Key Trends

Reader Notes

- Proliferation of digital documents will strain and break non-IDM-enabled file system structures and human patience for searching and retrieving information.
- The demand for IDM-enabled applications will elevate document management functionality to core LAN infrastructure status.
- Bundles of IDM and other document-centric technologies (e.g., imaging, workflow, information retrieval, viewing, publishing, records management and output technologies) will be plentiful from a variety of distribution channels and will reflect differences among buying centers, application types and technology deployment strategies.
- Successful organizations will adopt an enterprise document management approach that reflects topdown planning and bottom-up implementation of IDM.

Document Management is one of several core topics of research integrated primarily in the IDOM and OIS services. In the IDOM service, the research focus is on production configurations, whereas in the OIS service the focus is on ad hoc configurations. While both have many similarities, each exhibits distinctive differences in scope, robustness and user and vendor strategies.

Document management is a vital class of applications and middleware services that integrates library services, document manufacturing and document interchange with critical business process applications around a client/server topology. The term integrated describes the submersion of document management from an end-user application to a network-based service integrated with the full complement of end-user personal productivity and custom-developed applications. A document management system provides a secure, seamless and consistent entry point into the document repository from the applications the user “lives in” during the course of the working day.

Key Issues

1. **As IDM is recognized as one of the fastest growing services on the LAN, which strategic IDM trends will emerge through 2000?**

2. **How will IDM support mission-critical applications?**

3. **How will technology architectures be affected by emerging IDM standards and exploding IDM functionality?**

4. **In a rapidly growing market, which will be the most successful IDM vendor and product strategies through 2000?**

5. **What will be the most successful IDM strategies for both end users and IS over the next five years?**

Reader Notes

As IDM is recognized as one of the fastest growing services on the LAN, which strategic IDM trends will emerge through 2000?

Reader Notes

Strategic Planning Assumption: Nearly half of all organizations have a high, or worse, risk of losing or damaging a substantial portion of their unprotected document assets (0.8 probability).

Risk Condition	Percentage of Respondents	Percentage of Documents Stored on Hard Drives
Red Alert	13%	*Have absolutely no idea!*
Very High	17%	More than 75%
High	18%	50%–75%
Moderate	20%	25%–50%
Low	31%	Less than 25%

