TID: FPNW: File and Printer Sharing for NetWare - TID2907903

TITLE:	FPNW: File and Printer Sharing for NetWare
DOCUMENT ID:	TID2907903
DOCUMENT REVISION:	2
DATE:	21MAY96
ALERT STATUS:	Yellow
README FOR:	NA

NOVELL PRODUCT and VERSION:

Microsoft Interop WIN95

ABSTRACT:

NA

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ISSUE

Novell Client 32

File and Printer Sharing for NetWare Networks (Windows 95 workstation)

File and Print Services for NetWare (Windows NT Server)

Remote Registry

User Level Security

Novell customers cannot currently use Client 32 with Microsofts File and Printer Sharing for NetWare Networks on Windows 95 workstations and File and Print Services for NetWare (FPNW) on Windows NT Servers. This document will refer to both services as FPNW. The features that users want access to are File and Printer Sharing, Remote Registry, and User Level Security services on Windows 95 workstations and File and Printer Sharing on Windows NT servers. Client 32 is Novells new intelligent client, based on a 32-bit architecture.

This document will discuss the benefits of using Client 32 and explain why Client 32 will not currently work with FPNW.

Remote Registry administration and User Level Security

In Windows 95, Remote Registry administration and User Level Security require FPNW to be active on the computer. Remote Registry provides users, who have sufficient rights, the ability to view and modify the Windows 95 Registry from a remote workstation. This is valuable for IS or Help desk professionals who can help customers fix their workstation remotely. User Level Security allows users to grant access to resources on their workstation on a user by user basis. By setting user level security Windows takes advantage of a name and password provider like NetWare to validate the username and password of someone trying to access a resource on their computer.

Remote Registry and User Level Security will not work with Client 32 because Client 32 cannot communicate with FPNW. Users may be able to use these services if Microsoft implements one of the

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suggested FPNW solutions.

FPNW

FPNW is a service on Windows 95 workstations and Windows NT server that provides users the ability to have their computer appear as a NetWare 2.2 server on the network. Microsoft used reverse engineered NetWare 2.2 file and print services to create FPNW. This document will explain the current customer problem and other limitations of FPNW.

Note: Do not confuse Microsoft File and Printer Sharing for NetWare Networks (FPNW) on Windows 95 with Microsofts File and Printer Sharing for Microsoft Networks on Windows 95. The service for Microsoft Networks is a service that allows workstations to share files and printers via Microsofts peer-to-peer SMB (Server Message Block) client. Client 32 will work concurrently with the peer-to-peer (SMB) client for Microsoft Networks.

Do you speak my language?

All versions of NetWare since 3.11 (including 3.11) use Case 87 NCPs. The Case 87 NCPs allow clients that are Case 87 NCP enabled to take advantage of performance and data transfer enhancements. NetWare 2.2 servers use Case 22 NCPs.

When Client 32 attaches to a server, it decides which set of NCPs to use based on the reported server version. When Client 32 attaches to a server which identifies itself as NetWare version 3.11 or greater, Client 32 will use Case 87 NCPs for communication. When Client 32 attaches to a server which identifies itself as NetWare version 2.2, Client 32 will use Case 22 NCPs.

Windows NT servers and Windows 95 workstations running FPNW, incorrectly advertise their services as if they are a 3.12 server, when FPNW actually only emulates a NetWare 2.2 server. Client 32 responds with Case 87 NCPs which FPNW does not understand. Client 32 would use Case 22 NCPs and would work with FPNW if it correctly reported that it was a imitation NetWare 2.2 server and not a NetWare 3.12 server.

Client 32 can initially attach to the Windows NT server or Windows 95 workstation running FPNW, but cannot map drives, copy files, or use services that depend on NCPs via FPNW.

The Real World and FPNW

With Windows 95, customers want to use FPNW because of Remote Registry administration and User Level Security, which are dependant upon FPNW. The architecture of running these services on FPNW is not ideal because of the extensive SAP traffic FPNW creates. For example, if a company that has 20 NetWare servers were to add FPNW to 50 workstations per server (20*50=1000 workstations) it would be the equivalent of adding 1000 servers to the network. Instead of 20 advertising servers, now there would be 1,020 advertising servers. This would cause problems due to increased usage of network bandwidth, slower access to NetWare services, and increased memory requirements for storing routing table information at the NetWare servers.

With Windows NT server, most users would only be using FPNW in the situation where they were migrating completely to NT. Otherwise, it is more logical to run NCP services on NetWare, which provides faster, more efficient, and more robust NCP services.

Solutions

There are several possible solutions to this problem:

1) Microsoft could modify FPNW so that it correctly identifies itself as an imitation NetWare 2.2 server

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instead of a NetWare 3.12 server.

2) Microsoft could license the Case 87 NCPs from Novell and include full support for them in FPNW.

3) Microsoft could use reverse engineered Case 87 NCPs, similar in functionality to the Case 22 NCPs they use today.

4) Microsoft could remove the dependency of Remote Registry and User Level Security on FPNW. In other words, provide these services via the SMB client, which is how these equivalent services are provided on NT workstations.

Excellent reasons to use Novells Client 32

Choosing Novells Client 32 is a sound business decision. Novell will ensure that its customers are provided with solid network clients. Also, the client solutions from Novell will provide customers access to innovative new tools and features to give businesses the most powerful network solution.

Why should you choose Client 32 over Microsofts clients? Novells Client 32 fully supports Novell Directory Services (NDS) with utilities that make managing a network simple. Microsofts clients do not fully support Novells 32 bit libraries and NDS. NetWare Client 32 reduces cost of ownership and provides programs such as:

Novell Application Launcher, a patent pending technology that makes it simple to manage applications in a network environment. It will only run with Novells Client for Windows NT, Client 32 for Windows 95, Client 32 for DOS/Windows, and VLM client.

The 32-bit versions of NWADMIN and NPRINTER that will be released with Novells Green River server will not currently work with Microsofts clients.

Auto Client Update (ACU) lets administrators upgrade users en masse to Client 32. This innovative upgrade procedure can reduce the cost of upgrading in half.

Multi-Tree connections allow users to authenticate to and use resources on multiple Novell Directory Services trees. If your connection to a server is lost Auto Reconnect. will re-authenticate to the server and reestablish mappings, open files, and file locks.

For additional information on Client 32 see the May 1996 Novell Application Notes and visit our client Web site @ http://netwire.novell.com/home/client/, or CompuServe @ "GO NWCLIENT".

Novell will provide world-class clients to the most popular desktop, and Internet operating systems. Novell will service users of our clients. Novell will provide faster and more innovative business solutions with its clients and utilities.

Summary

File and Printer Sharing (on FPNW), Remote Registry, and User Level Security services on Windows 95 workstations and Windows NT servers do not currently work with Novells Client 32. There are several solutions to this problem. Novell is working with Microsoft to find the solution that can best satisfy customer needs. NetWare Client 32 is the best client in world for connecting heterogeneous networks.

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