Key Trends

Business Flexibility: To win in the next decade, organizations will need the ability to regroup quickly for success in new endeavors.

Architectural Crisis: Proliferation of multiple system classes and information types and sources through the ad hoc deployment of PCs, LAN E-mail, workgroup applications and the groupware phenomenon is fragmenting IT environments.

Messaging Federation: While most organizations profess to want to consolidate from many to one messaging system, there will continue to be many disparate E-mail systems through 1998.

Leadership Crisis: The unmanageable chaos of independent, incompatible OIS installations throughout many organizations is placing enormous pressure on the traditional IS function to lead, follow or get out of the way.

Electronic Workplace: The fundamental view of the office is changing from a physical location to a set of capabilities that empower users and workgroups, throughout and beyond an enterprise, to communicate, share, use and add value to business information, and streamline business processes.

Movement to Standards: There is a serious movement from many "standards" to a smaller number of standards on which multiple vendors agree.

Posting Documents

Reader Notes

E-mail is evolving from a discrete application for interpersonal correspondence to a "utility" service for general purpose information transfer. A new E-mail architecture, based on the client/server model, with clear interface points for modularity and flexibility, is reflected in the product strategies of all leading vendors. By exposing the underlying messaging services within the E-mail application, this architecture opens the door for E-mail/messaging-enabling of personal productivity, workgroup and enterprise applications. The enterprise messaging environment of the late 1990s will consist of a robust backbone infrastructure, providing interoperability among a variety of workgroup and departmental systems that support individual business needs.

A principal focus of IT strategies throughout the next decade will be the establishment of an enterprise messaging utility within and among organizations that will provide the flexible information structures required to support increasing business flexibility. Assemblies of dissimilar products and protocols draw dividing lines that make it difficult for workgroups to form and reform at will. An enterprise messaging utility, however, makes it possible to redraw group boundaries as needed.

Key Issues

1. **What will be the business impacts — both benefits and costs — of implementing and deploying an enterprise messaging utility?**
2. **What complementary or supplementary messaging technologies must organizations invest in during the next five years to implement an enterprise messaging utility?**
3. **Which vendors can users depend on to make the transition from simple E-mail to the enterprise messaging utility needed for success in the next five years?**
4. **How can organizations establish an enterprise messaging utility that leverages existing E-mail installations, exploits emerging technology and provides a utility service?**

Posting Documents

Reader Notes

A thorough analysis of this core topic includes trends, applications, technologies, vendors and user strategies to be used in establishing an enterprise messaging utility that will support the business of the enterprise, and provide the highest possible value in connecting the enterprise to the outside world.

A highway is one example of a utility service. It provides a path not only for personal-transportation automobiles, but also for recreational vehicles, commercial pickup trucks and large container freight trucks. In order to connect the organization to the information superhighway among organizations, there has to be a quality internal system of highways and secondary roads that provide on-ramps and off-ramps, support for the loading of various products, and services for the vehicles, their owners and drivers. The highway system makes it possible for them to go where they need to go to achieve their goals.

Likewise, the enterprise messaging utility provides services to the information owners and projects, and provides them with the ability to move information wherever they need it to go to achieve the goals of the organization, the workgroup and the individual.

What will be the business impacts — both benefits and costs — of implementing and deploying an enterprise messaging utility?

Reader Notes

A Utility Implies the Universal Availability of a Predictable Set of Services:

- One integrated network
- Secure boundaries
- Excellent reliability
- Ability to reach and be reached by vendors, suppliers and customers
- Universal addressability
- Look-up capability to support addressing

The knowledge worker, traditionally tethered to the desk and surrounded with implements of the trade, is now often on the road or working from home — working in the electronic workplace, wherever that may be.

In support of the flexibility needed by organizations and workers in the next decade, organizations need networks that are also flexible, that provide a steady, dependable, universal set of services which can be tapped into as needed. Just as one can rearrange the desks, table lamps, and partitions in the office, so too one must be able to reorganize the groups, teams and affiliations in the network to best support the business at any given time.

The enterprise messaging utility needs to be always available, always reliable.

Security boundaries need to be drawn where needed — around the organization, or around a top-secret project.

Strategic Planning Assumption

By 2004, "personal" computers will rely on the rich services of workgroup computing, founded on enterprise messaging utility, application integration and development tools (0.8 probability).

Posting Documents

Reader Notes

Today	**2004**
Personal	Workgroup
Many queues	Few queues
Stationary	Mobile
Physical office	Virtual office
Fragmented infrastructure	Utility infrastructure
Single-purpose	Multipurpose
Product directories	Organizational directory

Key Issue: What will be the business impacts — both benefits and costs — of implementing and deploying an enterprise messaging utility?