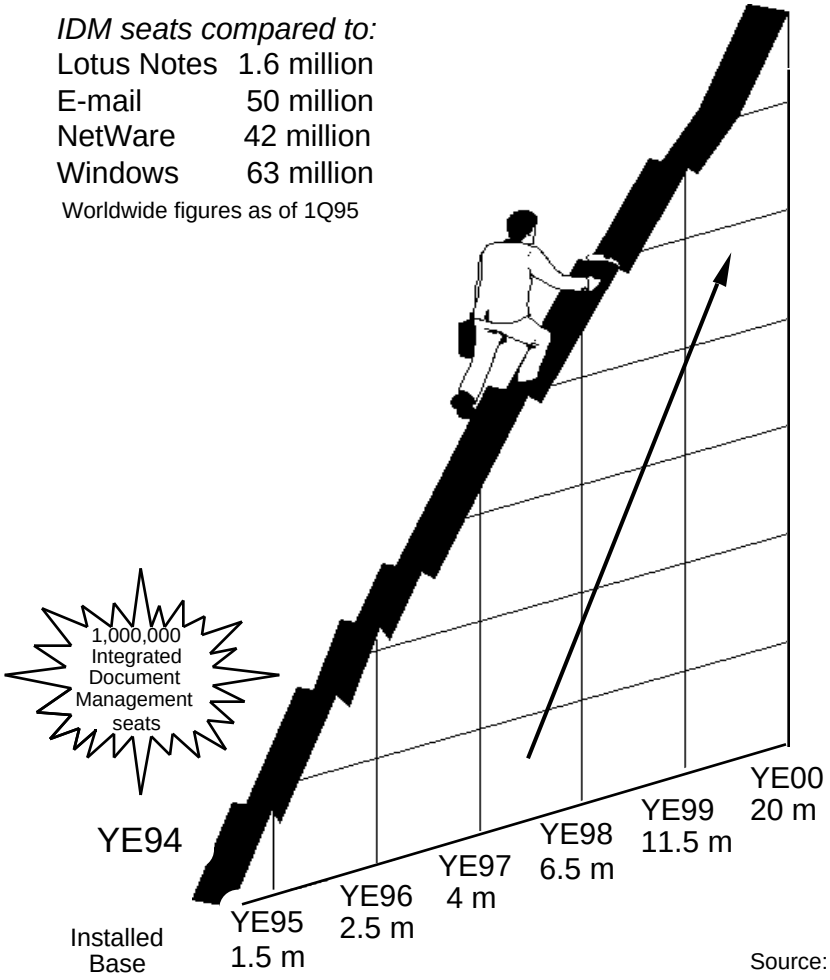
Source: Gartner Group

Fourteen years and over $300 billion after the birth of the PC, the investment in PCs and LANs has established network computing in an elemental position in the enterprise IS infrastructure. A critical infrastructure issue revolves around storing electronic documents. The growing penetration of PC LANs has turned PCs from electronic document creation devices into access and control points for those electronically created documents in lieu of paper-based filing systems. This evolution in the use of PCs has outstripped the adoption of document management systems or even well-articulated policies concerning the physical storage of electronic documents. As a result, mission-critical documents are being stored on local hard drives and floppy disks with no guarantee of security, integrity or backup.

"The machine does not isolate man from the great problems of nature but plunges him more deeply into them." — Antoine de Saint-Exupery

Through 2000, document management will be one of the fastest growing services on the LAN (0.8 probability).

Reader Notes



Strategic Planning Assumption: From 1995 through 1997, the IDM market will grow at a 60 percent CAGR and accelerate to a 75 percent CAGR through YE2000 due to the popularization of attribute-based searching by Microsoft Exchange (0.8 probability).

The pace of adoption of LAN-based document management is accelerating rapidly. At YE94, LAN-based IDM reached the historic milestone of one million installed seats. The combination of the accelerating use of digital documents for mission-critical applications and the release of Microsoft BackOffice will boost the monthly run rate of new document management seats to a pace exceeding the growth of LAN E-mail and Lotus Notes, and closely following the adoption rate of Microsoft BackOffice.

Demographics of Managed Objects in 2000

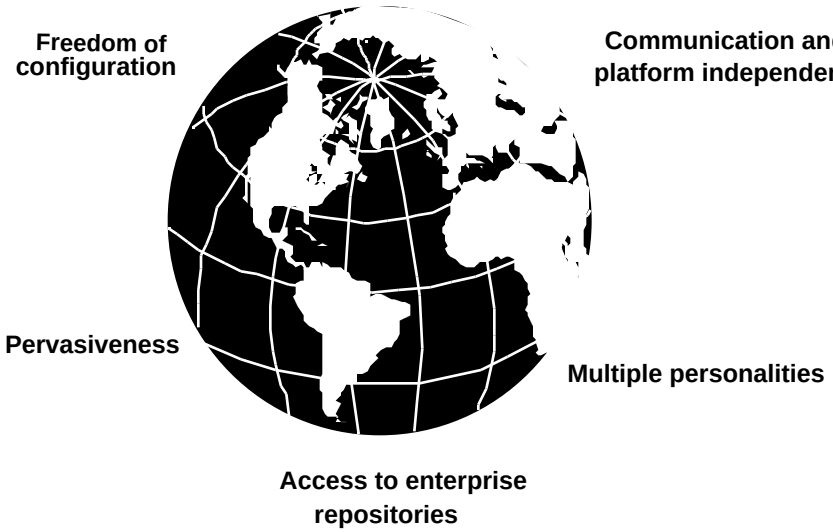
E-mail	20%	Images	15%
PC objects	60%	Video/sound	5%

Strategic Planning Assumption

By 2000, 80 percent of the installed IDM seats will be part of enterprise document management systems (0.8 probability).

Reader Notes

Enterprise Document Management



Criteria for Measuring "Enterprise Fitness"

- Application integration
- Architecture
- Network performance
- Occasionally connected computing
- Scalability
- System administration
- Pricing

