

*Visualize NOTES, EMS, CAPS, & ORACLE
Working database APIs*

Plaintiff's Exhibit

7445_E

Comes v. Microsoft

Desktop Apps Integration Features For Lotus Notes and cc:Mail

Mike Mathieu, Word Business Unit, 3/23/93

- News mail, VIM, WAPI, cc:mail

Introduction

It has become very apparent that Lotus Notes is a major threat to the continued success of Microsoft. It attacks our systems business by relegating Windows to the OS level and taking over the middleware and shell functionality -- Notes is the portable platform, not Windows. It gives Lotus the lead in understanding and providing enterprise-wide services for corporate accounts who are so anxious to rightsize their mission critical business systems. And it attacks our applications business by delivering on their "Working Together" strategy and allowing for easier SmartSuite entry into our Microsoft Office accounts.

This document describes work we can do within the Desktop Apps Division, over and above what we already have planned for our 1993 releases, to help weaken the Notes competitive threat to our desktop software business. The plans outlined here are not intended to be a competitive response to Notes itself. Rather, there are some simple things we can do to minimize the competitive advantage that Notes will give the SmartSuite over Microsoft Office.

The assumption here is that Desktop Apps cannot wait around for some miracle response from Workgroup Apps or Systems. We must vigorously defend our markets as if those divisions did not exist at all. A common refrain over the last year has been "We [desktop apps] can't possibly be expected to beat Notes." While this is probably true in terms of corporate strategy, it **does not** mean that we should stand by and wait for Lotus to leverage its Notes sales into SmartSuite sales. If and when Microsoft develops a true Notes competitor, (I'm working on some alternative plans) so much the better. Desktop apps will support that product better than any other app in the world. Until that time, our only viable strategy to address Notes is to work with it as well as Lotus apps do.

We are currently about four years behind Lotus in terms of understanding what users want from groupware, what they do with it, and what features are needed to support it. We are approximately two years behind Lotus apps in terms of understanding how we can make meaningful app-specific workgroup extensions (this is in terms of thinking and research, and not yet in terms of product delivery -- we're only about six months behind in this respect, but Lotus is beginning to turn up the heat.) We cannot hope to make our apps into a substitute for Notes -- that's unrealistic. We should simply work to make our apps into nearly as a good a complement to Notes as the Lotus apps, bidding our time until Microsoft can produce a solid alternative to Notes.

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The Competition's Current Integration Features

Ami Pro and Freelance Graphics are the most recently released Lotus products (aside from the Notes 3.0 release due this week) and they have the most advanced workgroup features of the SmartSuite apps. We can assume that any feature that an individual app has, the rest will adopt in their next releases. (e.g. 1-2-3 2.0 in June, Ami Pro 4.0 in October, cc:Mail 2.0 this summer.)

- Ami Pro checks your mail (if it's running), every five minutes, and will notify you of any new mail, by placing a mail icon in the status bar. Click the button to go read the mail.
- Ami Pro's send mail will work with cc:Mail for Windows 1.1 or higher, or Notes 2.1 or higher.
- Ami Pro has a Working Together toolbar that includes icons for 123/W, Freelance, SmartText, Notes, ccMail, Lotus Organizer, DOS Shell, and Windows File Manager, as well as a Send Mail button (which seems to prefer ccMail over Notes.)

What We Expect the Competition to Have in Their Next Versions

Aside from feature equality with their SmartSuite brethren, we have learned or can guess that future SmartSuite apps will have these features:

- Lotus 123/W will have Version Manager (Chronicle). Ami Pro and Freelance Graphics will also have Version Manager technology in their next releases. [We don't anticipate having similar functionality in any of our apps until 1994, and this could prove to be a competitive disadvantage. Our marketing response will have to stress our open access to structured relational tables (where most corporate data resides), through ODBC.]
- Lotus 123/W 2.0 will be the first Lotus app to ship with a Notes runtime. Since a Notes 3.0 client will be available for the Mac, we can assume that 123/Mac 2.0 will also ship with a Notes client. Ami Pro and Freelance will follow suit in their versions.
- Will be able to hook into the Notes document routing functionality being provided by Action Technologies. (Using @MailSend macros and time-based processing.)
- Integration with Document Management APIs (the Notes APIs repackaged.) Version Manager uses these APIs. It's not clear if File Open and Save will provide direct access to a Notes database.

