Gartner (November 2016)
This methodology requires analysts to identify the critical capabilities for a class of products/services. Each capability is then weighed in terms of its relative importance for specific product/service use cases.

**Critical Capabilities Rating**

Each of the products/services has been evaluated on the critical capabilities on a scale of 1 to 5; a score of 1 = Poor (most or all defined requirements are not achieved), while 5 = Outstanding (significantly exceeds requirements). See Table 2.

### Table 2. Product/Service Rating on Critical Capabilities

<table>
<thead>
<tr>
<th>Critical Capabilities</th>
<th>Alfresco</th>
<th>Dell</th>
<th>Everteam</th>
<th>Hyland</th>
<th>IBM</th>
<th>Laserfiche</th>
<th>Lexmark</th>
<th>M-Files</th>
<th>Microsoft</th>
<th>Newgen Software</th>
<th>Objective</th>
<th>Op</th>
</tr>
</thead>
<tbody>
<tr>
<td>Document Capture/Ingestion</td>
<td>3.0</td>
<td>4.0</td>
<td>3.0</td>
<td>4.0</td>
<td>4.5</td>
<td>3.5</td>
<td>4.5</td>
<td>3.0</td>
<td>2.5</td>
<td>4.5</td>
<td>3.0</td>
<td>4.5</td>
</tr>
<tr>
<td>Classification/Categorization</td>
<td>3.5</td>
<td>4.0</td>
<td>3.5</td>
<td>3.0</td>
<td>4.0</td>
<td>3.2</td>
<td>3.0</td>
<td>4.5</td>
<td>3.0</td>
<td>3.0</td>
<td>3.5</td>
<td>4.5</td>
</tr>
<tr>
<td>Insight Engine</td>
<td>3.0</td>
<td>3.0</td>
<td>3.0</td>
<td>3.0</td>
<td>3.0</td>
<td>3.0</td>
<td>3.0</td>
<td>3.0</td>
<td>4.5</td>
<td>3.0</td>
<td>3.0</td>
<td>3.5</td>
</tr>
<tr>
<td>Content Security</td>
<td>3.8</td>
<td>4.5</td>
<td>3.5</td>
<td>3.5</td>
<td>4.5</td>
<td>3.5</td>
<td>3.0</td>
<td>3.5</td>
<td>4.0</td>
<td>3.0</td>
<td>3.5</td>
<td>4.5</td>
</tr>
<tr>
<td>Regulations/Certifications</td>
<td>3.0</td>
<td>4.0</td>
<td>2.5</td>
<td>4.0</td>
<td>4.0</td>
<td>4.0</td>
<td>3.5</td>
<td>3.0</td>
<td>2.5</td>
<td>3.0</td>
<td>3.5</td>
<td>4.5</td>
</tr>
<tr>
<td>Mobility</td>
<td>3.5</td>
<td>3.0</td>
<td>3.0</td>
<td>4.0</td>
<td>3.5</td>
<td>3.5</td>
<td>4.0</td>
<td>3.5</td>
<td>3.0</td>
<td>3.5</td>
<td>3.0</td>
<td>4.5</td>
</tr>
<tr>
<td>Integration/Interoperability</td>
<td>4.0</td>
<td>4.0</td>
<td>3.5</td>
<td>4.3</td>
<td>3.8</td>
<td>4.0</td>
<td>4.0</td>
<td>3.5</td>
<td>3.0</td>
<td>3.0</td>
<td>3.0</td>
<td>4.5</td>
</tr>
<tr>
<td>Social/Collaboration</td>
<td>3.8</td>
<td>2.5</td>
<td>3.0</td>
<td>3.0</td>
<td>3.5</td>
<td>3.5</td>
<td>3.0</td>
<td>2.5</td>
<td>4.8</td>
<td>3.0</td>
<td>3.5</td>
<td>3.5</td>
</tr>
<tr>
<td>BPM/Rule Engine</td>
<td>3.5</td>
<td>4.5</td>
<td>3.0</td>
<td>4.0</td>
<td>4.5</td>
<td>3.5</td>
<td>4.5</td>
<td>3.5</td>
<td>3.0</td>
<td>4.5</td>
<td>3.5</td>
<td>4.5</td>
</tr>
<tr>
<td>Analytics/BI</td>
<td>3.0</td>
<td>2.0</td>
<td>3.5</td>
<td>3.0</td>
<td>4.5</td>
<td>3.0</td>
<td>4.0</td>
<td>3.0</td>
<td>3.0</td>
<td>3.0</td>
<td>3.0</td>
<td>3.5</td>
</tr>
</tbody>
</table>

**Source:** Gartner (November 2016)

Table 3 shows the product/service scores for each use case. The scores, which are generated by multiplying the use-case weightings by the product/service ratings, summarize how well the critical capabilities are met for each use case.

