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From: johnlu
To: bradsi; richt; paulma
Subject: competing with novell
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i understand our meeting today to discuss this got cancelled -- just as well, my wife is home on crutches and i need to help her out.

the following document summarizes what i wanted to talk about. we need to get more focus on the workgroup parts of our future wfw/chicago plans if we plan to compete effectively with novell. this document lays out my sense of what investments we need to be considering. much of this is not new, i have just tried to pull it together in one place.

i will have this meeting rescheduled. please read this in the meantime.

<<File Attachment: NOVELL.DOC>>

Competing with Novell at the Low End

2/4/93

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The Threat

Netware Lite 2.x/Personal Netware

- + Full Novell protocol compatibility, including NW 4.0
- + MSDOS/Windows/Mac coverage
- + Remote management, including OS updates
- + Good Winnet Driver, including DS facilities
- + User Security

- . Mail (Da Vinci)
- . Performance

- Shell integration, particularly Chicago shell
- 32-bitness
- Workgroup apps story (sched+, chat)

Lantastic, OS/2, System7 are all lesser but similar threats.

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Our Objective

- Make MS operating systems the obvious clients to buy in any enterprise net, including Netware
- In particular, make MS operating systems a superior choice to Novell client operating systems -- DR-DOS, Netware Lite, Personal Netware -- in a Netware environment
- Do not worry about making MS operating systems work great with Novell client operating systems.

We will achieve these goals by "parry and thrust" (credit to RichT)

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Parry

Netware Protocol Compatability

- Failure to address this will freeze corp accounts, just as ODI and IPXODI does today.
- We have no one analyzing NW 4.0 early betas. We should add someone to do this. Can BobKr's group pick this up as a specific responsibility? More value than Bloodhound work. Will require substantial decompilation work.
- When do we deploy IPX as our transport? Sticking with NetBEUI has no merit, just costs us with customers, because we look stupid. We should deploy IPX in Snowball. We will install it as the default, and only go to NetBEUI if requested, in an upgrade scenario, or if the user chooses LM interoperability option.

Other benefits of doing this:

- Routability of WFW using standard router hardware or Netware servers.
- More test miles on our IPX, in a lower risk situation -- we aren't trying to test NCP and IPX simultaneously
- Easier for net appliance vendors to support our platform. They are all building IPX-based solutions; they don't have to go build netbeui/dlc solutions.

MSDOS support

- Options: License PT code; build our own from MS-NET code; License some other codebase; Punt
- Punting not an option based on market feedback to date.
- Other codebases seem to offer no distinct advantage over PT.
- PT code is small, fast and it works. There is a team of engineers to support it. Suspect it is a disaster for localization purposes. UI is not what we would want. A bit of work to make our NET command and UI work with it.
- MS-NET codebase is bigger, must be made non-dedicated. Probably all the same problems as the PT codebase.
- We should go with PT unless something terrible is found in code review. We should license their technology and enough of their time to fix the issues we have with it. We are moving ahead on this. We would like assistance from BobKr's team to productize this code -- exact amount TBD pending complete review of the PT product.
- Aside: If you think the LM/NT guys are whining about the shortcomings of our redir now, wait til customers start installing the 12K PT redir and loving it. Our LM/NT story is fundamentally broken; adding functionality and size to the PT redir is not the answer. NT must support this client better than today.
- File protocol must be SMB -- we are not ready to move to NCP any time soon.
- Transport can be either IPX or NetBEUI -- we should let customer choose.

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Mac support

- Options: Punt; Add ATALK client compatibility to WFW; add ATALK server compatibility to WFW; put an SMB client on Mac.
- Adding ATALK client compatibility seems straightforward; we can contract with WEB for this.
- ATALK server is more work and more size; we can contract with WEB, but this is going to create a fat fat system. Not clear that demand exists.
- SMB client on Mac – how would we possibly market this?
- Recommend working with WEB on client, then on server if demand exists.
- WEB is for sale. Assets: NCP technology (to which we are licensed; additional \$.6-1.6M owed); Josh and 2-3 other engineers (relo issues TBD); WEB product name/channel/etc. Estimated price -- \$500K + hiring packages for Josh and engineers. Recommend purchase.