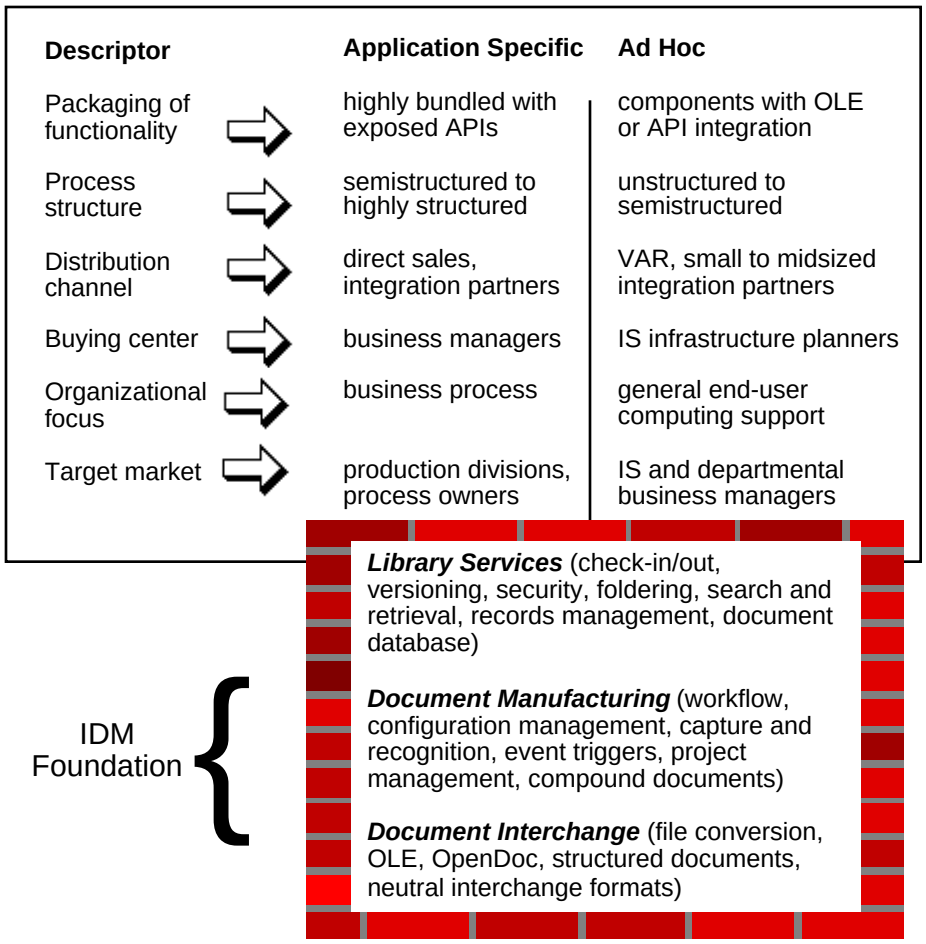
Source: Gartner Group

Definition: Enterprise fitness should not be confused with measures of functionality or product bundling. Enterprise fitness measures the appropriateness of a specific product to provide backbone library services across a heterogeneous, distributed environment.

The concept of an "enterprise" solution has gripped the computing world across a gamut of applications; document management is no exception. Buyers of document management systems are faced with a barrage of claims and counterclaims regarding the scalability and performance of document management products (i.e., claims about product fitness as an "enterprise" document manager). The first step in making sense of these claims is to establish a common context within which meaningful comparisons are possible.

How will IDM support mission-critical applications?

Reader Notes



Source: Gartner Group

Strategic Planning Assumption: By 2000, the number of ad hoc application users will outstrip the number of application-specific users four to one (0.8 probability).

Key Issue Analysis: Mission criticality is not based on packaging functionality. An ad hoc application can serve mission-critical information needs.

IDM is a vital class of applications and middleware services that integrate library services, document manufacturing and document interchange with critical business process applications around a client/server topology. The term *integrated* describes the submersion of document management from an end-user application to a network-based service that is integrated with the full complement of end-user personal productivity and custom-developed applications. An IDM system provides a secure, seamless and consistent entry point into the document repository from the applications that the user "lives in" during the course of the working day.

Strategic Planning Assumptions

Reader Notes

By 2000, application-specific users will equal 20 percent of all IDM users (0.8 probability).

Variability of System Components
Percent of Total System Cost

	Vendor 1	Vendor 2	Vendor 3
Software	57.6%	19.7%	21.1%
Hardware	27.6%	36.6%	54.5%
Services	14.8%	43.7%	24.4%

Strategic Planning Assumption: Vendor responses to an RFP will vary widely in the composition of the solution (0.9 probability).

Ratios of Service Dollars to Software Dollars

Large system integrator	7:1
Smaller, more aggressive integrator	2.2:1
Vendor/OEM	1.15:1
Vendor with service bundled with software	0.25:1

Strategic Planning Assumption: A vendor's services pricing will be motivated by its underlying business model (0.9 probability).

