



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

# Mixed protocols: And the winner is ...

John H. Terpstra

CTO

PrimaStasys, Inc. &  
Samba-Team

[jht@primastasys.com](mailto:jht@primastasys.com)

September 22-24



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

# Outline

- The Server and Desktop Market
  - Protocols and market share
- NFS and Alternatives
  - Changes in the wind
- Consumer Solutions
- Where is the Money?
- Summary

September 22-24

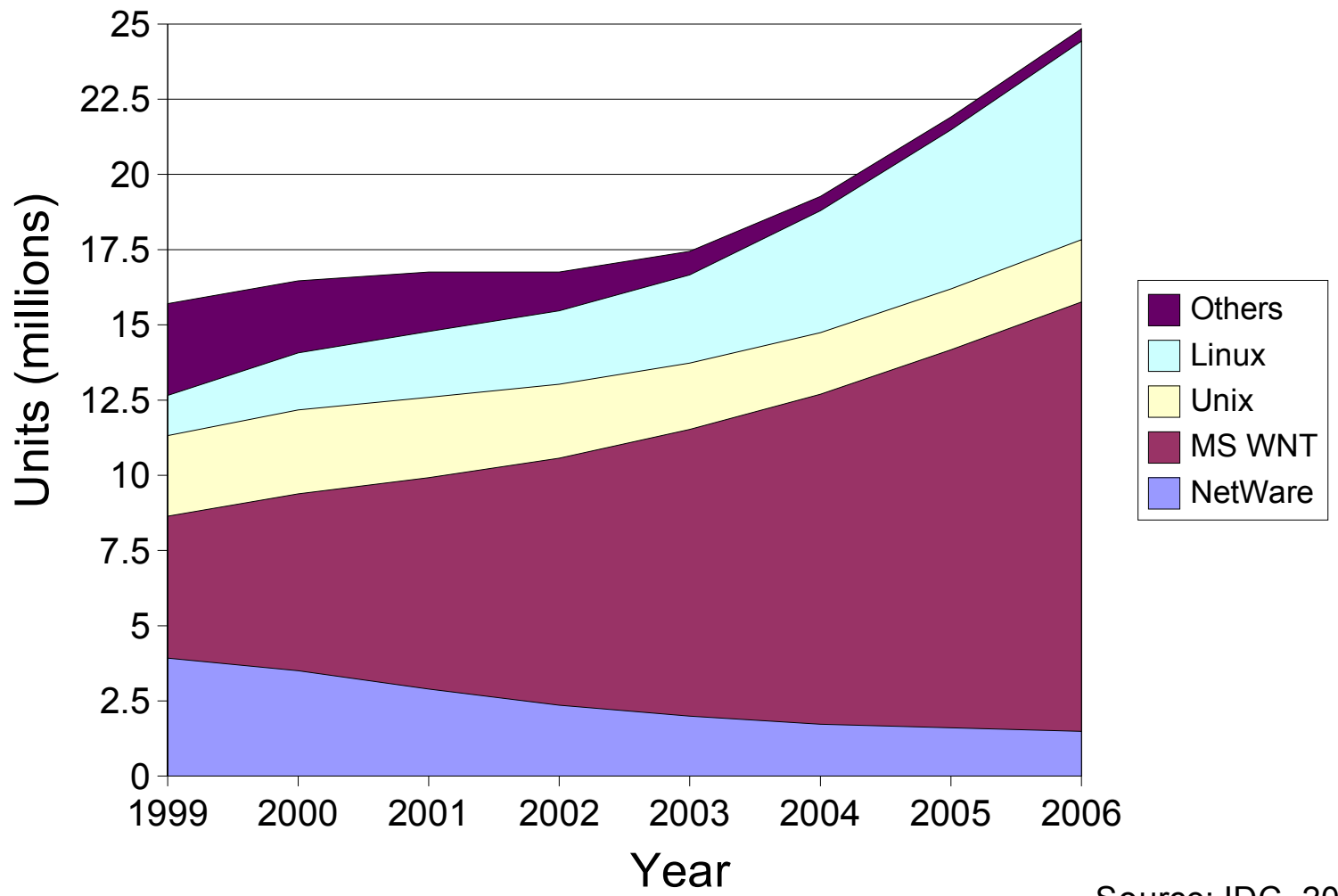


**N I C  
F N O  
S D N  
I U F  
N S E  
T R E  
R Y N  
C E**

September 22-24

# The Server Market

## Host & Server Installed Base



Source: IDC, 2002



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

September 22-24

# Market Conclusions

- UNIX and Linux are similar
  - So we should add numbers!
  - The number of installed UNIX+Linux servers is just half of the number running MS Windows NT/200X server
- MS Windows NT/200x Server and its network protocols dominate the Server market.



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

September 22-24

# Server Network Protocols

- **Fact:**
  - Not every UNIX server uses NFS
  - Few have Windows Clients
  - Nearly every MS Windows Server uses SMB/CIFS
    - All have MS Windows network clients
    - Exception is MS Windows NT/200x servers that are used in a NetWare environment.
- **Is this representative of reality?**
  - How is this changing?



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

# New Server Trends

- What are market trends?
  - How significant is the shift?
  - Is UNIX/Linux making significant progress?
- What conclusions can be drawn?