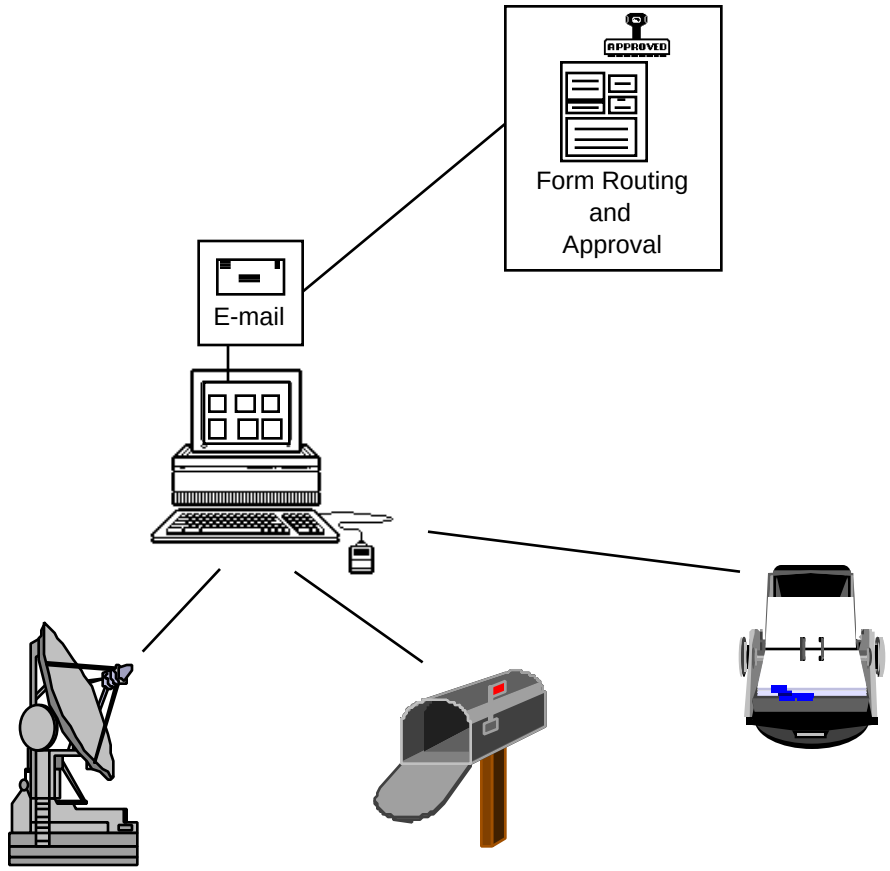
Where an organization implements messaging as an enterprise utility, the network, messaging and directory services become available to numerous applications, such as bulletin boards, groupware applications and electronic forms. E-mail attachments might be stored in document management systems to simplify retention and retrieval; voicemail messages might be consolidated with E-mail to minimize the number of separate queues of information a worker needs to manage.

Workers in the electronic workplace will no longer be marooned on remote islands, distant from the resources of the physical office. Instead, they will be provided with the reach, reliability and resources they expect from their physical offices.

The enterprise messaging utility will power the electronic workplace and empower the mobile worker.

Integrating and supporting applications such as electronic forms will justify the expense of the enterprise messaging utility (0.8 probability).

Reader Notes



Source: Gartner Group

Key Issue: What will be the business impacts — both benefits and costs — of implementing and deploying an enterprise messaging utility?

The business advantage of automating certain processes can be so great that even one carefully chosen business re-engineering undertaking can justify an organization's entire investment in electronic messaging.

Using electronic forms rather than printed forms can reduce costs. Streamlining and re-engineering the handling of the data from paper methods to electronic methods can bring a new and richer set of services, with opportunities not only for cost savings but also for better service to customers and more comprehensive and timely information to the organization.

What complementary or supplementary messaging technologies must organizations invest in during the next five years to implement an enterprise messaging utility?

Reader Notes

Complementary Technologies:

- Workflow
- Document Management
- E-forms
- Personal Electronic Workbase

Supplementary Technologies:

- Directory service
- Gateways and directory synchronization
- File conversion and viewing
- Management tools and services
- Remote connection services

Keeping people productive, informed and within reach in this electronic workplace presents new challenges to the information system's organization. New investments in key elements of the infrastructure will be needed to provide the connectivity needed for success in the next decade.