TDMS Cost per Seat
(50 seat engineering change order application)

	Low	High
Software	$5,800	$14,100
Hardware	$6,100	$26,100
Services	$3,100	$12,900
Total cost per seat	$15,000	$53,100

Strategic Planning Assumption: A full-fledged TDMS will be as expensive as a production imaging and workflow system (0.9 probability).

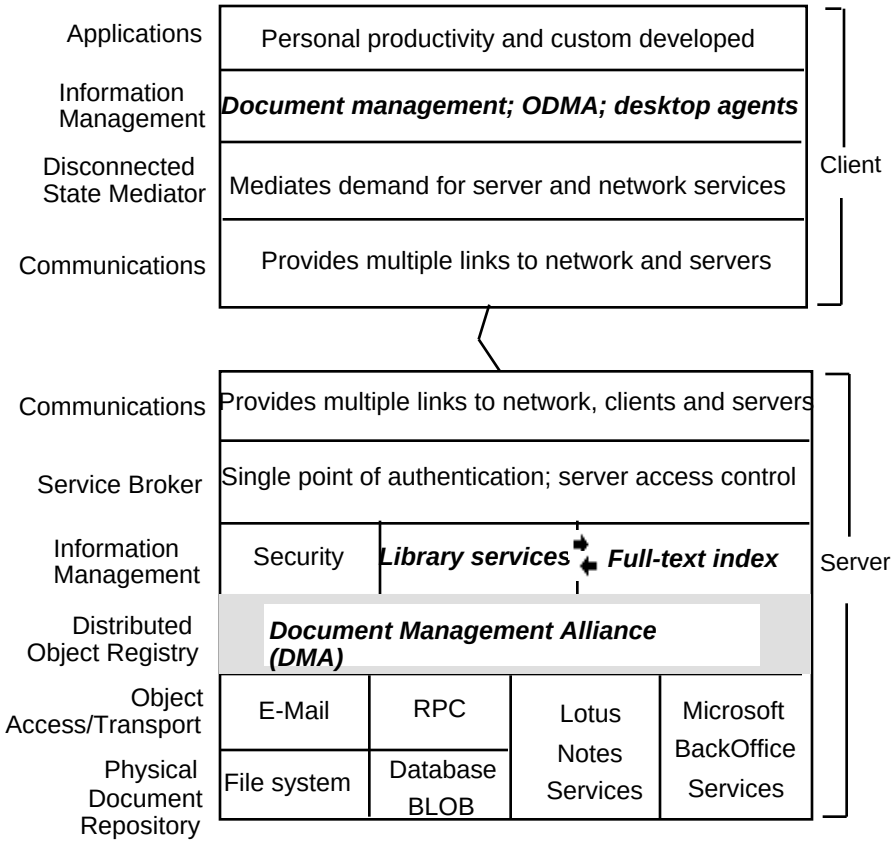
Source: Gartner Group

Document management applications are being deployed with increasing sophistication of functionality and purpose in both commercial and technical environments. This is most noticeable for TDMS. These include engineering change-order systems in manufacturing environments, computer-assisted new-drug applications in the pharmaceutical industry and power plant operation documentation in electric utilities. The applications require sophisticated functions (i.e., library services, workflow, configuration management, mixed object file-folder management and a range of printing and storage subsystems) to meet complicated technical and functional requirements in heterogeneous environments. The figures above have been generated from actual implementations that we have been involved in with our clients.

How will technology architectures be affected by emerging IDM standards and exploding IDM functionality?