September 22-24



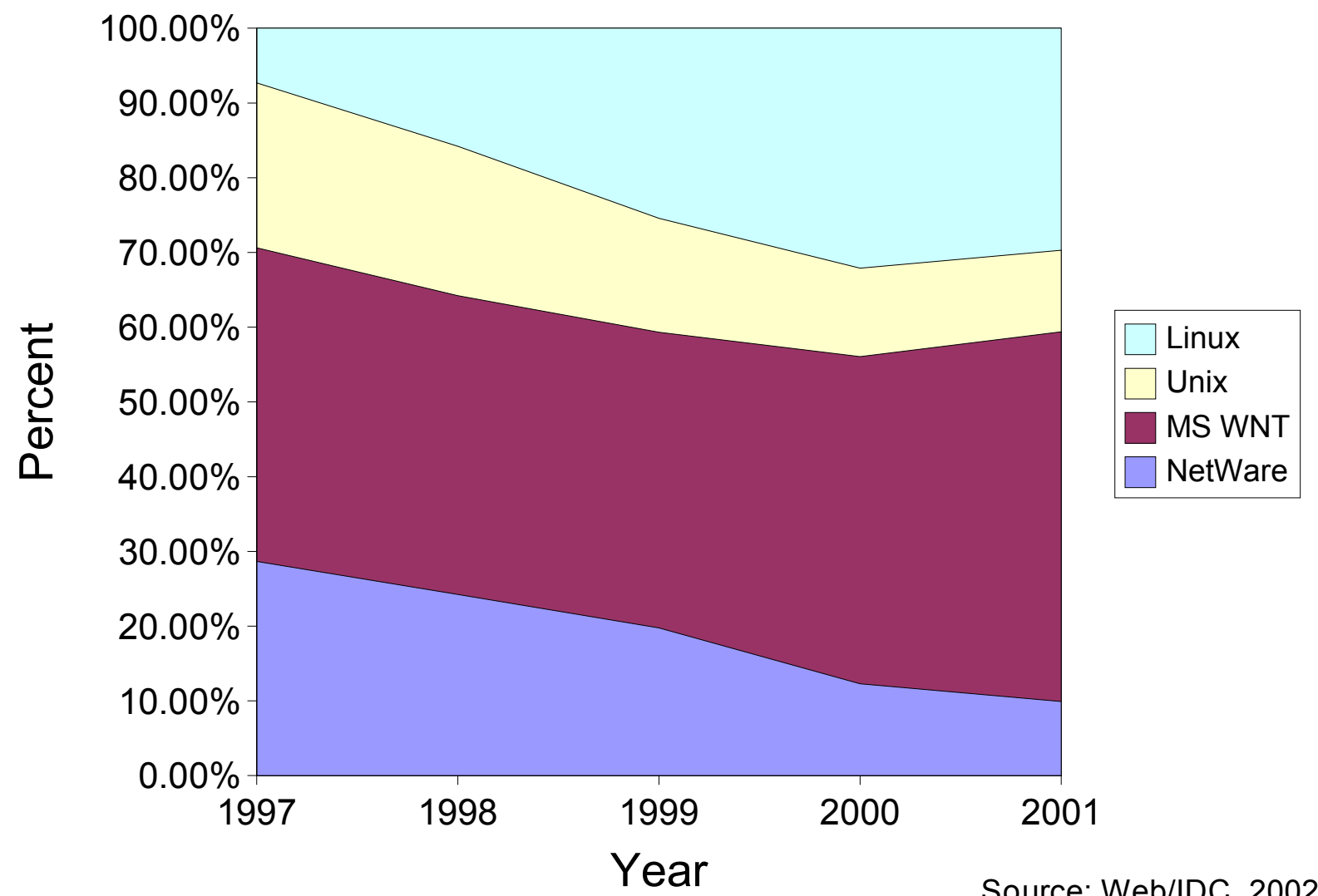


**N I C  
F N O  
S D N  
U S F  
T R E  
R Y N  
C E**

September 22-24

# New Server Shipments

## Total Server Shipments



Source: Web/IDC, 2002



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

# Trend Conclusions

- Use of SMB/CIFS protocols is increasing
- UNIX/Linux use of NFS is in decline
  - UNIX/Linux growth will not out-pace SMB/CIFS usage
- We need to identify causes!

September 22-24





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

September 22-24

# Why?

- NFS Client support is missing from Windows NT/200x?
- NFS Clients for MS Windows are costly?
  - SMB/CIFS is built in and “Free”
- Is Samba helping to kill off NFS?
  - Is Samba safe from threat?
- Do we need to take action?



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

September 22-24

# Desktop Protocol Usage

- What about desktop platform trends?
- What about emerging platforms?
  - Is NFS an option for the future?

