Hype Cycle for Content Management, 2003


Content management technologies deliver business value, even in difficult economic times. Enterprises should distinguish between core technologies and emerging trends through a review of the CM hype cycle.
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ANALYSIS

Management Summary

Content management (CM) is an umbrella term that describes a range of technologies. Managers charged with CM acquisition must carefully evaluate their enterprise's business problems as well as potential CM technologies. The Hype Cycle for Content Management, 2003 allows the user to judge the acceptance and maturity of a set of technologies at a glance. The Hype Cycle has three key areas:

- The section from Technology Trigger up through the Peak of Inflated Expectations is where emerging and Generation-1 CM technologies are typically found.
- Second is the decline from the Peak into the Trough of Disillusionment, where you can find technologies that have yet to live up to their potential.
- Finally, there is the section from the Trough up to the Plateau of Productivity, where you find technologies that are proven to deliver business value. These markets are largely mature and have typically gone through significant consolidation.
1.0 The Hype Cycle

Figure 1. Hype Cycle for Content Management, 2003

Visibility

Technology Trigger → Peak of Inflated Expectations → Trough of Disillusionment → Slope of Enlightenment → Plateau of Productivity

Acronym Key
- CM: content management
- COLD: computer output to laserdisc
- DOM: distributed output management
- WCM: Web content management
- WSRP: Web Services for Remote Portals
- IDARS: integrated document archive and retrieval system
- JSR: Java Specification Request

Source: Gartner Research (June 2003)

2.0 On the Rise

2.1 Information Extraction

Definition: Culls concepts, such as names, geographic entities and relationships, from unstructured data — mostly text.

Time to Plateau/Adoption Speed: Five to 10 years.

Justification for Hype Cycle Position/Adoption Speed: Only recently began commercial use. Most vendors are startups with limited traction, mainly serving government and the life sciences.

Business Impact Areas: Information access, semantic Web, scientific literature, competitive intelligence.
Selected Vendors: ClearForest, IBM, Inxight Software, Microlanguage, Mohomine, SRA and Temis.

Analysis by Alexander Linden

2.2 Web Services for Content Management

Definition: Architectures based on allowing content functionality to be called as Web services.

Time to Plateau/Adoption Speed: Two to five years.

Justification for Hype Cycle Position/Adoption Speed: A few vendors are beginning to offer Web-services-based CM applications, but the examples of use are trivial and there is no user adoption.

Business Impact Areas: Will facilitate more-effective integration between content-creating and content-consuming applications.

Selected Vendors: No vendor has distinguished itself in this area.

Analysis by Toby Bell and Mark Gilbert

2.3 Content-Process Fusion

Definition: Business processes and content are interdependent. Capabilities range from simple content review and approval workflows to complex content-centric transactions. Business process management (BPM) and content must be considered jointly for strategic purposes.

Time to Plateau/Adoption Speed: Two to five years.

Justification for Hype Cycle Position/Adoption Speed: Strong integration of content and process is emerging as a market.

Business Impact Areas: CM systems have long offered at least basic workflow capabilities. Automating processes to reduce cycle time has delivered a large part of value of document management efforts. These efforts are getting more sophisticated, and the notion of building a content-and-process strategy is gaining momentum.

Selected Vendors: FileNet and Vignette are the best examples of CM vendors that understand the importance of process.

Analysis by Mark Gilbert and Toby Bell

2.4 Smart Enterprise Suites

Definition: The convergence of portal, content management and collaboration support in a single product.

Time to Plateau/Adoption Speed: Two to five years.

Justification for Hype Cycle Position/Adoption Speed: Growing interest from users and vendors in this convergence of functionality.

Business Impact Areas: Improved access to information across the enterprise. Lower total cost of ownership. Platform for collaborative content creation, management and access.

Selected Vendors: Hummingbird, IBM, Open Text, SAP, Vignette and many others.

Analysis by Simon Hayward, Gene Phifer, Mark Gilbert and French Caldwell
2.5 XML-Based Multichannel Output and Interaction

Definition: Access to devices is provided by an abstraction layer that hides the complexities and intricacies of device interaction from the portal developer. Most basic capability is to render content through XSL Transformations (XSLT) to serve many channels and devices.

Time to Plateau/Adoption Speed: Two to five years.

Justification for Hype Cycle Position/Adoption Speed: Standards don't exist. Few enterprises, even those with a Web content management (WCM) system in place, are publishing to channels other than Web and paper.

