

Microsoft M E M O

To: Apps BUMs, Apps GPMs, Apps Marketing, Corporate Marketing, Executive Staff, SMSD Marketing, Systems Marketing, Connie Ballmer, Bruce Burger, Bill Gates, Chris Graham, David Jaworski, Mike Hallman, Lewis Levin, Bob Matthews, Darren Remington, Russ Werner, Tony Williams
From: Shirish Nadkarni
Subject: Office Systems Strategy Backgrounder
Date: September 15, 1991

The attached document outlines the mission of the Office Systems Strategy group and addresses some fundamental questions that you may have about what we are trying to accomplish. These include questions such as what an Office System is, what areas our Office Strategy should cover, what our goals are and why is it important for MS and our customers. This document does not outline what the Office Strategy is – this will follow in another document which will be completed by the end of October. I would appreciate your feedback on this memo.

EXECUTIVE SUMMARY

The MS Office Strategy is an *integrated Applications and Systems strategy* for addressing the needs of the Office environment. The vision guiding the Office Strategy is *Information at Your Fingertips*. To provide a complete Office System, we need to provide an integrated set of *applications, development tools and workgroup services*. The Office system defines the architecture for how the applications work together on the desktop and on the network.

The battle we are fighting is over who controls the next generation applications and system architecture, APIs and services. These go beyond traditional operating system issues to include application integration, messaging, directory services, document management etc. The main competition we face is from Lotus who is now in "Systems" business with products like Notes. Lotus, in addition, will be defining its own architecture for desktop integration and programmability which will compete with the architecture we define. If they win this new System battle, they can use it to drive the penetration of their application.

We want to use the Office Strategy as a competitive weapon to achieve the following key goals:

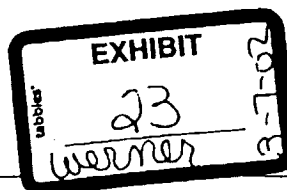
- *Control the Office System architecture:* As mentioned earlier, we want to control the next generation application and system architecture and to become the platform of choice for ISVs and customers.
- *Drive penetration of MS applications:* We do this by being the first to support the MS Office platform so that customers are driven to purchasing our applications because of the superior integration of our applications. We also do this by getting customers to build complete solutions which pull in the sale of multiple applications products.
- *Drive penetration of Windows:* We do this by getting customers to commit to Windows as the base platform for implementing their Office architecture. The Office Strategy will clearly articulate why Windows and Windows networking are essential components of our Office strategy.

Customers want very much to understand our Office strategy. It will enable us to gain access to MIS decision makers who make the strategic decisions about downsizing and computing architectures. We will be able to exploit a unique competitive advantage that we have in being both an Applications and Systems vendor by being able to coherently articulate unified strategy to our customers.

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WHAT IS OUR MISSION?

- **Office Strategy Formulation:** Formulate MS' Office System Strategy. *The strategy will focus on our product offerings for the next 2 to 3 years.* The work we will be doing includes the following:
 - Work pro-actively with various product groups to understand and integrate their product strategies. Ensure that the product groups are addressing market and competitive requirements as an integrated offering.
 - Address issues/holes in our strategy not being addressed by any group.
 - Enter into partnerships with third-party vendors for solutions needed to complete our offering.
- **Market Research:** Conduct market and competitive research to help guide our strategy. This includes the following:
 - Conduct competitive analysis on leading Office Systems vendors.
 - Gather customer feedback from accounts using MS and competitive solution.
 - Hire Seybold Office Computing, a leading Office analyst firm, to provide feedback on our Office Strategy.
- **Partnership Strategy:** Formulate and implement strategy to enter into partnerships with other Office Systems vendors. We have currently entered into a partnership with DEC to market our Windows applications as part of DEC's All-in-1 Office solution. We will investigate entering into a partnership with them on Mail and other Office System services.
- **Office Strategy Marketing:** Articulate our Office Strategy to customers, Office Analysts and the press. Develop marketing, sales and support strategy to successfully market our Office System offering.

WHAT IS AN OFFICE SYSTEM?