Remote Management

- SW Distribution – Is Hermes Sufficient? It does not address OS upgrading. This seems like a fundamental shortcoming. We should add this to the Chicago plan; I will work with the setup team this month to make this happen.
- Remote admin: we have no single tool that admins all our platforms, because we have no architecture/strategy for remote operations – ie we have no common MIB, no common APIs, no common protocols.
- Security. We are going to do passthru to NT and to Netware for Chicago. We may additionally do our own user-level security system but I do not believe that anyone wants this.

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Thrust

We have access to a huge array of end-user and application technologies and people within Microsoft. Novell has no comparable source or technology or talent. Just as including mail/schedule/netdde put Novell off balance with WFW3.1, we need to add a new suite of technologies to keep them off balance in the Chicago timeframe. Following are the leading ideas we are pursuing.

Document Management

- A huge emphasis of the Chicago base project is better presentation of the document metaphor to users -- OLE2, long file names, the new shell.
- None of this currently works well in a workgroup. It's hard to find documents on the network, it's hard to work on them with someone else.
- We need to fix our browser so that users can more easily find documents on the net -- long share names (or their moral equivalent), browsing by share name (rather than by \\server\share hierarchy), perhaps some other improvements.
- We need to support collaborative editing by layering simple routing/delegation functionality on top of MAPI, and by supporting simple versioning/check-in/check-out of documents.
- We need to permit providers of richer document storage systems with even better browsing, retrieval, and management to plug into the shell. Fixing the OLE2 storage interface to permit installable storage systems is required for this.

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Office Equipment -- Fax/Telephony/Pagers/Address Books

- There is a tremendous amount of activity in the marketplace to integrate common office equipment into the system -- fax, telephones, pagers, beepers, pbxes. Most of these 3rd party solutions suffer because they make you a) use a different non-email app to send/receive communications, and b) make you use a separate address book.
- MS's current effort in this area is the Telephony API, which defines an API for controlling telephony devices but provides no end-user value. We need to build technologies on this to provide immediate end-user value.
- Firstly, we will rev the address book to support any/all user types with any/all types of address/phone info. You will be able to mail/fax/page/dial/voicemail/conf call/chat from here.
- We will provide drivers under MAPI to let you send and receive messages via all these mechanisms.
- We will support OOF functionality across all these services where relevant. You'll be able to specify a message to be sent out via voice or email as appropriate.
- We will additionally support incoming shared faxes/shared voicemail. IE you will only need 1 dial-in line per workgroup for these features to work.

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Workgroup Applets

While no one of these apps seems to be the basis for an amazing revolution in the way people work together, they add a lot of "coolness" to the product.

- Whiteboard. A better job of chat -- supporting multiple users, multiple data types. Especially useful over dial-up links.
- Ticker. A tickertape app -- shortterm info made available to the group. "Doughnuts in the Kitchen", "Toyota Pickup with Lights On", etc.
- Polling/voting app. "Pick one of these t-shirt designs by 5pm".
- Office pool app.
- Signup Sheet

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2nd Tier Ideas

Database/Forms. Seems like we ought to have a group of people in DB land building the great simple ODBC client that just plugs into the shell, just as the MAPI/Capone guys are doing.

Manager's Toolkit. It would be nice if the address book had an orgchart view; if there was a simple way of tracking responsibilities and goals for people in the workgroup and progress against; if there were some simple budgeting and tracking tools in the product.

Branch Office. The major need here is for auto uploads/downloads between central sites and branch offices.

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Summary Costs

- 1 engineer from BobKr's team to begin analysis of NW4.0
- \$ to acquire PT codebase
- engineering assist TBD from Bobkr on PT codebase
- Acquire WEB. \$500K+3 employment/relo packages
- OS upgrading added to Chicago setup plan (engineering time from setup, workgroup teams)
- Fixes to OLE2 for doc storage providers (engineering time from OLE, workgroup teams)
- Routing/delegation forms on top of MAPI (engineering time from MAPI, workgroup teams)
- Address book revs to support telephony (engineering time from MAPI, workgroup teams)
- Telephony drivers under MAPI (\$ to contract driver development)
- \$ for contract development on workgroup applets. Probably \$30K+ each, total \$150K
- No costs estimated for 2nd tier efforts

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