Reader Notes

IDM Architecture



Source: Gartner Group

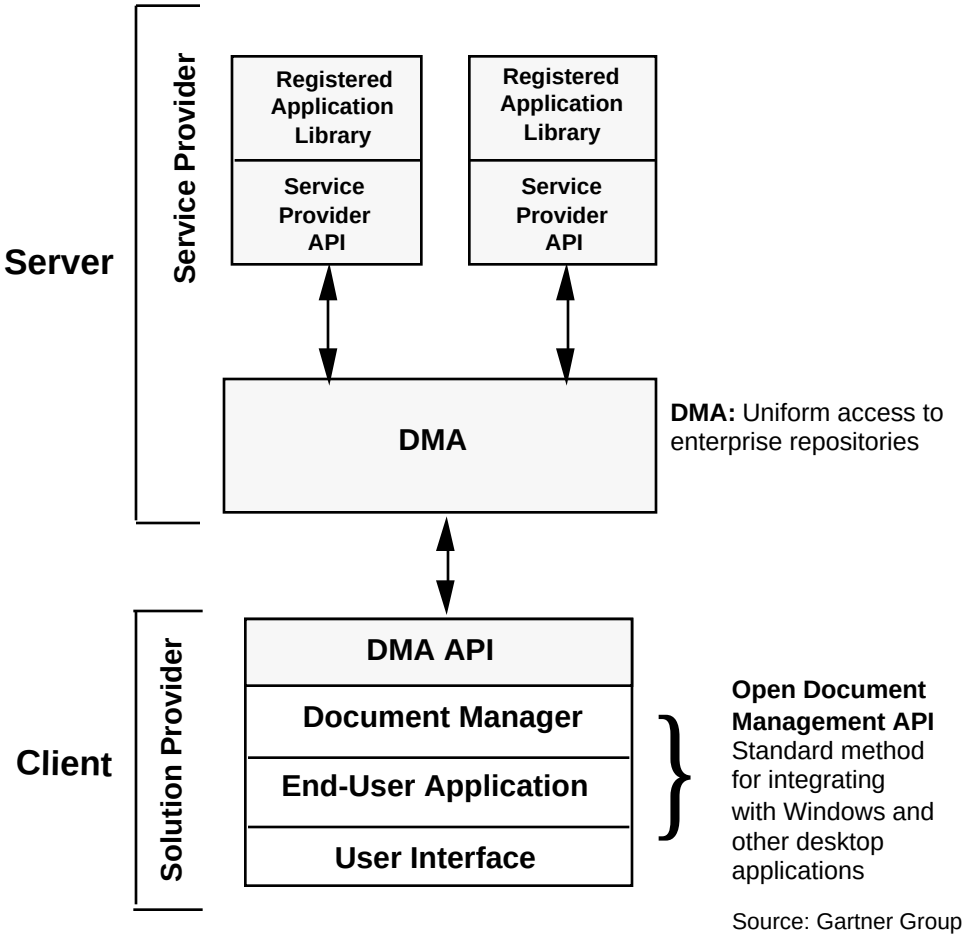
On the client side, IDM is the portal through which end-user documents are transported to (and managed by) server side storage, retrieval and distribution services. The server side information management layer contains the core library service functions. The distributed object registry, represented by DMA, is the access point to enterprise repositories.

Lotus Notes and Microsoft Exchange do not, and will not, provide a full set of library services. They do provide messaging transport and document replication. They also provide document attribute management and have physical document object stores. However, they rely on library service providers for check-in/check-out, version control and security. The strategy for document management providers is to integrate seamlessly and transparently with the messaging, transport and object index structures of Notes and BackOffice.

Strategic Planning Assumption

The DMA and ODMA specifications will be standard APIs in an IDOM architecture by 2H96 (0.7 probability).

Reader Notes



Source: Gartner Group

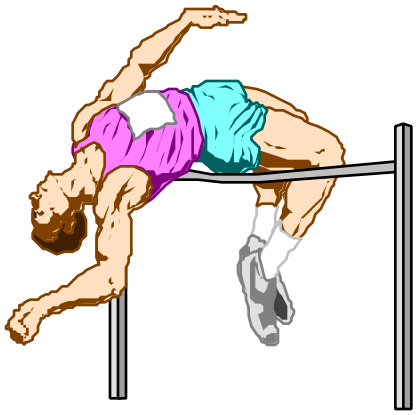
Strategic Planning Assumption: Commercial implementations of DMA will be available in 1H96 (0.7 probability).

Key Issue Analysis: In 1995, ODMA is available in commercial implementation and can be considered a de facto standard.

Vendors normally hate standards because they tend to commoditize technology, which results in lower profit margins and, hence, larger and fewer purveyors of that technology who can take advantage of economies of scale. An odd trend is occurring in the IDM market — the vendors have adopted standards in the areas of desktop application integration and back-end repository access. The vendors are cooperating on these standards because it allows them to differentiate their products in other areas, e.g., client functionality, user interfaces and back-end services.

In a rapidly growing market, which will be the most successful IDM vendor and product strategies through 2000?