An Office System is an integrated set of *applications, tools and services* that enable *individuals and groups* in an Office environment to:

- Share information
- Process information
- Coordinate work
- Build solutions

An Office System consists of three main components: Applications, Development Tools and the Office Platform. The Office "Platform" defines the set of desktop and workgroup services available to applications. The platform provides a higher level of services than those provided by the underlying desktop or network operating system. The Gartner group calls these services "Middleware" since they have traditionally been outside the domain of the System platform and the applications. These services make it easier for applications to share information and to integrate with each other on the desktop and on the network. Eventually, we expect these services to become part of the System platform. The development tools make it possible for users to build custom solutions that utilize the capabilities provided by individual applications and Office services. The final component are the Applications which are critical to building a complete Office System. While we will evangelize the Office System platform as being open to third-party integration, we will promote it along with MS applications to help increase the penetration of our applications.

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We will position the Office platform as the new computing platform for the 90s. The design center is no longer a single user on a desktop. Instead it is a workgroup that is working together on a network. By being the first to exploit the platform, we can create a competitive advantage similar to that we have gained by being the first to exploit GUI platforms.

WHAT IS THE VISION GUIDING OUR OFFICE STRATEGY?

Our Office Strategy will implement the *Information at Your Fingertips* Vision in an Office environment. It is a vision that addresses the needs of both individual users and groups of users. Our vision for implementing various functions of the Office System are as follows:

- **Share information:** While computers have become powerful tools to enable users to create information, users have limited ability to effectively share information. In order to meet this need, we need to solve several problems:
 - **Electronic communication of information:** While paper based communication will always be a need, electronic communication of information is better solution in most instances. Information can be communicated more rapidly, it can be catalogued in more interesting ways and can be further utilized for analysis or transformation. There are two problems we need to address. Much of the information that is available today is available only on paper. We need to provide the technology to convert it into electronic form. Even if the information is available electronically, there is still the problem that different applications use different formats to represent information. We need to, therefore, enable universal readability (i.e. the ability to view information in any format) and enable conversion to the form most appropriate for the recipient's application. In addition, there is a need for point-to-point communication as well as network storage to enable users to access the information at any time.
 - **Powerful storage and search capability:** The system should enable the information to be catalogued and provide powerful search and browsing tools that utilize the catalogue and as well as the content to identify relevant information. Users should be able to obtain access to the information regardless of where it is located or the computing environment on which it is stored.
 - **Notification of relevant information:** In many instances information may be filed into the system that may be of interest to another user but the creator may not know of that interest. The system should enable the user to define queries that run against information databases so that user is notified of new information that is pertinent to the user's needs. Another form of notification is via hyperlinks where the user is informed of other information that is relevant to the information that the user is viewing.
 - **Filtering of information:** Electronic communication can create a deluge of information that can overwhelm a user. The user should be able to define filters that can be applied to information that users receives so that it can be categorized and prioritized.
 - **Securing access to data:** While easy access to information is important, users and organizations need to be protect who can have access to data.
- **Process information:** Users today have powerful tools to create and analyze information using Word Processors, Spreadsheets and Databases. However, there are still several problems to solve:

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- Integration of information: Users should be able to integrate information in the way that is most appropriate to their communication needs. The user should be oblivious to the application that is being used to manipulate a specific object of information. Finally, the system should maintain the links to the original piece of information even when the compound object is moved across the network to another machine.
- Presentation of information: More and more with electronic communication of information, users will be in the mode of absorbing and analyzing information electronically. Tools such as Word processors and spreadsheets need to be designed enable the creator of the information to present the information in more interesting ways to more rapidly absorb and analyze the information. EIS is a good example of a spreadsheet being used in a presentation mode.
- Coordinate work: Information is rarely created without either group contribution or group collaboration. The system should enable users to work together to do the following:
 - Joint creation and manipulation of information: This includes the ability for people to work simultaneously on creating information as well as synchronizing access to information
 - Scheduling and Task Management: This includes the ability to plan, communicate and coordinate schedules and tasks and to route information to perform these tasks.
- Build solutions: The system should offer a common programming environment that can provide access to the functionality embedded within the applications to enable custom solutions to be developed. We need to enable the following:
 - Application Customization: Applications should be fully customizable including customization of the user interface, integration of new functionality and customization of data views and data manipulation functions.
 - Task Automation: We need to enable automation of both individual and group activities so that repetitive procedures can be accomplished more efficiently and accurately.

