



**N I C
F N O
S D N
U F
S E
T R
R E
Y N
C
E**

NFS for The Enterprise

Fred Whiteside

Senior VP Research and
Development

Hummingbird Ltd.

fred.whiteside@hummingbird.com



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The Facts

- Wintel owns roughly 90% of enterprise desktop market
- The need to connect Windows Desktop to enterprise hosts always exists
- NFS is the de facto standard for UNIX connectivity
- The tie between NFS and Wintel platform is strong



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The History

- NFS was developed around the same time when
 - Personal Computer became popular business machine
 - Microsoft released its operating systems

1981 – IBM PC (5150 PC)

1981 – Microsoft DOS

1983 – Microsoft Windows

1984 – Introduction of NFSv2



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The Drive

- Prosperity of Wintel platform is one of the major factors behind our success with NFS
- Wintel architectures continues to improve in performance and reliability
- The changes leading to NFSv4 allow deep integration in Wintel platforms



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What is our interest in NFS?

- Standard implementation
 - NFS is the *de facto* standard for distributed interoperable file (and print) services in multi-vendor inter-network environments.
- Interoperable in heterogeneous environments
 - NFS is supported by all UNIX, Linux and other major business systems
 - NFS is part of the OS distribution



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What is our interest in NFS?

- Readily available to all the business systems
- Common enterprise business systems include
 - UNIX (HP, SUN, IBM etc.)
 - Linux
 - Microsoft Windows
 - IBM zSeries (Mainframe)
 - IBM iSeries (Midrange)
- Non-intrusive to the mission critical production servers



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But pre-v4 NFS is not without flaws!

- V2/V3 difficult to interface with Microsoft (who cares 😊)
- File locking
- File sharing non-existent
- Stateless protocol
- Semantic inconsistencies



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The promise of NFSv4

- A stateful protocol allows better match with Windows file systems
- More file attributes to match those of Windows
- The file sharing and mandatory locking are part of the protocol



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Our Goals

- To allow Wintel users to share files and communicate with the big iron
- To compete strongly against SMB/CIFS
- To provide a viable alternative network solution for Windows users
- To allow total displacement of Microsoft network in a corporate LAN



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Our Customers

- Using NFS to replace:
 - SMB:
 - Remember ms-blaster?
 - Integrity of network is challenged
 - Not a pure IP solution
 - Closing SMB protocol on the network
 - DFS
 - Other replacements are available: OpenDFS, OpenAFS, NFSv4, etc.
 - NFS is preferred because of it is widely available
 - CIFS
 - Not designed as an interconnectivity protocol between UNIX
 - Not an ideal protocol in heterogeneous environments



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Thank you