Reader Notes



Raising the Bar

Market Stages

Maturing	Exploding
Stagnant	Nascent

Standardization forces differentiation

Maturing distribution channels

Microsoft Exchange

Vertical applications and domain expertise is highly valued

Partnerships forming fast

Bundling functionality and cross platform support required

Source: Gartner Group

The IDM market will grow to 20 million installed seats over the next five years (0.8 probability). The market has passed through its nascent, stagnant and maturing phases and is ready for mass-market adoption and early stages of commercialization. Although this market can sustain new entrants, the bar has been raised by a combination of minimum technical and marketing requirements for successful entry.

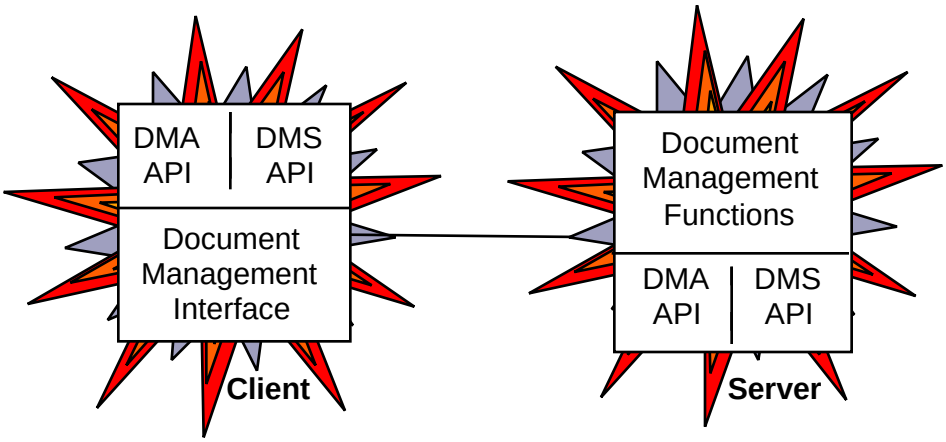
Strategic Planning Assumptions

By YE99, the document management market will split into client and server specialists (0.7 probability).

By 1999, new partnerships will be formed among erstwhile competitors that have chosen to specialize on different poles, yielding near "plug-and-play" clients and servers (0.7 probability).

Once this polarization has occurred, the document management market will undergo a phase of consolidation between 1999 and 2001 as client and server specialists establish their points of differentiation (0.7 probability).

Reader Notes



DMA Polarization

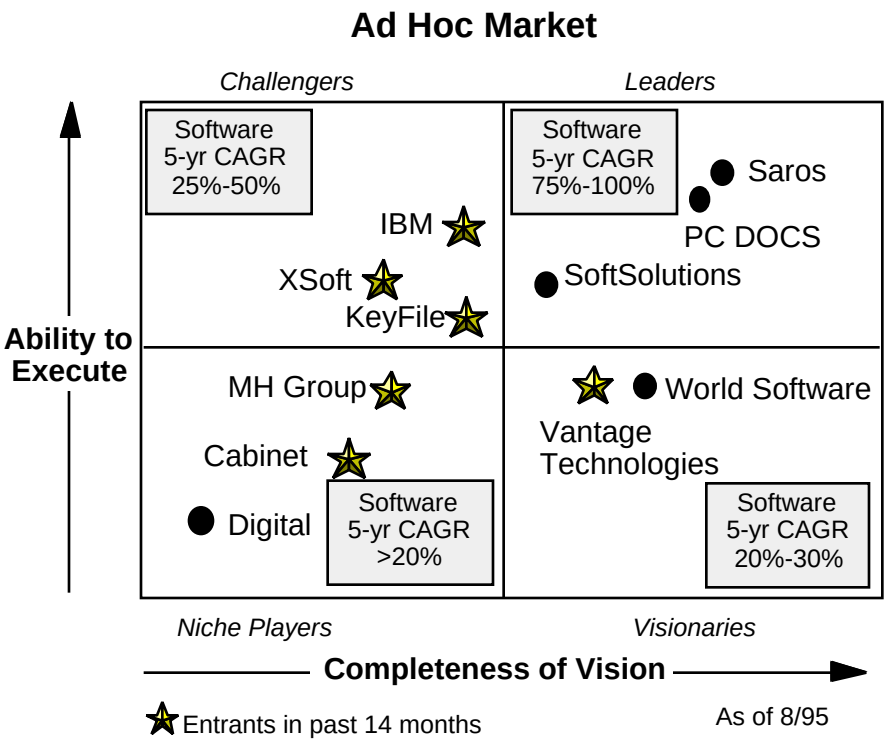
Source: Gartner Group

With standardized DMA APIs, document management vendors will compete, from a technical standpoint, on the user interface's ease-of-use and intuitiveness as well as server side library service, workflow and document manufacturing functionality. The dynamics of this standard will polarize competition in the document management market.