WHAT WILL A TYPICAL SYSTEM LOOK LIKE?

Let's use a consulting firm as an example of environment that can benefit from an Office System solution. A consulting firm has some very specific Office productivity needs (e-mail and scheduling are not described here) that are described below:

- Document Creation and Management: This includes creating, updating and managing customer proposals, financial analysis, contracts, presentations and reports. There are several requirements here:
 - Writing proposals, presentations and contracts using standard templates.
 - Jointly creating and manipulating information. Different members of a consulting team may work on different pieces of a report, a spreadsheet or contract.
 - Publishing the information so that others on the project or in the firm can use the information.
 - Version management of the documents so that changes can be identified from one version to another and a history of changes can be maintained.
 - Defining a process for reviewing and approving documents.

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- Document Communication: Communicating documents quickly to customers either electronically or via fax.
- News Tracking: Track news on specific industries and companies.
- Project Management: Developing a project schedule and notifying people of their task responsibilities.
- Customer Information Tracking: Tracking information on interaction with each customers. This includes status information, discussion of issues, customer interaction etc. Also, building knowledgebase in practice areas.
- Database Management: Managing customer data such as address information, contract information, time spent etc.
- Expense Tracking: Tracking expenses on various projects.

To meet the needs of the customer, we would need to provide the following product components: Word Processor, Spreadsheet, Presentation package, Project Management, E-mail, Calendar/Scheduler, Workflow, Conferencing, Document Library and Database. These components would be integrated together to meet above needs as follows:

- Document Creation and Management: Use Word, Excel and Powerpoint to create the documents, spreadsheets and presentations. Pre-defined templates can be stored in the Document Library for use in creating the documents or presentations. In addition, information from existing documents can be re-used where necessary. Access to information can be synchronized using the check-in/check-out features in the Document Library. Version numbers for documents are automatically maintained by the Document Library and a history of changes is maintained. Documents are reviewed using the Workflow tool.
- Document Communication: Use the e-mail system with the appropriate gateway to the customer.
- News Tracking: Use a product like NewsEdge to retrieve relevant news and distribute via e-mail.
- Project Management: Use Project for creating project schedule. Integrate with e-mail to communicate task information to individuals. Report completion of tasks to the project manager.
- Customer Information Tracking: Use the Conferencing system to track this information.
- Database Management: Use the Database to manage and update customer data.
- Expense Tracking: Use Excel forms to enter information and to update central database.

As you can see, a complete Office System requires both the applications to create the information and the Office platform to communicate, store and manage the information.

WHAT AREAS SHOULD OUR OFFICE STRATEGY COVER?

Our Product strategy for the Office needs to address the following areas. An architecture diagram that puts all the pieces together is attached at the end of this memo.

- **Desktop Applications Strategy**: The key points we need to articulate are:
 - *Full line of desktop applications that meet the most important Office productivity needs. These include Document creation (which includes both WP documents and presentations), Decision Support (which includes Spreadsheet, Database and Charting), Time and Task Management and Project Management.*

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- *Workgroup functionality:* This includes both support within individual applications to enable users to simultaneously create and manipulate information and integration with Workgroup Services such as mail, document management, workflow etc. to enable dissemination of information as well as coordination between users to create the information.
- *Integration:* The key issues we need to communicate are cross-platform support/interoperability, OLE/DDE support, consistency/compatibility, customizability and programmability support.
- **Workgroup Applications Strategy:** Workgroup services provide the architecture for communication, storage and management of information and coordination of group activities. We need to articulate our strategies for Mail, Directory, Scheduling, Document Management, Workflow and Conferencing and how applications can leverage the functionality provided by these services. In the future, we will rely on the MS database engine to provide the data store for all the Workgroup applications. We need to articulate how we will migrate to this architecture and what benefits this architecture will provide.
- **Database/Data Access Strategy:** We need to articulate how organizations can store and manage structured data and provide access to this data for analysis, reporting and presentation purposes. We also need to articulate how we will enable our applications to access data stored in other databases. Finally, we need to articulate how customers can build EIS systems for end-users who need up-to-date access to information.
- **Programmability Strategy:** We need to articulate how we will enable applications to expose their functionality and how we plan to provide a consistent programming environment to enable users and developers to develop custom applications.
- **Systems Strategy:** The Systems strategy as it relates to applications integration and networking is an integral part of the Office Systems strategy. We need to articulate and evangelize the key systems architectures such as Object Linking and Embedding, Windows Networking, etc. We also need to determine which architectures, APIs and services are more appropriately implemented in the Systems platform.
- **Overall Architecture:** We need to articulate the overall architecture and how the various pieces fit together and what APIs are available for application development. We also need to address issues such as platform support, support for standards, administration, installation etc.
- **Solutions:** We need to provide customers with concrete examples of the types of solutions that can be built using various components of our system and get them excited about the significant benefits they can gain by implementing these solutions.