Business Impact Areas: Access to portals from any client device, with differences abstracted from developers.

Selected Vendors: Supported by some WCM systems, as well as some portals.

Analysis by Gene Phifer, Lou Latham, Mark Gilbert and Rita Knox

3.0 At the Peak

3.1 WSRP and JSR 168

Definition: Portlets will be accessed via standard mechanisms: Java Specification Request (JSR) 168 for invocation of local portlets, and Web Services for Remote Portals (WSRP) for invocation of remote portlets.

Time to Plateau/Adoption Speed: Two to five years.

Justification for Hype Cycle Position/Adoption Speed: Both standards will be completed by YE03, and code supporting both will ship by early 2004.

Business Impact Areas: Standard portlets allow easier integration and create a third-party market for portlets.

Analysis by Ray Valdes

3.2 JSR 170

Definition: Java Community Process specifications aimed at making CM and portals more open to integration. Portals will access and manage content using the JSR 170 standard.

Time to Plateau/Adoption Speed: Two to five years.

Justification for Hype Cycle Position/Adoption Speed: JSR 170 will be completed by YE03.

Business Impact Areas: Standards-based access to content, allowing easier integration.

Selected Vendors: JSR 170 led by Day Software, with numerous other CM vendors supporting. JSR 168 led by Sun Microsystems and IBM, with significant support.

Analysis by Mark Gilbert and Gene Phifer

3.3 Content Integration

Definition: Tools to link content that is dispersed throughout the enterprise in diverse applications and databases. This move to increase content integration capabilities will be one of the leading
drivers behind enterprise acquisition of content management, workflow and enterprise application integration technology through 2007 (0.7 probability).

*Time to Plateau/Adoption Speed:* Two to five years.

*Justification for Hype Cycle Position/Adoption Speed:* Customer questions about content integration are increasing. Enterprises should look not only at the JSR standards options and the Web-Based Distributed Authoring and Versioning (WebDAV) standard, but also at offerings from vendors such as Venetica, Day Software, FileNet, Vignette or ContextMedia that have built integration architectures. Hand-wiring customized interfaces are the dominant integration technology. Due to the difficulty of leveraging this work, other integration options are gaining interest.

*Business Impact Areas:* Better content quality and greater interoperability between enterprise content-centric processes.


*Analysis by Mark Gilbert and Karen Shegda*

### 3.4 Taxonomies

*Definition:* A classification, often hierarchical, of information components (such as terms, concepts, graphics or sounds) and the relationships among them that support discovery of and access to information.

*Time to Plateau/Adoption Speed:* Five to 10 years.

*Justification for Hype Cycle Position/Adoption Speed:* Awareness of the need for taxonomies has grown significantly since 2001. The tools to create, organize and maintain those taxonomies across multiple organizations and disciplines have still not been developed. Because taxonomies are complex, it will take major intellectual and technical developments to produce effective taxonomies for corporate use.

*Business Impact Areas:* Competitive intelligence, information access, improved search and retrieval, serendipitous discovery of resources.


*Analysis by Rita Knox and Alexander Linden*

### 3.5 Personal Web Publishing

*Definition:* Lightweight WCM features for ad hoc distribution and sharing of work products via intranets.

*Time to Plateau/Adoption Speed:* Less than two years.

*Justification for Hype Cycle Position/Adoption Speed:* Ad hoc functionality poorly supported and rarely targeted, despite potential advantages.

*Business Impact Areas:* Improvement in team support and collaboration, reduced time cycles.

*Selected Vendors:* Microsoft.

*Analysis by Simon Hayward and Debra Logan*
3.6 Virtual Content Repositories

**Definition:** Portals and CM systems that abstract access to and management of a variety of Web content, including documents, records and digital assets.

**Time to Plateau/Adoption Speed:** Two to five years.

**Justification for Hype Cycle Position/Adoption Speed:** Only a few vendors support virtual content repositories. There are still concerns around security and the ability to maintain versioning. JSR 168 and JSR 170 standards should help drive adoption.

**Business Impact Areas:** Easier integration of content into portals or CM systems during the publishing process.

**Selected Vendors:** Context Media, Day Software, Venetica and Vignette.

*Analysis by Karen Shegda, Debra Logan, Mark Gilbert and Gene Phifer*

3.7 Web Content Management Outsourcing

**Definition:** Offering WCM functionality as an Internet-accessible service, the WCM application service provider market will grow to more than $50 million by 2004 (0.7 probability).