Key Issue

In a rapidly growing market, which will be the most successful IDM vendor and product strategies through 2000?

Reader Notes



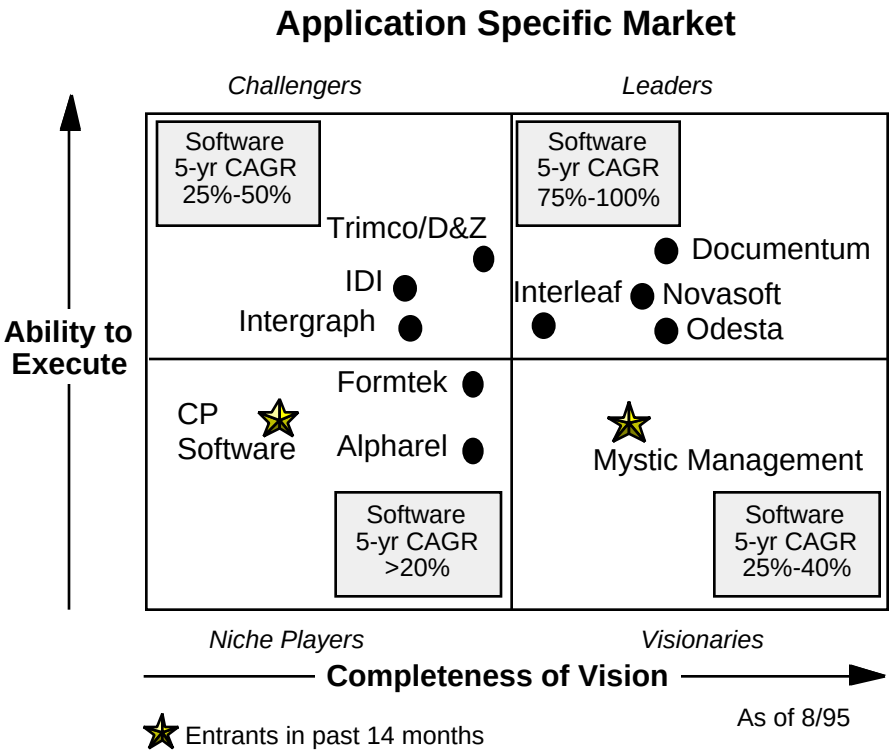
Vision	Execution
Strategic plan	Financial strength
Industry trends	R&D management
Appropriate strategy	Sales & marketing
Enterprise vision	Alliances

Source: Gartner Group

Three dominant ad hoc market strategy models are emerging: Best-of-Breed Cartel (BoB); sales, OEM and integration (SOI); and self-contained. These models are differentiated based on the functionality packaging, the distribution channel and the number of customers and seats sold per installation. Leading enterprise vendors will base their strategies on either BoB or SOI, the self-contained model will be successful on a departmental level, but too limiting for enterprise deployment (0.8 probability).

In a rapidly growing market, which will be the most successful IDM vendor and product strategies through 2000?

Reader Notes



Vision
Strategic plan
Industry trends
Appropriate strategy
Enterprise vision

Execution
Financial strength
R&D management
Sales & marketing
Alliances

Source: Gartner Group

The emerging application-specific market strategy models are BoB; sales and integration; and vertical applications. These models are differentiated based on the functionality packaging, the distribution channel and the number of customers and seats sold per installation. The leaders will combine all three models to capture critical mass market share (0.8 probability). Even though this market will have comparable CAGRs to the ad hoc market, it is starting from a smaller base.

What will be the most successful IDM strategies for both end users and IS over the next five years?

Strategic Planning Assumption: At least 65 percent of the start-up costs of an IDM system are planning and development (0.9 probability).