Client/server applications, connected with electronic messaging, will permit them to do productive work while disconnected, knowing that their actions during this disconnected session will be faithfully replicated and synchronized with the network once they are connected. Resource tables and databases on their portable platform will be automatically synchronized with the network masters.

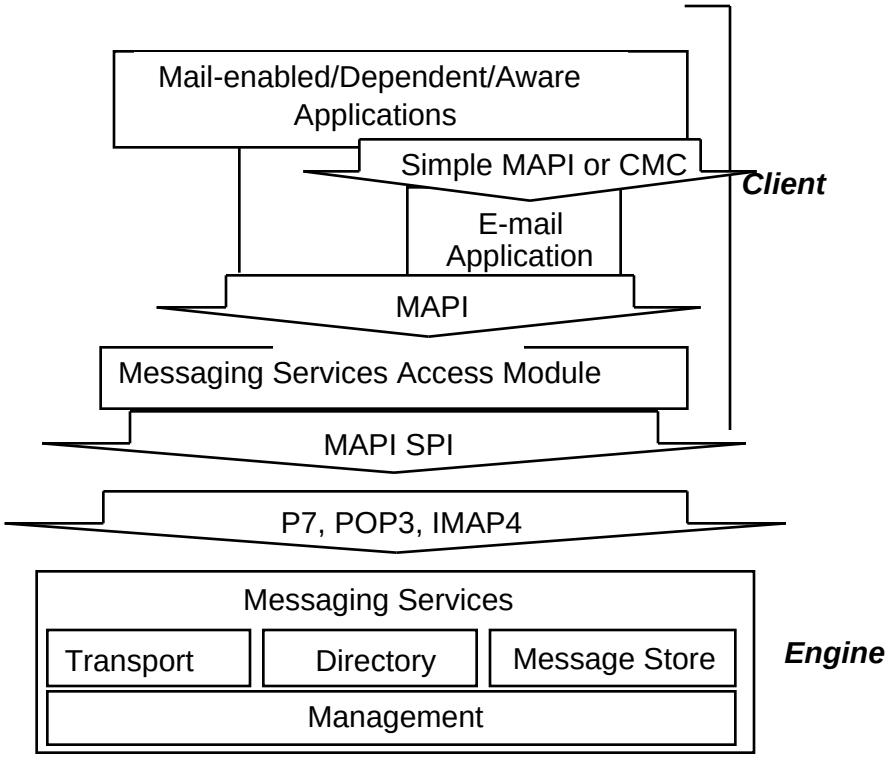
There are two major categories of technology that will be needed: products in support of migration and products that look to the future. In support of migration, the network will require gateways, file conversion software and directory synchronization tools. Looking to the future, it will need investments in a core directory based on standards, a utility management structure and enhancements for the electronic workplace.

Strategic Planning Assumption

An enterprise messaging utility that includes robust messaging, consistent APIs and a well-maintained directory infrastructure will provide a sound development base for workgroup systems and applications (0.8 probability).

Posting Documents

Reader Notes



Source: Gartner Group

Key Issue: What complementary or supplementary messaging technologies must organizations invest in during the next five years to implement an enterprise messaging utility?

The availability of easy-to-use applications interfaces that provide access to the underlying services of electronic messaging, directory, network and telephony will facilitate the creation of applications. Freed of the obligation to create the basic functions, application developers will have more latitude to indulge their creativity and create new services for end users. Likewise, the reuse of the basic utility leverages the organization's investment in that utility.

Client/server messaging application providers are implementing products using MAPI as a client/server dividing line on the Windows platform. Having a powerful, easy to use switching layer makes the rich set of services of the enterprise messaging utility available to all the desktops that are able to tap into this switching layer.

Vendors who make products for other platforms are continuing their existing proprietary interfaces, or using POP, IMAP or P7. Ideally, MAPI will be made available for Macintosh and Motif within the next year — not from Microsoft, but from a third party.

Strategic Planning Assumption

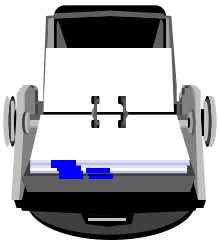
By 1998, an organizational directory infrastructure will be a critical element of the enterprise messaging utility (0.8 probability).

Posting Documents

Reader Notes

Tactical Guidelines for Directory Implementation:

- Define namespace architecture
- Design unifying projects to engender cooperation
- Converge E-mail, phone and application data
- Establish domains, topology
- Establish security boundaries
- Set guidelines for data management
- Set guidelines for access rights by field
- Create visible benefits



Source: Gartner Group

Key Issue: What complementary or supplementary messaging technologies must organizations invest in during the next five years to implement an enterprise messaging utility?