Weaknesses of Notes and Lotus Apps

- They don't entirely realize yet that they have entered the systems software game. Once they do, we will have an even tougher time displacing them. They have the

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opportunity to follow the same type of pricing strategies we use with Windows to lock in application sales. They'll do the same thing with Notes -- and with the potential for even greater success. Notes 3.0 will be cross-platform when it ships (March 24), and is a threat to Windows NT as well. Future versions of Notes will migrate Notes databases into the Notes object store, and this will compete directly with Cairo -- with the benefit of lots of customer input.

- Our workgroup strategy sounds better intellectually, and so they are probably wasting a lot of time wondering how they can compete. The reality of the situation is that they are much better off starting with a single Notes product, and opening up the components to third parties, rather than the other way around. During the time they are creating an open system, they are shipping a product, they are learning about the market and educating it, and they have regained their reputation as technology leader. Our company focus on beating OS/2 and NetWare has allowed Lotus to recover from it's 123/W disaster, and to emerge as a stronger contender, with a head start in understanding enterprise-wide issues. In practice, we're going to have a very difficult time selling our strategy to accounts. Lotus actually has a *product* -- something you can wrap your hands around and say "Our company now has groupware."
- Their database is a closed system. This is probably the biggest weakness in today's market, and we have been somewhat successful in hammering them on this point. Notes 3.0 includes an ODBC interface to external data sources, they have revitalized *their DataLens strategy*, and they are opening up more and more new APIs. This issue will drastically subside with Notes 3.0 and will probably be gone by Notes 3.1.
- Lotus still doesn't have a relational database. And while they probably won't have one for some time, they are still winning people over to Notes, where they might otherwise have bought one of the SQLServer-based document management systems. We need to drill this point into accounts which are rightsizing OLTP and other applications which are sensitive to the response time for updates.

Additional Plans for Current Versions of Desktop Apps

Given this competitive situation with Notes, there are several small steps that our Desktop Apps can take for the current 1993 releases of our products. The suggested additions are listed below. I'll be working with each of the desktop apps groups in the next few weeks to get agreement on exactly which features we'll do, and to make sure that we all do them.

- 1 - [Excel, Word] We'll either ship or make available to the sales force and CompuServe, a macro which lets the user send mail using Notes earlier than version 3.0, or ccMail earlier than version 1.1. This will be Windows, U.S. only. We can consider French and German if that becomes an issue. (These addins are already written and just need to be made available. Should we ship these in the box?)
- 2 - [All] Our mail-based features (send mail and document routing) will detect when a VIM system is present (for now this is ccMail 1.1 or greater, and Notes 3.0 or

greater), and will work transparently with that system. This could be either with internal code, or with a mapping DLL. (Work is already under way on this feature, in the Word group.)

- 3 - [All] We'll ship a Notes "Toolbar for Microsoft Office" macro that will install a new, custom SmartIcon bar into Notes 3.0 that makes it work consistently with our Office apps. This SmartIcon bar will include the normal Notes 3.0 icons designed to look like Microsoft icons, and positioned in the appropriate standard places. It will also include launch app buttons for our Office apps (to replace the ones for the SmartSuite apps.) This will require graphic design work for the icons, as well as code in setup to detect a Notes installation and to copy the appropriate files.
- 4 - [All] Our launch Microsoft Mail buttons in the toolbar will detect ccMail or Notes Mail if they are present and use those, as appropriate. We will also include a toolbar icon to activate Notes. This requires some small code changes in our apps.
- 5 - [Probably All] We could ship file format filters to work with Notes. Notes uses RTF as an intermediate format, so if we provide Notes filters which take in our native file formats and output RTF, then users will be able to directly import our files into the Notes database, without having to go through a separate translation step. All of the SmartSuite apps either have filters today or will for Notes 3.0.

The next section gives somewhat more detailed specs for each of the features listed above.

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Feature Specifications

DDE Macro for Early Versions of Notes and cc:Mail

The idea here is to ship a WordBasic or Excel macro that uses DDE to call the send mail functionality in earlier versions of Notes and ccMail. I've reverse engineered the DDE interface for Notes and have written Word and Excel macros to support this. They suffer from the same problems as the Word 2.0 macro implementation of Send Mail did. Namely, it forces you to save your document when you might not want to.