Reader Notes

Start-up Costs

Software licenses	$ 25,000
Planning/development	128,000
Installation/training	35,000
Document preparation/loading	12,000
Total Start-up Costs	$200,000

Annualized Payback Calculation

	IDM	Manual
IDM activity costs	$975,000	$1,300,000
Software maintenance (15% of license)	3,750	N/A
Support	50,000	N/A
Annual total	$1,028,750	$1,300,000

Annual savings (15%–20%)	$271,250
Payback period in months	9

Source: Gartner Group

We have developed a benefit/cost model of a general office document (i.e., ad hoc) system based on actual client and vendor experiences. This model can be modified for a specific project by adding assumptions and components. We believe it is valuable as a starting point and benchmark for the type and magnitude of benefits and costs users should expect to encounter. We have summarized the start-up costs and compared them with the annual savings. The annual savings equal the reduction in time spent on document management activities multiplied by the average weighted salary cost of a 100-person workgroup of office employees. In this example, the average amount of time spent on document management activities fell from 20 percent in a manual system to 15 percent in an automated IDM system. If the payback from IDM is so compelling, why is the decision to adopt IDM so difficult? The reason is that the start-up costs include a large front-end cash outlay, while the benefits are not realized so easily. We have captured these costs in the planning/development line item of the analysis. This effort should not be underestimated. Skimping in this area will lower short-term start-up costs but will also lower longer-term benefits.

Strategic Planning Assumption

A well-executed document inventory will reduce total system planning and design costs by at least 25 percent (0.9 probability).

Reader Notes

Basic

Document Inventory Component	HR Policy and Procedures Manual
Document Purpose	Embodies the business rules and practices for HR
Creator	HR manager
Frequency and Complexity of Updates	At least annually, simple updates
File Format	Created in Microsoft Word
Volume	15 chapters, total of 200 pages
Primary Storage Medium	Departmental binders
Security	Confidential company material

In-Process Use

Document Inventory Component	HR Policy and Procedures Manual
Version Control	Current version must always be displayed
Key Users	All employees
Search-and-Retrieval Traffic	Low concurrent access, average of one search per day per employee
Significant Ownership Changes	From manager to vice president of HR
External Distribution	None

Records Management

Document Inventory Component	HR Policy and Procedures Manual
Retention/Purging	Five years
Reporting	Usage, viewing
Audit Trail (Change and Viewing)	All employees must view current version, and changes must be documented

Human Resource department example

Source: Gartner Group

Identifying the payback opportunities for a document management system can be one of the biggest barriers to getting started with the deployment of IDM services in a networked environment. We have published a benefit/cost model that identifies start-up costs and benefit calculations and includes detailed assumptions about the organization and its use of the system. One notable finding is that approximately 65 percent of the start-up costs are for planning and development — the work that must be done by professional, clerical and technical staff to define the parameters of the system and to redefine business processes. This planning and development process is not full-scale BPR; instead, it is a more rapid and tactical set of decisions on how best to use the functions of the system. One of the most important tools an organization can use during the planning and development phase is a document inventory. A document inventory can be used to identify the flow of documents, the retrieval and access patterns, volumes and other important document population attributes that help define the type and scale of the IDM system that will be required.

Reader Notes

The Expanding Universe Scenario (0.8 probability)

- Organizations grasp the enormity of trying to manage an exploding population of digital documents without IDM causing the IDM market to grow at a 60 percent CAGR 1995-97 and accelerate to a 75 percent CAGR through YE2000 (0.8 probability).

- By 1997, the industry successfully adopts, on a widespread basis, IDM standards (DMA and ODMA) enabling organizations to add IDM services as core IT infrastructure servicing all desktops with granular levels of functionality and multiple personalities (0.7 probability).

- By 1996, the IDM vendor leaders and challengers develop and execute strategic marketing plans that are in equilibrium with user buying patterns and their demands for granularity of functionality (0.8 probability).

- Through 2000, users adopt an effective strategic approach of top-down planning and bottom-up implementation as a way to lower the cost of IDM adoption and to gain competitive advantage (0.7 probability).

The Collapsing Universe Scenario (0.2 probability)

- Economic recession or continued FUD surrounding “true” document management limits investment in IDM to less than 25 percent CAGR through YE2000 (0.2 probability).

- Vendor squabbles over market positioning causes a proliferation of non-interoperable proprietary extensions to DMA and ODMA or outright abandonment of the standards (0.3 probability).

- A mismatch between user demand and vendor product delivery and/or distribution channel delivery and support devalue the benefits and raise the implementation costs of IDM (0.2 probability).

- Users unable to transcend to an enterprise planning view of IDM technology adopt IDM on a bottom-up basis without regard to standards or interoperability. A new generation of information repository islands become prevalent (0.2 probability).