The primary motivation for compiling a directory is to locate people, applications and devices — to go from their names to their addresses. An E-mail address is one address, a telephone number is another. People may have numerous addresses, such as fax, pager and cellular phone. There is a similar need to translate the names of applications and devices to their network addresses, such as finding the address of a color postscript printer on the second floor.

The technology now exists to implement all of these requirements in a single repository with open interfaces. Products which adhere to the X.500 standards are appearing now. Look for products which implement X.500 technology, and applications which use the DAP and LDAP interfaces to access directory services.

Strategic Planning Assumption

During the next five years, management tools will be critical in maintaining a stable enterprise messaging utility (0.9 probability).

What to Look For in Management Tools:

- Dynamic monitoring of all components, queueing structures and the pace of message flow
- Data collection for fault analysis, reporting and forecasting
- Message tracking
- The ability to start, stop and configure components and modify routing.
- The ability to add, delete and move users from one place to another or from one product to another
- Usage accounting and (optionally) billing
- Ability to reconfigure quickly, without downtime

Posting Documents

Reader Notes

Key Issue: What complementary or supplementary messaging technologies must organizations invest in during the next five years to implement an enterprise messaging utility?

Enterprise messaging utility infrastructures need to operate 24 hours a day, 365 days a year, without interruption. They need to be intrinsically reliable. This requires products engineered for this level of service. It also requires a management infrastructure prepared to locate problems in the network and fix them before the end users perceive the problem.

Management tools can be proactive in sensing problems and alerting software or staff to take corrective action. They can measure the speed and volume of service delivered to track service quality and facilitate improvements.

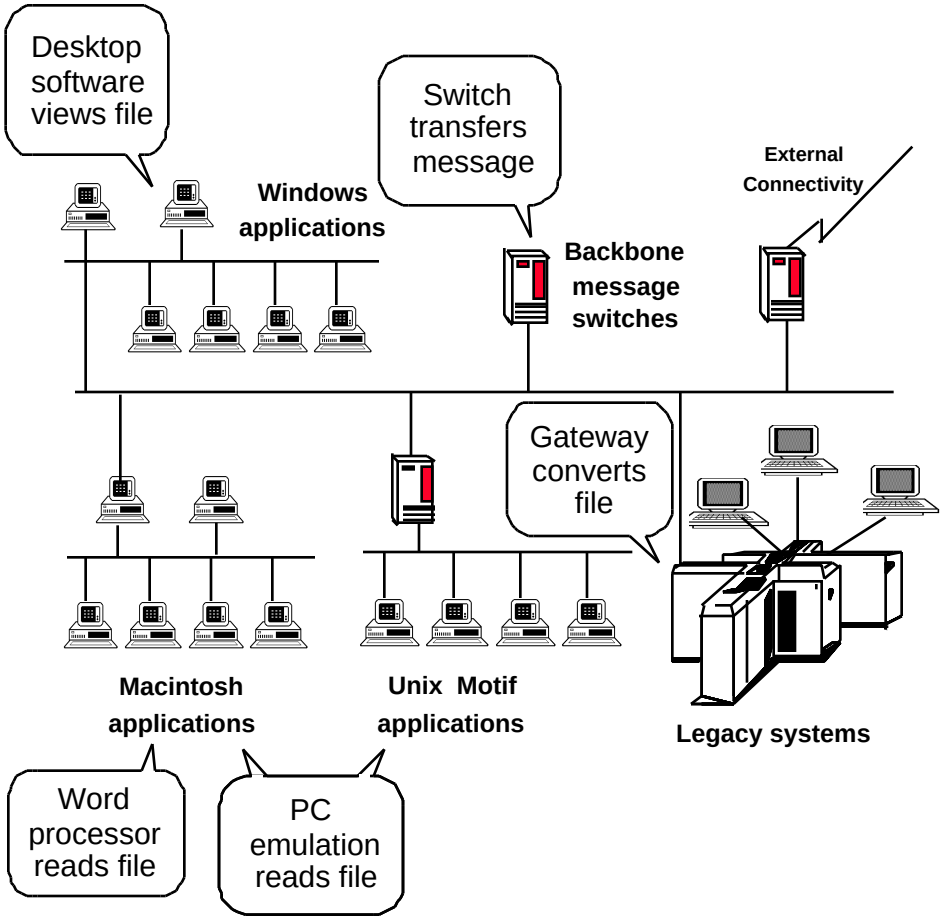
This will be particularly important during the next five years, while organizations maintain and migrate from their legacy systems.