### Table 3. Product Score in Use Cases

<table>
<thead>
<tr>
<th>Use Cases</th>
<th>Alfresco</th>
<th>Dell</th>
<th>Everteam</th>
<th>Hyland</th>
<th>IBM</th>
<th>Laserfiche</th>
<th>Lexmark</th>
<th>M-Files</th>
<th>Microsoft</th>
<th>Newgen Software</th>
<th>Objective</th>
<th>Op</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal and Team Productivity</td>
<td>3.52</td>
<td>3.33</td>
<td>3.16</td>
<td>3.40</td>
<td>3.71</td>
<td>3.40</td>
<td>3.36</td>
<td>3.12</td>
<td>3.95</td>
<td>3.20</td>
<td>3.26</td>
<td></td>
</tr>
<tr>
<td>Content Ecosystem</td>
<td>3.58</td>
<td>3.80</td>
<td>3.23</td>
<td>3.73</td>
<td>4.04</td>
<td>3.54</td>
<td>3.74</td>
<td>3.29</td>
<td>3.48</td>
<td>3.43</td>
<td>3.26</td>
<td></td>
</tr>
<tr>
<td>Digital Transformation/Modernization</td>
<td>3.38</td>
<td>3.45</td>
<td>3.23</td>
<td>3.57</td>
<td>3.97</td>
<td>3.40</td>
<td>3.78</td>
<td>3.28</td>
<td>3.34</td>
<td>3.43</td>
<td>3.15</td>
<td></td>
</tr>
</tbody>
</table>

**Source:** Gartner (November 2016)

To determine an overall score for each product/service in the use cases, multiply the ratings in Table 2 by the weightings shown in Table 1.

**Critical Capabilities Methodology**
This methodology requires analysts to identify the critical capabilities for a class of products or services. Each capability is then weighted in terms of its relative importance for specific product or service use cases. Next, products/services are rated in terms of how well they achieve each of the critical capabilities. A score that summarizes how well they meet the critical capabilities for each use case is then calculated for each product/service.

"Critical capabilities" are attributes that differentiate products/services in a class in terms of their quality and performance. Gartner recommends that users consider the set of critical capabilities as some of the most important criteria for acquisition decisions.

In defining the product/service category for evaluation, the analyst first identifies the leading uses for the products/services in this market. What needs are end-users looking to fulfill, when considering products/services in this market? Use cases should match common client deployment scenarios. These distinct client scenarios define the Use Cases.

The analyst then identifies the critical capabilities. These capabilities are generalized groups of features commonly required by this class of products/services. Each capability is assigned a level of importance in fulfilling that particular need; some sets of features are more important than others, depending on the use case being evaluated.

Each vendor's product or service is evaluated in terms of how well it delivers each capability, on a five-point scale. These ratings are displayed side-by-side for all vendors, allowing easy comparisons between the different sets of features.

Ratings and summary scores range from 1.0 to 5.0:

1 = Poor or Absent: most or all defined requirements for a capability are not achieved
2 = Fair: some requirements are not achieved
3 = Good: meets requirements
4 = Excellent: meets or exceeds some requirements
5 = Outstanding: significantly exceeds requirements

To determine an overall score for each product in the use cases, the product ratings are multiplied by the weightings to come up with the product score in use cases.

The critical capabilities Gartner has selected do not represent all capabilities for any product; therefore, may not represent those most important for a specific use situation or business objective. Clients should use a critical capabilities analysis as one of several sources of input about a product before making a product/service decision.

© 2016 Gartner, Inc. and/or its affiliates. All rights reserved. Gartner is a registered trademark of Gartner, Inc. or its affiliates. This publication may not be reproduced or distributed in any form without Gartner's prior written permission. If you are authorized to access this publication, your use of it is subject to the Usage Guidelines for Gartner Services (/technology/about/policies/usage_guidelines.jsp) posted on gartner.com. The information contained in this publication has been obtained from sources believed to be reliable. Gartner disclaims all warranties as to the accuracy, completeness or adequacy of such information and shall have no liability for errors, omissions or inadequacies in such information. This publication consists of the opinions of Gartner's research organization and should not be construed as statements of fact. The opinions expressed herein are subject to change without notice. Gartner provides information technology research and advisory services to a wide range of technology consumers, manufacturers and sellers, and may have client relationships with, and derive revenues from, companies discussed herein. Although Gartner research may include a discussion of related legal issues, Gartner does not provide legal advice or services and its research should not be construed or used as such. Gartner is a public company, and its shareholders may include firms and funds that have financial interests in entities covered in Gartner research. Gartner's Board of Directors may include senior managers of these firms or funds. Gartner research is produced independently by its research organization without input or influence from these firms, funds or their managers. For further information on the independence and integrity of Gartner research, see "Guiding Principles on Independence and Objectivity. (/technology/about/ombudsman/omb_guide2.jsp)"