**Time to Plateau/Adoption Speed:** Two to five years.

**Justification for Hype Cycle Position/Adoption Speed:** A new market segment that's finally starting to work. Earlier efforts failed. Timing is now better due to a slow economy; acceptance of WCM, overall, has become firm.

**Business Impact Areas:** In 2002, WCM outsourcing began to penetrate in the small and midsize business market and departmentally in larger enterprises. Enterprises that don't need sophisticated functionality may benefit from using an outsourced WCM approach.

**Selected Vendors:** Atomz, Clickability, CrownPeak Technology, iUpload and Kitsite.

*Analysis by Lou Latham and Mark Gilbert*

3.8 Content Aggregation and Syndication

**Definition:** Aggregation allows content from multiple sources to be consolidated into one repository or Web site. Syndication allows desired content to be distributed between servers efficiently.

**Time to Plateau/Adoption Speed:** Two to five years.

**Justification for Hype Cycle Position/Adoption Speed:** Demand has been modest, due to cutbacks in Web efforts. The exception is in new industry.

**Business Impact Areas:** Greater access to content from multiple sources, more-efficient distribution of content.

**Selected Vendors:** NewsEdge, OneSource Technology, Stellent and Vignette.

*Analysis by Mark Gilbert*
3.9 Globalization, Localization

Definition: Enterprise content, especially Web content, is increasingly being leveraged across the Web. Technologies enabling automated language translation are key to increasing the effectiveness of this effort.

Time to Plateau/Adoption Speed: Two to five years.

Justification for Hype Cycle Position/Adoption Speed: Has not achieved great adoption. Enterprise budgets have constrained adoption. Local politics resist an "enterprise" approach to infrastructure.

Business Impact Areas: Will help save money and create consistent content across multiple sites in multiple countries.


Analysis by Mark Gilbert

4.0 Sliding Into the Trough

4.1 E-Forms

Definition: E-forms applications provide a way to capture, process, display and print defined sets of business data.

Time to Plateau/Adoption Speed: Two to five years.

Justification for Hype Cycle Position/Adoption Speed: As customer self-service becomes more robust, e-forms will become a key factor to enable more-efficient data capture.

Business Impact Areas: The more a company can get external users to enter information directly, the bigger the savings.


Analysis by Toby Bell

4.2 Records Management

Definition: The management of business content through its complete life cycle. Interest in records management is spreading from records management departments to IS departments and business users, as enterprises strive for better accountability.

Time to Plateau/Adoption Speed: Two to five years.

Justification for Hype Cycle Position/Adoption Speed: The collective impact of The Sarbanes-Oxley Act of 2002, the Health Insurance Portability and Accountability Act (HIPAA) and the U.S. Department of Defense standard 5015.2 has pushed many enterprises to adopt records management technologies.

Business Impact Areas: Avoid unnecessary legal liability and assure regulatory compliance.

Selected Vendors: Documentum, Hummingbird, IBM, MDY Advanced Technologies, Mobius, Open Text and Tower Software.

Analysis by Debra Logan, Maurene Grey and Mark Gilbert
4.3 Streaming Media

Definition: Streaming media technologies allow better distribution of rich media content by allowing the parsing of large video and audio files into a stream that is sent to the browser. Without streaming, the entire file would have to be sent at once before it could be played, and this is often impractical.

Time to Plateau/Adoption Speed: Five to 10 years.

Justification for Hype Cycle Position/Adoption Speed: Increasingly more users are asking how to enable streaming. Internal enterprise efforts are gaining momentum.

Business Impact Areas: Enable rich presentation control for delivery streams to multiple devices.

Selected Vendors: Apple Computer, Microsoft and Real Networks.

Analysis by Lou Latham and Lawrence Orans

4.4 Consumer Digital Rights Management

Definition: Consumer-oriented protection of intellectual property distributed in digital form from misuse or copyright infringement.

Time to Plateau/Adoption Speed: Five to 10 years.

Justification for Hype Cycle Position/Adoption Speed: Significant “bad press” since 1999, combined with a confused marketplace and regulatory environment. Efforts at hardware-assisted security mechanisms, such as the “Palladium” initiative from Microsoft and the Trusted Computing Platform Alliance (TCPA), could significantly impact the market. Pressure from perceived erosion of markets due to unlicensed distribution of copyright works also have some effect.