Additional work is necessary to support older ccMail versions, as well as for localization, if we decide to do that.

ISSUE: What are we going to do with desktop apps that don't have macro languages? Will everyone support Object Basic? Can we do some type of VB app or a floating toolbar that uses SendKeys?

MAPI-to-VIM Mapping Layer

The idea here is to create our own MAPI.DLL file that we ship with our apps. During setup, when we detect that a VIM-compliant mail system is installed (and a MAPI system is not), then we copy our MAPI.DLL to the windows\system directory. We also write a MAPI=1 line in the [Mail] section of win.ini. This will allow our existing MAPI-detection routines to work correctly, without any code changes in our applications. The newly installed MAPI.DLL exports all of the simple MAPI functions, and provides all of the translation glue code to map the MAPI function calls into their closest VIM equivalents. Things includes handling message identifiers, MAPIAddress, MAPIRecipient, and MAPIAttachment structures, memory management, session handling, and functional equivalent mappings.

An ISV (Paul Mathieu) is currently working on such a DLL that we plan to bundle with our apps. Another alternative is to purchase the code and to put it directly into our applications, so that we don't have to worry about any future MAPI.DLL compatibility issues. If we do this, then we'll need additional development and testing resources.

Microsoft Office SmartIcons for Lotus Notes

This will involve a Notes macro (or a batch file or something like that) that will install a new, custom SmartIcon bar into Notes. This toolbar will have the icons from the Office apps, rather than the Lotus icons, and the common tools will be laid out to be consistent with the Office (Word and Excel.)

At setup time, if we detect Notes is installed, we should probably prompt with something like "Setup has detected Lotus Notes on your machine. Do you want to install some tools to help <our_app> and Notes work better together?"

Work items include:

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- Learning what Notes-specific functionality is included on the standard toolbar.
- Creating the install script.
- Hooking and prompting in Setup.
- Creating any Notes-specific icons in the style of MS tools.
- Writing the macros to hook into the correct functionality. (Needs more research, but this might not be necessary if we can just substitute images.)

The buttons should include the following tools:

- Launch Word
- Launch Excel
- Launch MS Mail
- Launch PowerPoint
- All of the standard MS tools that are appropriate for Notes.

Notes and cc:Mail on the Microsoft Toolbar

The Microsoft Toolbar is our equivalent to the Working Together toolbar in the current version of Ami Pro 3.0. To better integrate with Notes and ccMail, our mail tool will launch ccMail if it detects that that mail system is installed. We will also include a launch/activate tool for Notes that will appear on the Microsoft Toolbar when we detect that Notes is installed on the system.

We need to come up with tool faces for these two apps.

File Filters for Notes

Notes uses RTF as its import file format. We'd just need to write converters to the Notes converter spec that took in our native file formats and passed through RTF. This is most important for Word, and then probably equally for Excel and PowerPoint, and less so for Project.

Testing Issues

We should make sure to test send mail and document routing with the Notes and ccMail transports. It is very important for our OLE implementation to work very nicely with Notes. Less so for ccMail. DDE is somewhat less important, but we should test Clipboard transfers between the apps and make sure they maintain as high fidelity as possible.

ISSUE: We need to get some Notes licenses for testing, development, and program management.

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To: Daniel Petre
From: Hugh Chang
Subj: Recommendations for Workgroup Strategy and Products
Date: 28 June 1993

Given Lotus Notes overall presence in the market today, the Workgroup Computing battle likely will be fought on 3 fronts:

- Notes as an application development environment
- Notes as an application
- Workgroup enabled desktop applications

In this memo, I outline recommendations for how MS might address each aspect of this battle based on my understanding of various MS product groups' strategies. I also make a recommendation on how I might best contribute. Finally, I outline the risks related to breaking the Workgroup Computing battle into segments addressed by individual product groups. Any comments you may have are very welcome.

Notes as an application development environment

One of Lotus' primary messages positions Notes as an "open" application development environment which supports multiple platforms and enables developers to ignore platform-specific issues. This is a powerful message, especially to corporate decision makers and despite the technical problems which Lotus has supporting this message, it makes an impact.