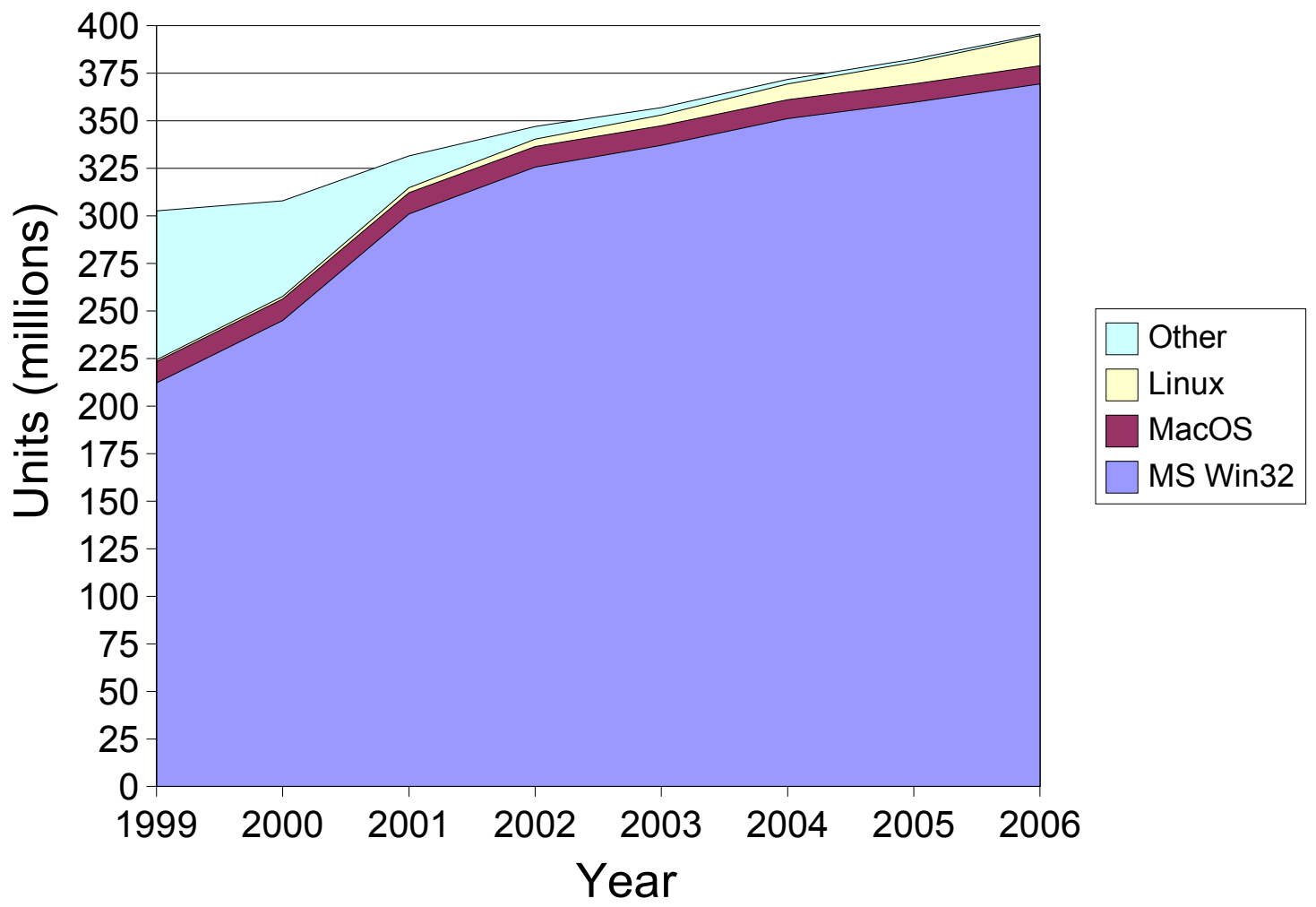


**N I C  
F N O  
S D N  
I D F  
N D F  
D U S  
S T R  
T R E  
R E N  
Y C E**

September 22-24

# The Desktop Market

## Desktop Client Installed Base



Source: IDC, 2002



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

# Desktop Conclusions

- Optimistic forecasts:
  - Offer little hope for Client NFS usage
  - UNIX/Linux forecasts are small compared with Windows and SMB/CIFS growth
- What threats are on the horizon for NFS using platforms?
- Are there threats for SMB/CIFS?

September 22-24



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

September 22-24

# NFS and Alternatives

- Network file sharing protocols
  - SMB/CIFS most used
  - Netware NCP
  - NFS lagging by a long way
- Alternatives
  - New data storage solutions
    - SQL based technologies
    - Object oriented file systems
  - Possible new proprietary technology?



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

# Risk Factors

- **New Proprietary Technology**
  - Protected by government legislation
    - Effectively creates a protected monopoly from the market leader
    - Unless government and industry specify open and free protocols
  - Could threaten SMB/CIFS more than NFS
    - And Samba could be at risk

September 22-24





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

# Counter Strategies

- New file sharing and protocol implementations that can be used across all desktop and server platforms
- Must obtain international standardization and adoption
- Must provide cost effective solutions for all users

September 22-24



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

# Action Now

- NFS v4 deployment plan
  - Increase use across all platforms
    - Particularly MS Windows Clients
- SMB/CIFS protocol extensions needed
  - For better UNIX platform support
  - Standardization Essential
- Pro-Active Consumer Drive

September 22-24



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

# Consumer Solutions

- Key focus of alternative file sharing protocol solutions
  - Freedom of Choice
  - Freedom from vendor lock-in
  - Cross-OS Interoperability Assurance
- Key Turn-Offs
  - Add-on drivers: But we must have them!
    - We need interoperability AND an End-to-End Solution!

September 22-24



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

# Making Money

- This is the critical question for everyone!
  - Why did we create this situation?
- Will our industry find a way to cash in on a new mass market?
  - If Yes, then Standardization is mandatory
- Will the future or IT be built on Customer Services?

September 22-24



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

September 22-24

# Summary

- NFS has a long way to go
- SMB/CIFS may get into trouble
- Netware is in decline
- New protocols are needed yesterday! Your Choice!

Escape Hatch

Sign Me Up