Strategic Planning Assumption

Through 1998, gateways, converters and directory synchronization software will be critical elements of the enterprise messaging utility (0.7 probability).

Posting Documents

Reader Notes



Source: Gartner Group

Key Issue: What complementary or supplementary messaging technologies must organizations invest in during the next five years to implement an enterprise messaging utility?

Wherever there is diversity, there will be a need for software to support the interworking of dissimilar products. This can be as simple as a word processor which knows how to read files produced by other word processors, or by the same brand of word processor on another hardware platform, or it might be as complex as sending a top-quality WYSIWYG file to a user of a legacy system that can only read text.

It will be important for the organization to choose what level of service it wants to provide, and at what cost. One choice is to provide support for a limited number of formats, and to make a distinction between the formats supported for maximum readability and those supported for cooperative editing.

Key Issue

Which vendors can users depend on to make the transition from simple E-mail to the enterprise messaging utility needed for success in the next five years?

Posting Documents

Reader Notes

Four Messaging Business Segments

Applications		*Engines*	
Attachmate	Lotus/cc:Mail	Apple	**Infonet**
Banyan/Beyond	Microsoft	Attachmate	**Isocor**
Borland	NBS	**Banyan**	Lotus Soft*Switch
Capella Systems	NCR	Bull	Microsoft
CE/Powercore	ON/DaVinci	CE Software	NBS
Data General	Premenos	**Control Data**	NCR/AT&T
Digital	Reach	**Data General**	**Novell/ WordPerfect**
Enable	Transcend	**Digital**	Premenos
Enterprise Solutions	Unipalm	Enterprise Sol	**Sequent**
Fischer Intl.	Uniplex	Fischer	**Tandem**
Futurus	Verimation	**H&W Systems**	Uniplex
H&W Systems	Wollongong	**HP**	Unisys
Infinite Technologies	Z-Code	**IBM**	Verimation
	ZoomIt	ICL	**Wollongong**
			Z-Code

Accessories	*Systems Integration*
Automated Business Solutions	Andersen Consulting
Alisa Systems	Control Data Systems
Action Technologies	Digital
Baranof Software	EDS
Bear Mountain Software	HP
Data Connections Ltd.	IBM
FTP Keyword	Infonet Services
Linkage	Neoteric
NetSwitch	Onsett
Phoenix Systems	SHL
StarNine	Sequent
The Boston Software Works	
Wingra	
WorldTalk	

Underlined = Workgroup, **Bold** = Backbone

Source: Gartner Group

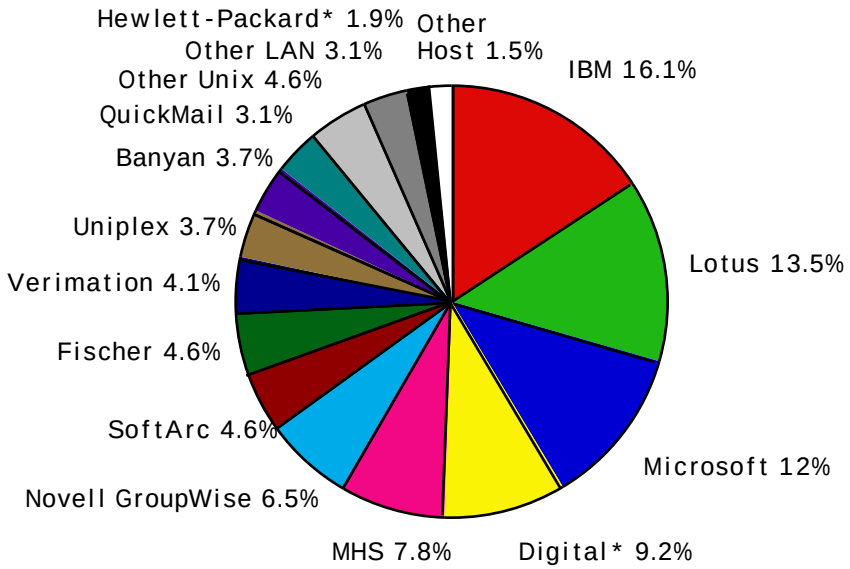
The E-mail / messaging market will be volatile and intensely competitive, with four distinct but interdependent segments: applications, engines (workgroup and backbone switching), accessories and systems integration. The extent of investment required to develop and maintain a complete solution, together with highly competitive market dynamics, has forced most vendors to focus and specialize in one business segment. Partnerships and alliances of convenience / necessity and, more recently, mergers / acquisitions, have emerged among component suppliers to deliver complete solutions. However, vendors participating in multiple segments must still remain open to partnerships with their competitors to provide optimum solutions to satisfy user requirements.