Business Impact Areas: Technical methods of controlling the use of copyright intellectual property once distributed. Usually focused on anti-redistribution mechanisms.

Selected Vendors: ContentGuard, Macrovision, Microsoft and Real Networks.

Analysis by Ray Wagner

4.5 XML Database Management Systems

Definition: Database management systems (DBMSs) optimized to store XML. These DBMS products differ from common relational DBMS products in how they store data (in native or near-native XML format) and in the access mechanisms used to query and update it — usually Xpath and, increasingly, XQuery (see “When XML and Databases Collide,” TU-14-0694).

Time to Plateau/Adoption Speed: Two to five years.

Justification for Hype Cycle Position/Adoption Speed: XML DBMS products have largely failed to gain traction and have rapidly dropped from the peak of hype. With vendors of these products failing (for example, NeoCore and XML Global Technologies) or being acquired (for example, eXcelon and XYZFind Technology), XML DBMS technologies will increasingly become embedded in other infrastructure components, such as application integration suites (see “XML-Grounded DBMSs: Short-Term Fad or Viable Market?” M-15-6059).

Business Impact Areas: As XML is increasingly used as the dialect of choice for application integration, XML database technology can provide critical functionality for persisting messages and metadata underpinning the enterprise nervous system.
Selected Vendors: Coherity, Ipedo, Ixiasoft, Software AG and X-Hive.

Analysis by Ted Friedman

5.0 Climbing the Slope

5.1 Digital Asset Management

Definition: Digital asset management provides a repository for data types such as images, audio and video. Functionality should include search and manipulation of these objects.

Time to Plateau/Adoption Speed: Two to five years.

Justification for Hype Cycle Position/Adoption Speed: Market interest is rising; user inquiry is growing.

Business Impact Areas: As enterprise use of rich media grows, there's an increased need to manage that content efficiently in conjunction with other enterprises.

Selected Vendors: Artesia Technologies, Documentum, IBM, MediaBin, Webware and others.

Analysis by Lou Latham and Mark Gilbert

5.2 Enterprise Digital Rights Management

Definition: Applying digital rights management principles to enterprise messaging, documents and intellectual property. The objective is to protect against IP leakage and inappropriate or unintended disclosure of proprietary or confidential information.

Time to Plateau/Adoption Speed: Two to five years.

Justification for Hype Cycle Position/Adoption Speed: Microsoft has announced Rights Management Server technology to be included in the Windows 2003 Server. This is a precursor to widespread deployment of the technology called Palladium, which provides hardware and lower-level OS support for security mechanisms, including rights management.


Selected Vendors: Authentica, Liquid Machines and Microsoft.

Analysis by Ray Wagner

5.3 Information Retrieval/Search

Definition: The ability to locate information within the enterprise in an actionable format.

Time to Plateau/Adoption Speed: Two to five years.

Justification for Hype Cycle Position/Adoption Speed: Enterprises are replacing basic search engines with improved engines and learning how to incorporate taxonomies and integrated search.

Business Impact Areas: Collaboration, content management and information reuse.


Analysis by Whit Andrews
6.0 Entering the Plateau

6.1 Computer Output to Laserdisc, Integrated Document Archive and Retrieval System, and Distributed Output Management

Definition: An integrated document archive and retrieval system (IDARS) is a "pull" model and Gartner's term for computer output to laserdisc (COLD). Distributed output management (DOM) provides similar functionality but through a "push" model.

Time to Plateau/Adoption Speed: Less than two years.

Justification for Hype Cycle Position/Adoption Speed: A maturing, critical and valuable marketplace that incorporates closely related technologies.

Business Impact Areas: Combined repository for a lot of file types. Efficient access to disparate document types (imaging and COLD).

Selected Vendors: IBM, Mobius, Quest Software, RSD (Roger Software Development), Systemware and others.

Analysis by Toby Bell

6.2 Web Content Management

Definition: An automated approach to implementing content management processes, controls and policies within a Web site, a Web-based application or a Web-based network.

Time to Plateau/Adoption Speed: Less than two years.

Justification for Hype Cycle Position/Adoption Speed: Technology has matured, the market is consolidating and prices have dropped. Into mainstream adoption phase. Some users have not received expected value from WCM investments, especially if they invested during the major hype phase of 1999 to 2000.