Microsoft needs to position Notes as just one of many tools which are enabled because of the services and APIs built into the operating system. The ability to create meaningful *solutions* will determine the success of an application development environment. Solutions, in turn, depend on the availability of a variety of tools. The best way to foster a wide variety of tools is by building services into the OS. The operating system must be the workgroup application (solution) development environment, and Microsoft delivers those services in Windows. Longer term, Microsoft needs to make solutions development easier. The skill level required to create workgroup solutions today is too high. Relative to Notes, this is one of our biggest weaknesses.

The Systems Division must take greater responsibility for addressing the Notes threat from an application development environment standpoint. The keys to success in this battle lie in evangelizing workgroup tools and applications built around MAPI and ODBC. Instead of viewing these as just "mail" and "database" APIs, we need to push these as keys to creating rich, diverse workgroup solutions. DRG, in particular, needs to take more responsibility for evangelizing ISVs to create tools and applications which address workgroup computing needs and employ MAPI and ODBC.

Notes as an application

Research into Notes usage reveals that the primary first use of Notes is email while the primary on-going use of Notes is as a discussion database. Lotus' current advertising campaigns promote the use of Notes in product development, account management, and customer service, but these are not the dominant uses today.

Consistent with the re-positioning of Notes as a tool instead of an application development environment, Microsoft needs to also niche Notes as a discussion database. Notes is a tool for creating sophisticated bulletin board like applications. In addition to "niching" Notes, Microsoft needs to provide a superior discussion database.

Additionally, Lotus basically says use Notes for workgroup computing, but they have not been able to rationalize their mail strategy with their workgroup strategy. Subsequently, 2 parallel systems need to be created: one for Cc:Mail and another for Notes. This has significant cost implications and MS has the opportunity to show how a single messaging infrastructure can deliver workgroup computing. The lack of VIM support in Cc:Mail increases the confusion behind Lotus' messaging strategy.

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The Mail Business Unit should be responsible for addressing Notes as a discussion database and for emphasizing the schizophrenia in Lotus' messaging strategy. The Enterprise Messaging Server will provide a strong base upon which MS and third parties can exploit the public folders within EMS. The mail client will need to become the basis of the User Interface comparison between Notes and Microsoft. Given the current level of confusion between Cc:Mail and Notes mail, a significant opportunity exists for MS to address Notes as an application.

Workgroup-enabled Desktop Applications (SmartSuite vs. Office)

Lotus' workgroup-centric desktop apps strategy provides a great opportunity for MS to show the superiority of our workgroup strategy. Lotus is primarily relying on Notes to provide back-end services that "workgroup-enable" their desktop apps. For Lotus' apps, workgroup functionality = Notes. They are not integrating app-to-app or building solutions which cross their applications. This yields interesting questions. For instance, to collaborate on a document, should I use Ami Pro or the document sections feature in Notes?

The MS workgroup strategy leverages existing investments and current systems. The opportunity for Office lies in delivering solutions based on Office products. For instance, creating an account management system which uses Access to store information, Word to create meeting reports, etc, and mail to delegate action items could address one of the most promoted Notes scenarios but provide greater functionality since we use a relational database and incur lower training costs since we're using applications like Word and Mail that many people already know how to use.

The Office team really needs to take on the challenge of defining what "workgroup" enabling really means. It does not mean just using Notes. It means building and delivering real solutions to real problems while at the same time minimizing the investment in learning that end-users and/or developers may need.

Managing this challenge as a program manager would be an exciting way for me to contribute to this battle. I believe the Office team needs a lot of attention in delivering real solutions. Office sales today are driven primarily on the merits of the individual products. One way to elevate the sale of Office to a new level of criteria is the ability for Office products to solve real business problems.

Risks

The primary risk in addressing Workgroup computing through 3 different product groups lies in communication. Lotus has successfully focused their strategy on a single product upon which most of their communication is centered. By addressing workgroup computing from 3 different groups, MS risks potentially confusing messages. From a customer perspective, there is no single place/person to answer the question "How does Microsoft approach Workgroup computing?"

The best way to manage this risk, is to eliminate the focus that Lotus has on "workgroup computing" and instead focus on *solutions*. To shift focus from "workgroup computing" to "solutions", we must first eliminate the mystique surrounding Notes. Niching Notes will help eliminate the mystique. Also, creating an ODBC driver into the Notes database is one way to create this niche. ODBC access into and out of Notes will position Notes as an interesting back-end service that is compliant with industry standards. Our apps could benefit from some of the unique Notes features while still being totally aligned with our OS workgroup strategy.

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