User companies are no longer compelled to accept mediocrity in any one segment, with options for mixing and matching suppliers of individual components. The advantage of this market model is flexibility; the disadvantage is complexity in decision making, implementation and ongoing support.

Through 2000, the E-mail market will consolidate as the market grows and matures (0.8 probability).

Reader Notes

Worldwide Mailboxes Installed, 1995



* 50% of HP's seats and 5% of Digital's users are using cc:Mail or Microsoft Mail as clients connect to OpenMail or MailWorks servers.

Source: Gartner Group, 8/95

Key Issue: Which vendors can users depend on to make the transition from simple E-mail to the enterprise messaging utility needed for success in the next five years?

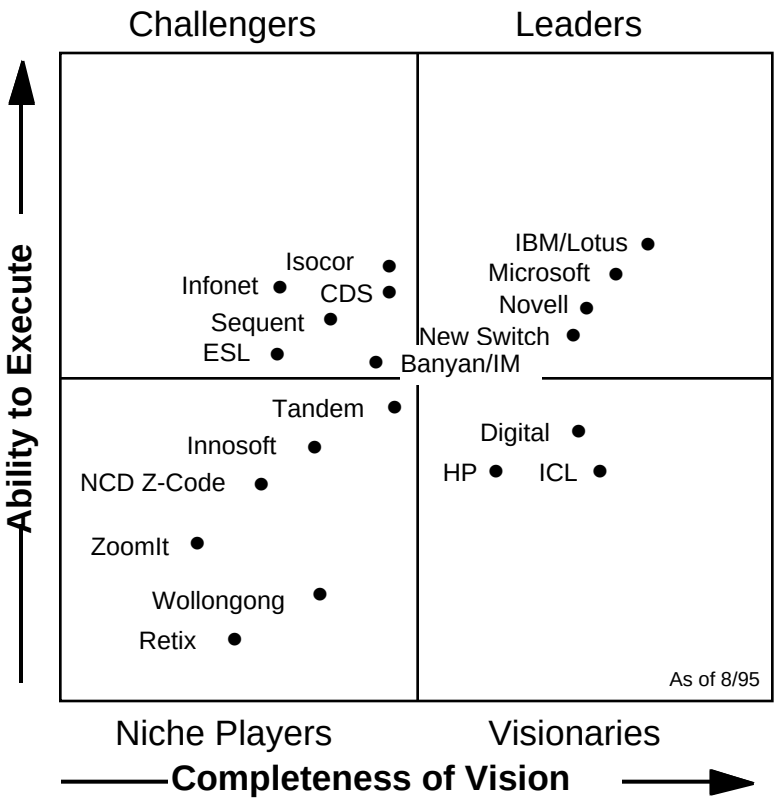
Today's messaging environment is all-too diverse. As the market consolidates, there will be greater consistency and adherence to standards in the infrastructure. While many organizations seek the holy grail of a single mail product for all, few achieve it. Even though the currently installed products are very diverse, the new products being sold today are coalescing on very few primary backbone protocols. During the next three years, the majority of products will use either the X.400 or SMTP/MIME protocols. This is not expected to result in one dominant messaging application, however. Rather, it should lead to an enterprise messaging utility environment with even greater diversity among the desktop applications, as long as they adhere to certain standards. For example, there can be a wide variety of telephones and toasters simply because there are basic standards to which they adhere.

Steady growth is expected through the end of the century. With this increased growth comes increased need for directory services, to find people and their network addresses, and format the network address such that it works correctly in the sending product.

New entrants and new consolidations will significantly change the landscape of messaging products through 2000 (0.7 probability).

Reader Notes

Enterprise Messaging Utility Vendors



Source: Gartner Group

Key Issue: Which vendors can users depend on to make the transition from simple E-mail to the enterprise messaging utility needed for success in the next five years?

