

**EXHIBIT**  
LUDWIG - 1  
1/21/09 - JA

**Teresa Jennings**

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**From:** Dennis Adler  
**To:** bradst; davidcol; Johnlu  
**Subject:** My notes from retreat  
**Date:** Monday, June 14, 1993 10:32AM

are pretty sparse, except for the Chicago talk. But here they are; note they are set up to be printed dbl sided and put into a Junior-size time systems notebook. For std paper you would want to readjust the margins to normal stuff.

<<File Attachment: RETREAT.DOC>>

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Rick Rashid (Rashid) 6/10 - ATBD research

David Heckerman (Heckerma) working on Bayesian (?) decision tree for expert systems. Use for printer/hdw diagnosis. Or to determine best action in a UI at a given point. Not adaptive, though could be in the future. Right now requires rules be changed to adapt behavior.

Charles Simonyi (Charless) working on Intentional Programming (IP). Very cool dev environment that takes program tokenization to a new level, carrying a logical representation of a program around in a morphable form. Morph the code w/ agents/enzymes (transforms). Can change output style to C or Pascal Or LISP or... Or grab a common code section and turn it into a subfn. Or subclass a subfn to be called w/ specific args and have now unneeded code drop out. When combined w/ painter/list work from Dweise, can get really powerful. GET A DEMO!

Billg, 6/11 - Thoughts

If we win market share from Lotus in apps and Novell on net, we will be in a great position vs. our other competitors as well. Saturation of our markets will become an issue, which means upgrades will become a big business. So the more share we have by then, the bigger our upgrade business. Major product updates (x+1 release) should come every two years, marketing sizzle releases every year (x.1 release). Ship out to customer base on 1 CD; customers phone in w/ credit card number, get key, and unlock software (? put demo or ltd access versions onto the CD ?).

On the OEM side, the max royalty we can reasonably get is \$40-50 per unit. OEM has been so successful in selling that we've cannabilized our retail channel for Windows.

Apps prices are also under pressure. Projected overall revenue growth is 20-25% in FY94, from \$3.7B to \$4.4B. Unit sales growth in Europe is higher than this but price pressures + strong dollar keep profits in this area. Growth higher in some (most?) other overseas markets, but they are not large enough to impact the bottom line significantly.

Synergy - huge opportunity for apps in use of Chicago (and later Cairo). Shell, Viewers, Docfiles, taking over right pane of explorer. Also *applets*. Apps should move UI features to applets and use this to cement the features as standards; then people buy MS apps and leverage what they learn in the applets. Word's new word selection model *and more* should be in Writepad for example. Leverage shared code in system (e.g. OLE, comdlg, etc) to keep working set smaller vs. our competition. VB for apps (VBA, formerly OB) is

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something to leverage between our apps, but not to give away in the system. Too valuable as a competitive advantage right now.

All apps should bet on Chicago; any user who does not buy Chicago is not a good candidate to buy an app upgrade either. Chicago will be pervasive; it is ok to require it for your next app version. Level the field for apps by cross platform licensing (to Unix and other non-Mac platforms) so you can take advantage of Chicago features in your apps and not worry. You must expect that there is some functionality in Chicago that will not make it to the Mac or any other platforms though, and account for that. *My observation:* Bill is saying two things here... that it is ok to use Chicago features because we will license to our partners on other sys platforms and that some features will not make it. Never a clue what features will/won't make it... do not know what apps are supposed to do!

Chicago presentation, 6/11

- Bill says the new transfer model is in Chicago
- Davidcol signed me up to justify "every .INI setting"
- Paulma has signed up to create a plan to test "portable" DLLs from Chicago on NT (currently only TAPI, Unimodem)
- Bill still has a hot button about Unicode support and the poor story for this on Chicago. He asked about Murry Sergeant's idea and I stated Davidw examined and still says it leads us down the "slippery slope"
- AtWork (Karenh/Efax) team has a rendering engine that we should ship in Chicago. based on the WPS printing "language" that is something like but not a metafile... used to send fax info. There will be machines w/ this engine out there and Chicago should ship it!
- PnP networking - hot topic on what to do when an app looses the net without warning and a file is open. Excel might survive this; Winword will die.
- Performance Issue - One database guy asked (and Word/Excel concurred) that we make it cheaper to create new windows. Very expensive now (this is one of the enhancements apps has in SDM). Right now he says they do a lot of work to avoid creating windows because it is so expensive.
- Bill asks why can't SDM call the underlying cmmdl code; easier than ripping SDM out of the apps in the near term (though that should happen longer term). This should get rid of a few hundred K of code.
- Scheme for portable 16/32 bit metafiles currently calls for embedding a full 32-bit metafile as a single, huge record in a 16-bit metafile. This is painful but ok if you are smart about not duplicating sharable pieces like bitmaps. We should examine what can/cannot be shared and not be needless memory pigs.

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- Bill wonders if we (MS) are doing any work to improve the compressability of app data files and/or to give the system a way to tell the app that its file is on a compressed volume, so don't bother trying to compress it (my thought: app probably should tell us when a file is not compressible, e.g. encrypted mail file).
- Use object basic subset in Chicago (*my thoughts*: seems like one of the things Bill wants to leverage to make it a standard?)
- Along with Word's new word selection method, Bill wants us to leverage other app features in Writepad. One additional example he gave me was right button popups should be the same.
- When someone asked if we should put ODBC into Chicago, Bill shook his head no.

#### Bobmu - Cairo

To really take advantage of the cool features in Cairo on the desktop you need Cairo on your server(s). I pointed out that this is a double-edged sword. Bobmu noted that he sees this as a way to get Cairo in on new servers, not to displace old ones. Cairo will work fine w/ other (e.g. Novell) servers. But to really leverage Cairo you'll want Cairo on all your new servers. Animated controls in Cairo... Someone told me that these things are on the Newton and thinks Apple may be trying to patent this sort of thing... Cairo needs to look into this!!

#### Notes from Breakout presentations & wrap-up 6/12/93

- Setup idea: When Setup sees MS apps on the system, check the version number. And tell user about upgrades that are available (or will soon be?). Little ads.
- When Cairo first ships, Chicago will need to play catch-up on some features (esp. browsing OFS servers... be great Cairo clients), just like NT needs to catch Chicago today. There will likely be 3 Chicago releases, then the Chicago technology base goes away. Still a hi-end and low-end package to sell (one w/out all the full query/browsing capabilities perhaps), not unlike the 3 SKUs Bradsi sees for Chicago.
- Corp developer ideas for Chicago: OLE automation in the shell for our apps. More controls for corporate developers (e.g. routing slip → note that we should probably expose routing info as a docFile property and have Capone pay attention to it!! Winword & Excel do their own different routings now). High-level access to MAPI in C and VB (make it happen w/ a class wrapper to objectize the interfaces). Replication (to workgroup enable) for a data store (?)... see Group #3 slides for more ideas.
- Ship extensible shell in Office!!! Wire the features we need for Chicago into the Explorer (e.g. mail integration, printman, CPanel, Fonts, etc.). Bill sez do it! *My note: probably want to keep extensibility stuff as-is, but*

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- require preloading things from some internal table...? Just to make implementation easier.*
- **Need overall UI closure from Apps/Cario/Chicago.**
- **Bill will write the Technical Strategy Document called for in the Synergy action items.**
- **We will do another retreat like this in October to follow up on progress.**

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