

PLAINTIFF'S  
EXHIBIT  
1462  
Comes v. Microsoft

My first preliminary  
Report after 1 day  
of testing

EXHIBIT  
1902

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MS98 0220400  
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## Confidential Novell Labs Memo

To: Dave Owen

From: J.D. Brisk

Date: 21 October 1992

Subject: Report on Windows for Workgroup (WFW)

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The scope of the task was to identify problems within the 12 areas as outlined to executive staff by John Edwards and to verify the results of the Austin group. The following is a validation of our concerns and a synopsis of problems found during testing. Some conclusions differed from the original expectations and the Austin results. The WFW will be a support nightmare for Novell. There were no really big surprises.

**1) IPX is being used in a way not supported by Novell**

Preliminary findings suggest that IPX is not being used incorrectly, however, it is not used in a way that Novell recommends. IPX is not supported by Novell as a LAN Driver development platform.

**2) WFW doesn't use ODI and will not be compatible with ODI drivers and products**

ODI drivers are not supported at all in WFW. WFW links IPX to their NDIS drivers through their shim. There are no options to include ODI drivers. Products affected include:

NetWare 4.0 (Specifically Directory Services)

Lanalyzer for NetWare

Lan Workplace for Windows

Lan Workplace for DOS

NetWare lite

All GUI utilities

**3) Customers forced to use NDIS drivers**

Hundreds of certified 3rd party drivers won't work without modification. No off-the-shelf drivers will work. No current or future driver from Novell will work, IPX, ODI or otherwise without modification. WFW failed the cable disconnect test because the NDIS driver is unable to detect the loss connection.

**4) NetWare tools don't work**

Preliminary findings show that some tools and utilities may work in limited form but not allowing full access to NetWare features. For example NCOPY may work once, but produces a "Sharing violation" on all subsequent attempts to copy from either the File Manager or the DOS box. SEND will not reliably send messages to a peer network user even if on the same file server. Still more testing is required.

**5) NET.CFG configuration file incompatibility**

WFW uses a substitute for the NET.CFG file called PROTOCOL.INI. The PROTOCOL.INI file does not use the same syntax as the NET.CFG file. The MSIPX does not pick up configuration information such as "FRAMETYPE", "RETRY COUNTS" or other configuration parameters from the NET.CFG file. The installation process defaults to 802.3 for Ethernet which disallows connection to Portable NetWare servers, NFS, TCPIP and anything else that relies on the 802.2 protocol.

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...were encountered especially during installation. The default se-  
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...When printing, the job appears in the queue but never makes it to the printer. This is true of  
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...on does not work. The print jobs disappear. Outside of Windows the printing appears to  
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...of windows. NW21 test would not run reliably.

...COPY  
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...BNETX  
...Packet Burst was tested using the LAN test utility. From the File Manager or DOS Box it appears not to  
...work. Outside of windows using the MSIPX does not always work. Functionality seemed to be  
...dependent on the LAN adapter Additional testing is still needed for some boards

10) DR. DOS Support  
Several attempts to load WFW on DR DOS failed. The most common problem is the workstation hangs  
after the message "Microsoft Protocol Manager version 2.1". On a MS\_DOS installation the next output  
on the screen is "hooks installed". WFW does not support DR DOS memory management (EMM 386)  
DR DOS incompatibility was demonstrated by exchanging the DR DOS setup by copying the autoexec.bat  
and config.sys files to COMPAQ DOS 3.31 or MS\_DOS 5.0 boot disk and repeating the tests. DR DOS  
options in autoexec.bat and config.sys were ignored.

11) NetWare 4.0  
WFW will only attach and copy files to NetWare 4.0 using bindery emulation mode. VLM drivers are  
ODI based and not useable. All Directory Service utilities will not work because they require the VLM  
which is not useable.

12) New security enhancements  
The security enhancements are still in question. More testing is being done.



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**6) Driver detection**

Many problems were encountered especially during installation. The default settings detected by WFW were often incorrect causing the correct configuration information to be overwritten. Installation will allow you to install multiple cards, but it will not allow the user to login until the user manually removes information for all but one of the cards. WFW documentation claims that Arcnet drivers are not supported though there are Arcnet drivers available in the listing. Support is lacking for 32-bit cards such as NE3200 and NE2\_32.

**7) SPX applications**

It appears that from within the File Manager, SPX does not function properly. Printing is a serious problem. When printing, the job appears in the queue but never makes it to the printer. This is true of all print configurations when printing from the WFW. Even printing to remote printer on a non-WFW workstation does not work. The print jobs disappear. Outside of Windows the printing appears to function better which indicates the WFW generated IPX is somewhat functional. NWTest fails unless run outside of windows. NW21 test would not run reliably.

**8) XCOPY**

Appeared to work from both the File Manager and the DOS box to and from shared resources. If run after NCOPY which leaves files in a questionable state from inside Windows it fails. Our results differed from the Austin test results because they probably ran XCOPY immediately after NCOPY. Additional information: NCOPY will fail on secondary copy after initial copy from MS\_DOS or DR\_DOS XCOPY or other COPY program. Additional testing is still needed with this problem.

**9) BNETX**

Packet Burst was tested using the LAN test utility. From the File Manager or DOS Box it appears not to work. Outside of windows using the MSIPX does not always work. Functionality seemed to be dependent on the LAN adapter. Additional testing is still needed for some boards.

**10) DR. DOS Support**

Several attempts to load WFW on DR DOS failed. The most common problem is the workstation hangs after the message "Microsoft Protocol Manager version 2.1". On a MS\_DOS installation the next output on the screen is "hooks installed". WFW does not support DR DOS memory management (EMM 386). DR DOS incompatibility was demonstrated by exchanging the DR DOS setup by copying the autoexec.bat and config.sys files to COMPAQ DOS 3.31 or MS\_DOS 5.0 boot disk and repeating the tests. DR DOS options in autoexec.bat and config.sys were ignored.

**11) NetWare 4.0**

WFW will only attach and copy files to NetWare 4.0 using bindery emulation mode. VLM drivers are ODI based and not useable. All Directory Service utilities will not work because they require the VLM which is not useable.

**12) New security enhancements**

The security enhancements are still in question. More testing is being done.



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