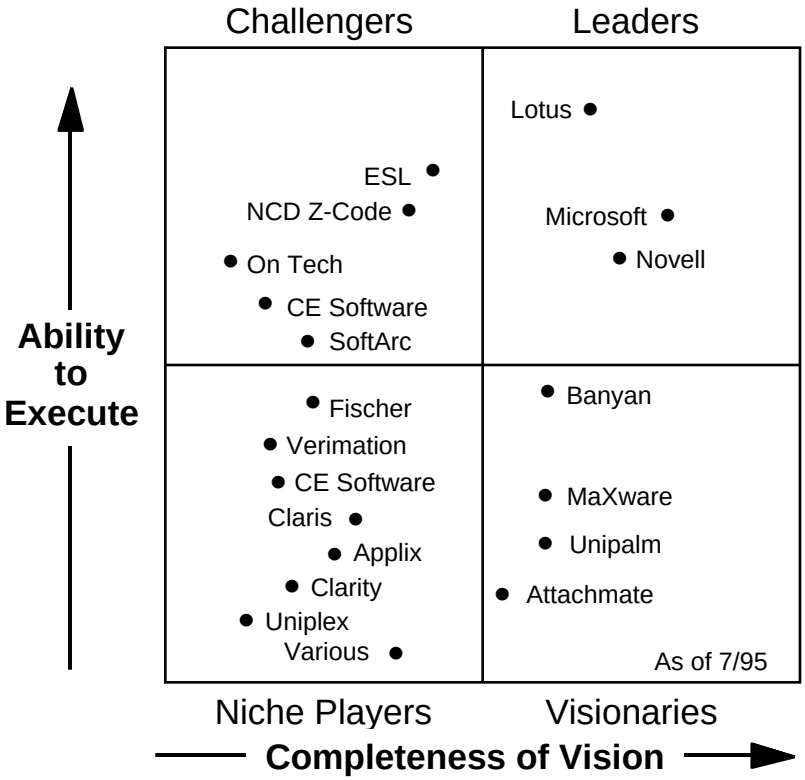
Vendors of back-end products for the enterprise messaging utility are rated here on a multi-dimensional scale including scalability, robustness, functionality and vision. The vendor who will be most successful by 2000 will be the one best positioned for the world of standards, works well with partners to complete its vision and establishes a strong base for Workgroup Systems. This vendor, shown here as "Vendor X," could be any of the players shown here, or a combination of those players or a vendor who has not yet made this chart.

In the top-right quadrant are the vendors with the majority mind-share who, having done very well with their desktop clients, are working to create robust servers. Those in the bottom right quadrant have the greatest experience in enterprise messaging. If they are able to provide comprehensive support services to the more colorful desktop clients, they have the potential to win the backbone. The challengers include some interesting technology and attention to the needs of electronic commerce. The niche vendors include a number of current Internet players who are working to make their products reliable enough for official correspondence.

By year-end 1996, E-mail will become an enabling technology lying beneath a wide variety of applications.

Reader Notes

E-Mail Desktop Application Vendors



Source: Gartner Group

Key Issue: Which vendors can users depend on to make the transition from simple E-mail to the enterprise messaging utility needed for success in the next five years?

With OS-integrated E-mail clients on Windows and Macintosh desktops, E-mail application vendors must now show distinct added value, beyond simple correspondence creation and management, with a replacement or add-on module. Areas with the most opportunity will be: extended functionality, such as filtering rules and workflow; e-forms routing; integration with other desktop applications, such as calendar and spreadsheet; and consistent cross-platform interface for mixed desktop environments, such as Lotus' cc:Mail and Novell's GroupWise.

LAN-based OIS vendors, CE Software, ON Technology and SoftArc will compete for small to medium-sized business implementations, but they will have increasing difficulty in large enterprises.

With widespread agreement on industry-standard client/server interfaces, a large number of new clients will arise (labeled "Various" on this chart), each with its engaging differentiators. Most of these companies will not last two years. If you use one of these, make sure that you use only standard interfaces: CMC, MAPI, P7, POP3 and IMAP4.

Strategic Planning Assumption

Through 2000, products that enable coexistence and migration will become essential as the E-mail market matures (0.8 probability).

Posting Documents

Reader Notes

Classes of Migration Tools:

- E-mail transport
- Address mapping
- Directory synchronization
- Management of both sides
- Calendar interworking
- File format conversion and interworking

Source: Gartner Group

Key Issue: Which vendors can users depend on to make the transition from simple E-mail to the enterprise messaging utility needed for success in the next five years?

In the early days of movement to LAN E-mail products, many organizations experienced chaotic, unplanned acquisition of a multiplicity of products, chosen to meet the needs of individual workgroups, with little or no attention to interworking. In order to move to a utility model, products will be needed to provide connections to the organization's infrastructure services.

Reliable messaging gateways will be needed to provide connection, protocol conversion and address mapping.

Viewing or conversion services will be needed to convert attachments or view them intact when they are received in a foreign system.

Directory synchronization products can be used to put the E-mail directory at the disposal of applications and end users.

How can organizations establish an enterprise messaging utility that leverages existing E-mail installations, exploits emerging technology and provides a utility service?