On the marketing front, we need to articulate our Pricing, Packaging, Channel, Sales, Systems Integration and Support strategies.

We see the product strategy as being presented in two forms. The first is a Strategic Overview that is more benefit and solution oriented and provides broad technology direction which can be easily absorbed by high level MIS decision makers and IEUs. The second form is more technical and discusses in detail various product strategies so that we can satisfy the implementors within MIS organizations that MS has a solid product plans and technology in place to deliver on our promises.

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WHY IS IT IMPORTANT FOR MS?

Our Office Strategy not only benefits Applications but also Systems and MS as a whole.

Benefits to MS:

- Enables MS to articulate how MS will fulfill the vision of *Information at Your Fingertips* in the Office environment. Customers will consider our vision to be vaporware until we prove to them that we have products in place to deliver on that vision.
- Enables MS to coherently tie together its applications and systems strategy. Customers don't view Applications and Systems as two separate entities nor do they care that they are separate. They will compare our integrated strategy with that of vendors such as Lotus, IBM and DEC.

Benefit to Applications:

- The MS Office System will strengthen our position as an applications vendor.
 - We gain access to strategic decision makers who are key to making the decisions about downsizing and computing architectures. We make applications more strategic to these decision makers since we can articulate the key role applications play in our Office Strategy.
 - The MS Office System defines a new computing platform that we can be the first to exploit. We can use our position as the leading applications vendor to drive the sale of our Office platform and vice-versa.
 - It gives us the opportunity for us to grow into new applications areas especially workgroup applications and databases.
 - It increases account control. We will be able to control the dialog with the customer by helping them define their Office architecture.
 - If customers develop custom solutions using our applications, it helps entrench our applications into the account.
- Fulfills strong customer demand while increasing revenue per desktop. Customers want a complete solution from MS that is tightly integrated together. A complete system sale increases revenue per desktop through the sale of:
 - Multiple applications products that are pulled through.
 - Office System Services
 - Consulting services
- Even in the absence of a complete Office System sale, it provides MS applications with a competitive advantage because of additional features that we can provide by taking advantage of various Office System services. For example, Word combined with Workflow will enable users to route documents for review and comments.

Benefits to Systems:

- Office Systems vendors pose a threat to our systems strategy. Offerings such as Lotus Notes and HP NewWave compete with Windows in setting standards for architectures and APIs that are better implemented in Windows.
- Our Office Strategy will help promote our Systems Strategy since we will clearly articulate how Windows provides key architectures and services that we need to implement a superior Office System.

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WHY IS IT IMPORTANT FOR THE CUSTOMER?

During the 80s, customers have made significant investments in PCs, PC networks and various applications. They have, however, not seen the significant improvements in Office productivity that they would have liked to see. Given our industry position and investment in a wide range of application and system software, customers expect MS to articulate a strategy that explains how they can leverage their investment and tie together different solutions. They want to understand how they can use PCs to deliver systems that give them a significant advantage over the competition. Customers perceive two main benefits to investing in an Office System:

- **Building a Competitive Advantage:** The current business environment is significantly more competitive and complex today. This is made more difficult for larger organizations that are widely dispersed. Customers are looking at information technology as a solution to meeting competitive and organizational challenges:
 - **Competitive Challenges:** The competitive battles today are being fought on a number of fronts today. These range from quality of product offerings, pricing, customer service to marketing promotions. A key component to building the competitive edge is getting access to and utilizing information to make informed business decisions and to build better products. Another key component is enabling people to work together on projects to enable better exchange of information and ideas and to coordinate their work activities for a more efficient operation of specific business activities.
 - **Organizational Challenges:** Organizations are more dispersed than ever in order to deal with markets that are national/global in scope. There is also pressure to create flat, decentralized and lean organizations to drive decision making to product groups and to reduce the workforce. This situation makes it even more difficult to manage an organization, disseminate information and coordinate work.