Business Impact Areas: Improve interoperability and enable cross-industry interchange.

Selected Vendors: Documentum, FileNet, Interwoven, Microsoft, Percussion, RedDot Solutions, Stellent and Vignette.

Analysis by Mark Gilbert and Lou Latham

6.3 Document Imaging

Definition: A mature technology for rendering paper documents as electronic images.

Time to Plateau/Adoption Speed: Less than two years.

Justification for Hype Cycle Position/Adoption Speed: Document imaging applications have existed for more than 15 years and continue to deliver value.

Business Impact Areas: Enable fast access to digital images of business correspondence. Provide faster access to information, better customer service. Reduce time to route paper-originated information across an enterprise.


Analysis by Karen Shegda, Mark Gilbert, Toby Bell and Debra Logan
6.4 Document Management

Definition: Document management is the core CM application. A server-based repository offers library services at a minimum, with many extended and related technologies.

Time to Plateau/Adoption Speed: Less than two years.

Justification for Hype Cycle Position/Adoption Speed: Document management core technology (library services) has existed for 15 years and is mature. Overall, the market is strong and healthy.

Business Impact Areas: Many vertical applications and some horizontal uses.

Selected Vendors: Documentum, FileNet, Hummingbird, iManage, Open Text and Stellent.

Analysis by Karen Shegda, Toby Bell, Debra Logan and Mark Gilbert

7.0 Conclusion

Enterprises' content management requirements range from the mature core technologies, such as document management, to emerging technologies, such as globalization. Some enterprises will choose to tie together best-of-breed offerings, whereas others will prefer the smart enterprise suite approach. The smart enterprise suite is the approach that the larger CM vendors are taking. With the smart enterprise suite, enterprises not only get a suite of valuable applications, they also move toward having a content infrastructure that enables more-efficient access to information across the many content-centric applications in the enterprise.

Appendix A. Hype Cycle Definitions

Technology Trigger: A breakthrough, public demonstration, product launch or other event generates significant press and industry interest.

Peak of Inflated Expectations: During this phase of overenthusiasm and unrealistic projections, a flurry of well-publicized activity by technology leaders results in some successes, but more failures, as the technology is pushed to its limits. The only enterprises making money are conference organizers and magazine publishers.

Trough of Disillusionment: Because the technology does not live up to its overinflated expectations, it rapidly becomes unfashionable. Media interest wanes, except for a few cautionary tales.

Slope of Enlightenment: Focused experimentation and solid hard work by an increasingly diverse range of organizations lead to a true understanding of the technology's applicability, risks and benefits. Commercial, off-the-shelf methodologies and tools ease the development process.

Plateau of Productivity: The real-world benefits of the technology are demonstrated and accepted. Tools and methodologies are increasingly stable as they enter their second and third generations. The final height of the plateau varies according to whether the technology is broadly applicable or benefits only a niche market. Approximately 30 percent of the technology's target audience has or is adopting the technology as it enters the Plateau.

Time to Plateau/Adoption Speed: The time required for the technology to reach the Plateau of Productivity.
Appendix B. Acronym Key

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
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<tbody>
<tr>
<td>BPM</td>
<td>business process management</td>
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<tr>
<td>CM</td>
<td>content management</td>
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<tr>
<td>COLD</td>
<td>computer output to laserdisc</td>
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<tr>
<td>DBMS</td>
<td>database management system</td>
</tr>
<tr>
<td>DOM</td>
<td>digital output management</td>
</tr>
<tr>
<td>HIPAA</td>
<td>Health Insurance Portability and Accountability Act</td>
</tr>
<tr>
<td>IDARS</td>
<td>integrated document archive and retrieval system</td>
</tr>
<tr>
<td>JSR</td>
<td>Java Specification Request</td>
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<tr>
<td>RSD</td>
<td>Roger Software Development</td>
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<tr>
<td>TCPA</td>
<td>Trusted Computing Platform Alliance</td>
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<tr>
<td>WCM</td>
<td>Web content management</td>
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<tr>
<td>WebDAV</td>
<td>Web-Based Distributed Authoring and Versioning</td>
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<tr>
<td>WSRP</td>
<td>Web Services for Remote Portals</td>
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<tr>
<td>XSLT</td>
<td>XSL Transformations</td>
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This research is part of a set of related research pieces. See "Gartner's Hype Cycle Special Report 2003" for an overview.

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