Reader Notes

Gartner Group's Seven Key Steps to Building an Enterprise Messaging Utility:

- Integrate the network.
- Secure its boundaries.
- Organize for reliability.
- Perform a technology audit.
- Establish a universal namespace.
- Provide a high-quality look-up capability for the users of the messaging system.
- Train users.

What steps must organizations take to create this enterprise messaging utility? What is the best way to connect to the extended world of customers, suppliers, and business partners? How can the organization best ensure that the ability to connect to the outside will be an advantage to the organization, not a drain on productivity? What safeguards need to be in place to protect the organization from intrusion? What standards of etiquette should an organization publish to guide its users in appropriate uses of its resources?

By following Garter Group's Seven Key Steps to Building an Enterprise Messaging Utility, organizations will create a firm foundation for the applications and services they will need for success in the next decade.

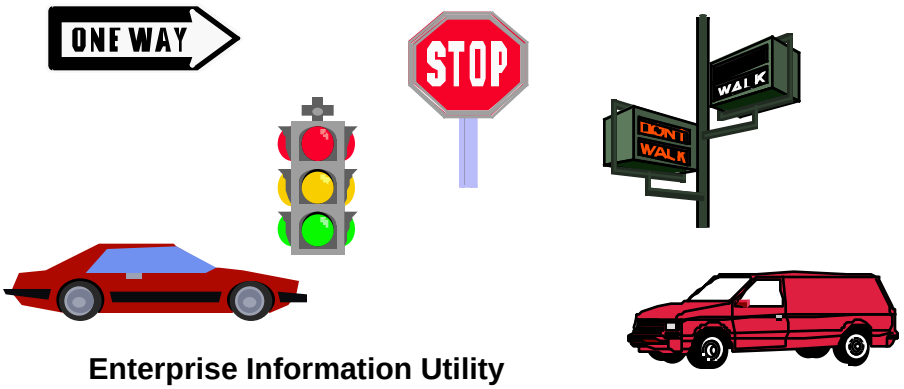
The enterprise messaging utility strategy should include a consideration of a wide range of technology factors in current and planned E-mail, OIS, line-of-business (LOB) and personal-productivity application implementations within all parts of the organization. Enterprise messaging utility strategies that do not include a thorough audit of the existing and planned technology environment will cost more and deliver less than anticipated over the next five years (0.9 probability).

An enterprise messaging utility will fail without a utility service operations model (0.9 probability).

Reader Notes

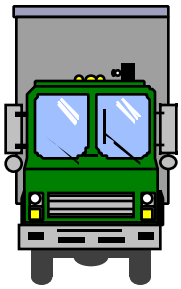
Rules of the Road

Transportation Utility



Enterprise Information Utility

- Service standards definition
- Maintenance procedures
- Task assignment
- Accountability
- Back-up coverage
- Problem-escalation process
- Resource allocation
- Staff training
- End-user guidelines/training



Source: Gartner Group

Key Issue: How can organizations establish an enterprise messaging utility that leverages existing E-mail installations, exploits emerging technology and provides a utility service?

A transportation utility or highway system consists of much more than the roads themselves. It also consists of a set of service standards, maintenance routines, accountabilities and rules of courtesy and priority. Whether the user is the driver of a pleasure vehicle, light truck or freight container vehicle, the same set of basic rules and services apply. Likewise, in the enterprise messaging utility it is critical to establish a similar set of service standards, maintenance routines, accountabilities and rules of courtesy and priority. It is these standards and agreements which make a set of products into a utility service.

Electronic Messaging Industry Scenarios — 1998

Synergy and Diversity (0.7 probability)

- By 2000, message transfer protocols will consolidate into two primary protocols (0.8 probability).
- By 1998, there will be widespread implementation of client/server messaging architecture (0.8 probability).
- By 1998, the movement from a product model to an architectural model with well-defined component interfaces will be well under way, but still incomplete (0.7 probability).
- By 1998, IS departments will proactively address the needs of the individual, the workgroup and the enterprise, and will provide a basic set of reliable services following a utility model (0.7 probability).

Anarchy (0.3 probability)

- By 2000, multiple vendors will invent new and “better” message transfer protocols and put them forward as competing answers (0.2 probability).
- By 1998, the client/server architecture will be rejected, with implementations returned to central control (0.2 probability).
- By 1998, an architectural model, with clear interfaces and underlying services, will not emerge (0.3 probability).
- By 1998, messaging products will be so diverse that you will need to purchase a local stack of products from a single vendor to ensure that they work together (0.3 probability).
- By 1998, IS departments will fail to evaluate and plan for the needs of the individuals, workgroups and enterprises they serve, leading to ever greater dissatisfaction and the demise of a central IS function (0.3 probability).