To build a competitive advantage today, there is a high premium to making significant improvements in *business productivity*¹. This requires implementing a system that can deliver the following benefits:

- **Rapid access to information:** Access to information is critical for making informed business decisions. For example, marketing managers need the latest sales data to understand the impact of their marketing programs and to quickly make the necessary changes to execute their programs successfully. Sales people need access to the up-to-date product, marketing and customer information so that they can effectively sell their products. Product groups need to exchange information on product decisions without time consuming meetings.
- **Better decision making:** Once data is available, users need access to decision support tools to analyze the data to arrive at informed decisions.
- **Better Coordination:** Most business operations require smooth coordination of various individuals to ensure rapid and accurate completion of tasks. For example, a loan approval process can benefit from a system that routes the loan information through various individuals to ensure timely approval.

¹ I distinguish between personal/workgroup productivity and business productivity from the directness of the benefit to the business operations of an organization. e.g. using a WP to write a memo helps my personal productivity. On the other hand, using a WP to write a contract and track changes directly helps my business productivity. Organizations are going to be more excited about implementing solutions that directly impact business productivity.

- **Cost reduction:** Given the pressure on profits, organizations need to be able to decrease cost overheads. Companies want to reduce administrative workforce by using technology to automate tasks.

The MS Office System will enable organizations to achieve these objectives for their information workers and to build line of business applications that assist Office workers in effectively performing their job.

- **Enhancing Personal and Group productivity:** While PCs have been successfully used by organizations in accomplishing specific tasks, gains have been limited. In the future, users will benefit from the following improvements in personal and group productivity:
 - Gain access to the information they need to process within their applications.
 - Work in multiple applications. Easily integrate information from different applications.
 - Automate repetitive tasks not just within a single application but across multiple applications.
 - Customize the applications to their needs so that they are easier to use.
 - Work together in jointly creating and manipulating information.

WHAT ARE THE GOALS OF OUR OFFICE STRATEGY?

Our key goals are as follows:

- **Become the leading supplier for PC LAN based Office System solutions.** This is difficult to measure since a customer will be able to mix-and-match different solutions. We will consider an Office System to be a MS System if the customer has standardized on our overall architecture, APIs and key services such as Mail, Directory and Document Library.
- **Control the Office System architecture.** Become the leading platform for application development for ISVs and customers. Set standards for Office System services.
- **Drive penetration of MS applications.** We do this by being the first to support the MS Office platform so that customers are driven to purchasing our applications because of the superior integration of our applications. We also do this by getting customers to build complete solutions which pull in the sale of multiple applications products.
- **Drive penetration of Windows. Promote MS Systems Strategy:**
 - Promote Windows as the best environment for implementing an Office system
 - Promote key architectures defined in Windows
 - Drive acceptance of our networking strategy
- **Position MS as a Strategic computing vendor.** Get customers to commit to the MS Office architecture as their computing platform for the future.

WHAT REQUIREMENTS DOES IT PLACE ON MS?

To be successful with our Office Strategy, we need to make a concerted effort in a number of areas including Product development, Marketing and Sales. This section discusses the key areas that we need to focus on to be successful as an Office Systems vendor:

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Product Development

- Commit to the network as the platform for our applications and develop to it. This means not only developing the necessary workgroup applications but also supporting these services within our applications and providing group-oriented features within our applications. We are still too tied to a desktop mentality and do not realize how important networks have become. PCs are rapidly being networked together and even now constitute a large installed base of users.
- Commit to multi-platform support. While Windows is our primary platform, customers have other computing platforms that they cannot afford to ignore. Our competitors will also have multi-platform solutions. We need to, however, be pragmatic about supporting other platforms so as not to hold back our efforts for the Windows platform.
- Commit to being the first to support the key Office architectures such as OLE and Programmability within all our applications.
- Think through multi-application scenarios and ensure that our applications can be integrated together to address these scenarios (the work that Bruce is doing).
- Make it easy for customers to install, license and administer the MS Office System. The customer will be installing and administering a large number of complex applications on potentially a large network of thousands of users.
- Make development of custom applications as easy as possible. Customers will not always have access to programmers to do the job for them.
- Drive Systems strategy to ensure availability of services that are important to our Office Strategy. We are beginning to do this with OLE and programmability. Workgroup applications is another area where there needs to be significant interaction between applications and systems.

Marketing

- Customer and Office analysts today don't think of MS as Office System vendor. Customers will have a hard time trusting MS to provide the Office infra-structure that they need to implement an Office system. We need to build that trust by publicly committing to key products and schedules and delivering superior solutions on time.
- Clearly articulate the benefits of implementing an Office System. Get customers excited about developing solutions that realize these benefits. We can use this strategy to circumvent the need to get MIS buy-in since end-users will aggressively champion our solutions.
- Articulate the overall Office Strategy. Articulate the role that each component plays in the overall strategy. Given the wide-spread attention that Lotus has gained with its Working Together strategy, this will be an immediate priority. We will not necessarily wait for all components to be ready but will evolve our strategy as various components become available.
- Develop marketing and communication programs that aggressively promote the benefits and the strategy. Our message needs to reach both MIS organizations and IEUs.
- Support the Office Strategy message within individual product messages.

Sales

- Aggressively use the Office Strategy as part of our sales efforts to position MS as a Strategic computing vendor, to gain commitments to our architecture and to build solutions that utilize as many components of the architecture as possible.

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- Build consulting, systems integration, customization expertise. We need to build a significantly larger sales force than we have today to compete successfully with vendors such as IBM and DEC.
- Build a sophisticated VAR channel to reach customers that our sales force doesn't reach.
- Provide higher level of customer support especially as they build mission critical applications. Develop a strategy to support key products (such as Gateways) that we may not sell ourselves.

WHAT MARKETS ARE WE TARGETING?

The primary focus of our sales efforts initially will be large F1000 accounts since they already have experience with host based Office Systems and are interested in deploying solutions at the LAN level. We will actively pursue existing host installations to get them to downsize their Office solutions to the LAN. We will also address F5000 accounts through Network VARs who can build custom solutions. We will also explore the possibility of working with ISVs to develop vertical market solutions and to develop co-marketing arrangements to provide assistance in selling these solutions into these markets.

Certain components of our Office System such as Mail will be sold at the enterprise level. Other components will be sold at departmental levels as needs dictate. A key goal will be to help customers identify solutions that will meet specific line of business needs to help drive the penetration of other components of our Office System. Users of our solutions will primarily be information workers not process oriented or administrative workers.

WHO ARE THE MAJOR COMPETITORS?

Traditionally Office Systems solutions have been identified with host based products such as IBM PROFS and DEC All-in-1. Host solutions have typically included capabilities such as e-mail, calendaring/scheduling, document management, word-processing and some decision support. Some such as DEC A-1 provided customization and application development tools as well. While users initially used terminals to connect to these Office systems solutions, PCs now account for a significant percentage of the nodes. It is estimated that approximately 40 to 50% of users connected to the host are now PCs. Most PC users, however, use only the workgroup component (i.e. e-mail, calendaring etc.) of the host office system and do so in terminal emulation mode.

The popularity of PCs and PC LANs has significantly weakened the hold of host vendors. Customers are no longer willing to use their PCs in terminal emulation mode to connect to expensive host based solutions. In addition, PC LAN based workgroup products provide easier to use, feature rich, in-expensive solutions that can now be integrated into the host solutions, enabling at least PC based workgroups to migrate to these solutions.

Host vendors have reacted by moving their solutions to client/server architecture supporting PCs and PC LANs. Prime examples are products like IBM OfficeVision, HP NewWave Office, and NewWave based products such as AT&T Rhapsody and NCR Cooperation. PC vendors such as Lotus and WP have also entered the race with their product offerings. The approach taken by most office systems vendor can be characterized as follows:

- Client/Server Architecture on PC LANs
- Support for most major desktops with focus on GUI desktops
- Object Orientation (though limited at this time)
- Compound document architecture

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- Office Shell
- E-mail
- Calendaring/Scheduling
- Document Management
- Database access
- Workflow Automation

IBM's foray into PC LAN environment with OfficeVision has so far not been very successful. The high memory requirements, the failure of OS/2 to gain significant market share and delays in product delivery has essentially caused the system to be a failure. IBM's plans to license Lotus Notes and cc:Mail are clear indications of their failure. DEC, on the other hand, is making a pragmatic but late entry into this market. Their Office offering will focus on a Windows desktop providing access to Mail, Time Management, Document Library Services etc. on the VAX. In addition, they will be supporting other desktops such as VMS, DOS, Mac etc. Their server strategy will include Unix (Ultrix) and OS/2 as well. DEC's main strength lies in its Mail and enterprise networking reputation. Other competitors that will have some presence include HP NewWave Office and NewWave based office solutions. NCR Cooperation is being recognized by Office analysts as the most complete solution on the market. However, these solutions are reliant upon HP NewWave which hasn't gotten much ISV support so far.

On the PC front, the two main threats we face are Lotus and Word Perfect. Lotus has captured the initiative by announcing its *Working Together* strategy. They are considered the leading workgroup applications vendor with products like Notes and cc:Mail. We believe that Notes will form the basis of their Office solution by incorporating Workflow and Document Management features. The IBM endorsement has also given them a significant boost though they will likely be sucked up into joint development work with IBM. Their plan is to provide access to the Notes services through Extended services on top of OS/2. WP is building WP Office which will provide a nice low to middle end solution (for now) for DOS, Windows and Mac platforms. WP also recently announced its plans to develop a document library solution.

We believe the most significant threat we face overall is Lotus. They are a threat to both our applications and systems strategy. They are quickly closing the gap in the applications area and have a significant head-start with Notes in the Workgroup application area. They are aggressively promoting their *Working Together* strategy and there is evidence that customers are reacting very positively to this message. Lotus claims 80 of the top F500 accounts are using Notes and a 100 are using cc:Mail. They have developed a strong sales channel to sell their products including a dedicated Lotus sales force, VARs and the IBM sales force in the future. As a counter-balance, we will be looking at DEC to be a strategic partner so that we can fill out our product line and gain access to their large sales and systems integration arm and market clout.

WHAT ARE THE KEY BATTLEFIELDS?

- **Line of leading business applications:** Applications are obviously key to providing a complete Office solution. The Apps support for APIs provided by the Office platform will enable us to successfully promote our Office platform.
- **Multi-platform support:** Ideally our customers will want support for all their key computing platforms. All of our key competitors are developing products that address all the key PC platforms. Others such as WP and DEC are addressing Unix and VMS platforms as well. We have to determine whether we should address all the PC platforms or focus on Windows and win by delivering the best of breed applications for Windows.

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- **Comprehensive suite of workgroup services:** Most Office vendors are assembling a suite of workgroup services. We will be less competitive if our offering is limited only to Mail and Calendaring/Scheduling.
- **Enterprise-wide architecture:** The large F500 accounts want to be assured that our architecture can handle large wide-area networks with user populations in the tens of thousands. In addition, to be competitive with products like Notes we need to support replication of information so that workgroups are not constrained to artificial server boundaries.
- **Connectivity to other Office Platforms:** Gateways to other Office platforms are key. These include Mail, Calendaring, Database and Communication gateways.
- **Ease of Programmability:** The ease with which companies can develop solutions will determine not only determine our competitiveness with respect to other Office solutions but will also determine the success of the product in meeting specific customer needs. Products like Notes have become successful because departments have been able to develop custom solutions and have not had to rely on MIS to deliver the solutions.
- **Setting standards:** We need to be successful in setting standards for key architectures and APIs and get maximum third-party support. We will attempt to do this by working with Systems to integrate the key services within the Systems platform and by promoting the APIs as part of the Windows API set.
- **Service and Support:** We are competing with IBM and DEC who have strong reputations for systems integration, service and support expertise. This is key to helping the customer building custom solutions and supporting them.
- **Vendor confidence:** As mentioned earlier, customers don't think of MS as an Office Systems vendor. They feel more comfortable thinking of IBM and DEC in this role given their proven record. We have to, therefore, work hard at convincing the customer that they can standardize on the MS Office architecture and that they can rely on us to deliver the various pieces of technology that they need.

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